HEI-ILO Research Programme on
Strengthening Employment in Response to Crises

Synthesis Report and Case Studies

Volume III

Strengthening Crisis Prevention Through Early Warning Systems

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Preface

This three-volume series results from a joint research programme, “Strengthening Employment in Response to Conflicts and Natural Disasters,” undertaken by the ILO Crisis Response and Reconstruction (ILO/CRISIS) unit and the Programme for the Study of International Organization(s) of the Graduate Institute of International Studies (HEI-GIIS) in Geneva, with the generous support of the Geneva International Academic Network (GIAN-RUIG). This programme conducted research over two years in 14 countries affected by recent crises, aiming to better grasp the socio-economic and employment challenges of responding to crises. It examined best practices, refined approaches and identified new avenues for crisis response. The programme has produced 14 studies and three synthesis reports which are presented in this series.

Three thematic axes guided the research. Each volume of this series presents the case studies and synthesis report associated with one of the themes. Volume I deals with support for the private sector and social partners in response to crises, while Volume II discusses ways to promote the livelihoods and coping strategies of vulnerable groups in response to crises.

This volume discusses preventing crises through improved early warning systems. The first study examines lessons learned from the economic and financial crisis in Argentina for the early warning and preventative dimensions of the ILO’s Decent Work agenda. The second treats the complementarity of indigenous and scientific-based early warning systems in Guatemala. Socio-economic indicators to strengthen early warning systems are proposed in the third study, based on an analysis of the conflict in Sierra Leone. The fourth study complements the discussion of appropriate socio-economic indicators and early warning modelling in the context of Sudan. A synthesis report cross-analyses the major analytical outputs and recommendations of these studies while examining the overarching theme.
Acknowledgements

The coordinators of the HEI-ILO research programme on “Decent Work in Response to Crises” wish to thank the academics and experts on crisis response worldwide who have contributed to this endeavour. This project is included within the programme of the Geneva International Academic Network (RIIG-GIAN), whose generous support has been essential, as has the collaboration of the Network’s staff. A special thanks goes to Randall Harbour of RIIG-GIAN, the driving force behind the HEI-ILO partnership and research programme.

The programme coordinators also wish to thank colleagues from the Crisis Response and Reconstruction unit at the ILO (ILO/CRISIS) and the Programme for the Study of International Organization(s) (PSIO) of the Graduate Institute of International Studies in Geneva (HEI). Their support and initiative in devising and managing this programme has enabled its successful completion. In addition, thanks are due to project team members and institutions for providing instrumental guidance in devising the research agenda and in the implementation of field research in the countries covered. The coordinators owe special gratitude to Luca Fedi, seconded by HEI to ILO/CRISIS, who ensured the day-to-day coordination of the project for two years.

The country case studies have benefited from the support and commitment of many local non-governmental organisations and associations. A special thanks goes to the Afghanistan Research and Evaluation Unit and the Office of the United Nations High Commissioner for Refugees (UNHCR), who completed the Afghanistan case study, and to the United Nations University for the case study on Guatemala. Jeff Crisp of UNHCR was particularly helpful to the programme. The coordinators also wish to acknowledge Cedric Herrel, who edited the material in this volume, and Charles Landow, who helped in the final stages of the project.

Finally, the coordinators wish to thank the distinguished researchers and their institutions for completing the case studies and synthesis report in this volume. A full list of authors and institutions appears here:

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A synthesis report of four case studies

Sharon Rusu & Reid Rossi

October 2005
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Executive summary

Introduction

Managing crises, whether of armed conflicts, natural disasters, or financial and economic collapse, is a problem of significant proportions. Such crises are often responsible for the destruction of physical and social structures. Most importantly, they threaten fundamental rights and freedoms: civil, political, economic and social rights. They pose huge challenges for the international community and States alike.

The need to address the challenges posed by such crises is especially pertinent in regard to the development of crisis management responses: first of preventive measures, and then early response to crisis when prevention falters or fails. Crisis management models are several and include but are not limited to those on prevention, early warning, response, and reconstruction. Despite the work being done by the UN, national governments and at the regional and local levels to develop mechanisms for prevention and response, still lacking is real consensus on how to get broader participation in global-scale decision-making. Some of the indecision in respect of effective response is in part due to the failure to link early warning with an early action system.

Background

In May 2000, a High Level Research Consultation on Crisis was organized by the ILO In-Focus Programme on Crisis Response and Reconstruction. The Consultation recognized that a growing number of countries are facing various types of crisis – armed conflicts, natural disasters, abrupt financial and economic downturns and difficult social or political transitions. Discussion on EWS figured prominently at the Consultation, and included how best to assess and utilize socio-economic and employment indicators in forecasting crises and undertaking appropriate preventive action. The Consultation ended with the creation of a research network of experts, scholars and academics covering employment-related and other socio-economic aspects of various crises types.

The research network identified issues relevant to ILO’s focus for immediate, medium and longer term consideration and determined research priorities for ILO’s crisis-based research for the next biennia. It further affirmed ILO’s special place and responsibility to contribute towards mitigating labour-related and other socio-economic causes and impacts of crisis, as well as to assist in reconstruction, reintegration, peace-building and early-warning efforts in crisis-affected countries. Follow-up on recommendations from the consultation, specifically a research programme, were led by an ILO-Institute universitaire des hautes études internationale (HEI) while engaging other partners (IOs, NGOs, academics, locally and internationally) in the process.

Purpose

The purpose of this report is to provide a comparative review of the employment and socio-economic dimensions of three types of crises: socio-economic emergencies, natural disasters, and armed conflict. Such efforts are central to ensuring the engagement of the ILO and the international community is relevant and linked to supporting sustainable economic and social development through crisis prevention, early warning, preparedness, response and reconstruction processes.

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1 The concept of ‘crisis’ is defined within the limits of this report as relating to three specific crisis typologies: internal armed conflicts, natural disaster contexts and sharp financial and economic downturns.
Methodology

Four case studies were developed to illustrate the unique challenges the ILO faces in identifying and implementing EWS that could serve as effective warning for four types of crisis situations: economic and financial crises; natural disasters; and conflict and post-conflict reconstruction.

Argentina, Guatemala, Sierra Leone and Sudan are presented here as cases for the development of EWS (EWS) in their respective country-specific contexts. Indicators specific to each of the three types of crisis situations are presented as the bases for the analysis of the case studies. The studies further provide recommendations regarding ILO action-targeted entry points.

The general method of the report focuses on the cross analysis of these four case studies in the interests of providing an evidence-based analysis for two interlinked aims: bridging existing knowledge gaps on early-warning and economic indicators, and assessing operational and programmatic possibilities with a view to contributing specific recommendations on the modalities for key stakeholders in crisis management to include the employment dimension in their prevention planning and responses.

The case study syntheses begin with a background to each crisis. They move on to identify the rationale behind relevant indicators and then elaborate ILO’s potential future role in research and action. Argentina examines that country’s late-2001 economic and financial crisis. Guatemala reviews its experience of natural disasters and the role of indigenous peoples in the provision of useful indicators. Both Sierra Leone and Sudan offer glimpses into two distinct experiences in conflict and post-conflict situations, and the impact of political and social transitions.

In addition, this report draws from existing literature on EWS in the three areas of interest: economic crises, natural disasters and conflict in order to provide some critical observations on the subject matter under review. To this end, the report includes an analytical framework which sets the context for the report focus on EWS and economic indicators by reviewing key questions on the origins and practice of early warning. Finally, the report provides action-oriented recommendations and relevant concrete outputs based on key findings from the case studies that support how ILO can strengthen economic systems, and how effective economic systems strengthen the ILO.

Principal findings

The central objective for the involvement of organizations like the ILO and other non-state stakeholders’ in early warning frameworks is to strengthen the efficiency and effectiveness of EWS as a way of reducing the likelihood of crises, whether economic, natural or violence-based through the development and enhancement of crisis prevention mechanisms. Generally, international organizations and other non-state stakeholders should aim to:

- prevent crises at the earliest possible stages;
- find proper mechanisms for cooperation with other actors in preventing crises;
- closely monitor highly volatile contexts so as to facilitate informed decisions and planning to intervene at the earliest possible juncture, in an appropriate manner; and
- establish instruments and mechanisms for prevention relative to the future in cases of economic crisis, disasters and conflict in areas that have been previously affected.
**Informed action**

The case studies illustrated the importance of identifying priorities, establishing criteria, exploring the types of data needed and designing appropriate models and methodologies. The ILO needs to explore the institutional context for service delivery and for determining how best to transfer research findings into direct action.

Another very important entry point for the ILO is standard-setting. International organizations like the ILO can play an important role in ensuring that social and economic factors are taken into account when developing prevention, mitigation, recovery and transition programs. The following recommendations flowed from the case studies.

**Argentina case study**

The role of the ILO in future early warning processes to monitor economic downturns leading to fiscal crises is based on the recommendations drawn from the Argentina study and elaborated with conclusions drawn from the May 2000 High Level Consultation. These two sets of recommendations support the participation of the ILO in the development of an EWS for the Argentine economy that may well have application for other countries that face similar fiscal policy problems. Overall, the critical issue is to build upon employment strategies and research that has been accumulated in order to link it with early warning.

To add value, the ILO should develop a system of potential employment crises scenarios. These should be continuously reviewed, updated periodically and encompass all sectors. Local communities should also be engaged as monitors and contributors to early warning programs. A key tool in this type of activity could be surveys that pose specific questions, such as how workers adjust their expenditures in times of crisis, and what other

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2 A sequential model of early warning would be conceptually useful for the ILO specifically, and the UN system in general. Whatever model is preferred in the development of EWS, however, it is important to keep in mind that for predictions to be reliable, quantitative EWS demand strictly regulated and standardized procedures for the collection and processing of data, as well as harmonized usage of conflict indicators and rigorous application of all the concepts involved. Coordination of information among information gatherers is therefore of considerable importance and there is a definite role for the ILO in developing and standardizing such processes. The ILO should further collaborate with major stakeholders to strengthen existing conflict EWS where they exist, while extracting benefits for its own operations. Such systems should be dynamic, time-based, continuous and comprehensive.

3 What is clear from these case studies is that the ILO cannot rely solely on one methodology in its efforts to play an effective role in EWS. The unique cultural, physical, economic, social political dimensions of each state’s experience, combined with historical and contemporary backgrounds and experiences, requires the ILO to be vigilant in its approach to effective monitoring of the causal factors and emergency situations as presented in the case studies. To this end, the ILO will need to employ a variety of comprehensive indicators that are specific to the country/situation being monitored. This will necessitate novel approaches to inter-organizational and governmental relationships; establishing, maintaining and strengthening partnerships for collaborative work on existing strategies as well as developing new models for EWS to optimize its own and its partners’ roles in areas of conflict, disaster and related crises.

4 ILO participation in future EWS should consider including work on standards for data collection, analysis and warning. In addition, the ILO should consider involvement in the creation and use of standardized methodologies for identifying indicators. These efforts are especially critical if the relationship between socio-economic indicators and monitoring are understood to be key to structural sustainability. In this latter regard, the ILO is uniquely equipped with the tools necessary to be as effective as is operationally feasible within the ambit of EWS development and forging enduring solutions for conflict-affected peoples. Marshalling the resources of the ILO and its partner organizations can help shift crisis work from ad hoc relief to long-term prevention, mitigation and sustainable development, informed by the principles of decent work.

5 ILO’s EMP/STRAT has been involved for some time in these issues as well as that of the ILO Office in Buenos Aires which has been producing a whole series of working papers.
coping mechanisms are used like, for example, informal economy activity and advocacy that is inspired by and is an outcome of social dialogue.

**Guatemala case study**

The ILO should assist in the integration of indigenous knowledge and experiences in the routine operation of existing EWS in Guatemala. The ILO should promote the sensitization of rural and indigenous communities to science and scientific advancement in natural disaster prediction. In emphasizing disaster preparedness, for areas prone to risk of natural disasters, the ILO plays a significant role in the advance development of specific mitigation and response mechanisms and budgeting procedures. Finally, the critical issues to analyze in this area relate to the creation of jobs and income generation, economic and social reintegration, the impacts of natural disasters on individuals, communities and societies, and social protections.

**Sierra Leone case study**

The ILO should focus on substantiating the link between employment, related economic and social issues and conflicts by assisting in the design of peace and conflict indicators. It should further support efforts focused on post conflict reconstruction by assisting in efforts to reintegrate people into the economy. The ILO’s technical involvement in the field of early warning could prove to be instrumental in strengthening the effectiveness of EWS in West Africa.

The ILO should lobby for a major shift in international assistance strategies from peacekeeping and humanitarian aid in failed states to Reconstruction Missions. It should also take part in the collaborative establishment of a credible information network in Sierra Leone.

The ILO should actively engage in the training of early warning conflict and peace analysts, especially as part of its overall support to civil societies and EWS. It should work with the international community to promote investments in fragile and potentially unstable countries like Sierra Leone as the best way to prevent conflicts and support local and regional peace initiatives.

**Sudan case study**

As in Sierra Leone, the ILO should develop working arrangements with local and regional actors that can benefit and strengthen early warning capacity and efficiency, including conflict prevention, management and resolution. There is an opportunity for the ILO to mainstream employment and related socio-economic conflict indicators. The ILO can also play a role in the coordination of regular rapid assessment exercises to ensure that EWS is trustworthy in its monitoring, accurate in its predictions and target-oriented in its alerts to stakeholders.

Most importantly, the ILO should strengthen existing, collaborative EWS and approaches. By taking part in these collaborative arrangements, the ILO can contribute to the prevention of violent conflict by strengthening the efficiency of EWS. This study further recommends that the ILO engage in capacity building of grassroots civil society organizations for conflict prevention, management, and resolution training.
What the four case studies demonstrate

The four case studies typify early warning as a tool for prevention and preparedness whether as a result of economic downturn, natural disasters or conflict. They focus on how early warning is aimed at preventing crises. The success of crisis early warning and early response is much more likely when information and analyses are shared, response options are further shared, and the actual response is a coordinated effort among multiple actors, ranging from States and civil societies to regional and international organizations.
1. Introduction

Managing crises, whether of armed conflicts, natural disasters, or financial and economic collapse, is a problem of significant proportions. Such crises are often responsible for the destruction of physical and social structures. Most importantly, they threaten fundamental rights and freedoms: civil, political, economic and social rights. They pose huge challenges for the international community and States alike.

The need to address the challenges posed by such crises is especially pertinent in regard to the development of crisis management responses: first of preventive measures, and then early response to crisis when prevention falters or fails. Crisis management models are several and include but are not limited to those on prevention, early warning, response, and reconstruction. Increasingly, regional organisations, NGOs and civil society groups are playing central roles in the collection of information and advocacy for more effective early warning and response mechanisms. In this regard, strengthening regional organizations, NGOs and civil society is surely relevant.

Regional organisations, with mandates for early warning have important roles to play in developing conflict prevention capabilities in addition to existing famine indicators, especially regarding the ability to forecast and to intervene with appropriate responses. Institutional strengthening and commitment to building early warning, risk assessment and rapid deployment response mechanisms are essential to addressing natural disasters like famine and earthquakes as they are to violent conflict. Equally, NGOs and civil society play significant roles in early warning of famine and impending violence by actively supporting the collection of information for all important analysis, mediation, advocacy, reconciliation and peace-building.

The current debate in respect of models and approaches to early warning, as an essential part of a comprehensive crisis management programme is as many-sided as the emergencies against which it attempts to define and evaluate itself. One aspect of the debate centres on whether or not early warning is worth the effort? For many, working on complicated statistical analyses and weighting indicators is a waste of time. For these sceptics the causes of crises are mostly clear and known, and the actions (most often dependent on political will) are simply not forthcoming even and despite warning. Another aspect of the debate centres on which type of crises merits priority attention and with what tools.

Over time, efforts similar to those for prevention in the case of natural disasters and crop yields have become the basis for the development of early warning models for conflict prevention while models for predicting economic collapse have been largely overlooked. What is becoming increasingly clear is a two-fold message. First, early warning and appropriate response depend on the nature of the crisis and the stage of its development. Second, socio-economic indicators play a key role in the early warning of impending financial crises but to other crises as well and are thus integral to tackling the social and economic root causes of crises and their impacts.

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6 The concept of ‘crisis’ is defined within the limits of this report as relating to three specific crisis typologies: internal armed conflicts, natural disaster contexts and sharp financial and economic downturns.
Another issue relates to the question of whether it is simply early warning that is needed or the political will to initiate action at the highest levels within the UN and among states that is important. Despite the work being done by the UN, national governments and at the regional and local levels to develop mechanisms for prevention and response, still lacking is real consensus on how to get broader participation in global-scale decision-making. Some of the indecision in respect of effective response is in part due to the failure to link early warning with an early action system.

The purpose of this report is to provide a comparative review of the employment and socio-economic dimensions of three types of crises: socio-economic emergencies, natural disasters and armed conflict. Such efforts are central to ensuring the engagement of the ILO and the international community is relevant and linked to supporting sustainable economic and social development through crisis prevention, early warning, preparedness, response and reconstruction processes.

**Project background**

In May 2000, a High Level Research Consultation on Crisis was organized by the ILO InFocus Programme on Crisis Response and Reconstruction. The purpose of the conference was to benefit from the most up-to-date research available on various aspects of crisis, with special attention paid to natural disasters, armed conflicts, challenging social and political transitions, and significant downturns in the economic and financial well-being of States. Discussion on EWS figured prominently at the Consultation, and included how best to assess and utilize socio-economic and employment indicators in forecasting crises and undertaking appropriate preventive action.

The Consultation recognized that a growing number of countries are facing various types of crisis – armed conflicts, natural disasters, abrupt financial and economic downturns and difficult social or political transitions. It was noted that in many cases, several types of crisis co-exist, further complicating the issue of effective response. Those in attendance realized that if lasting solutions to such crises were to be found, they must include confronting the social and economic root causes of crises and their impacts: high levels of unemployment and underemployment; social exclusion and poverty; economic inequality; violations of human rights; and the absence of social dialogue and democracy.

The findings in brief from the High Level Consultation: supported early warning as an important subject for follow-up; highlighted the importance of prevention-based approaches following the principle that crisis response is limited and prevention is therefore fundamental to sustainable development efforts and considered essential the study of all dimensions of the role played by social and economic factors\(^7\) and economic indicators in early warning.

The Consultation ended with the creation of a research network of experts, scholars and academics covering employment-related and other socio-economic aspects of various crises types. The network, in support of the knowledge development component of ILO's crisis response work, identified issues relevant to the ILO's focus for immediate, medium-term and long-term consideration and determined research priorities for ILO's crisis-based research for the next biennial. These results further affirmed the ILO's special place and responsibility to contribute towards mitigating labour-related and other socio-economic causes and impacts of crisis, as well as to assist in reconstruction, reintegration, peace-building and early-warning efforts in crisis-affected countries and regions and identified some of the relevant research methodologies to be employed. Further mention is made of the ILO-Institute universitaire des hautes études internationale (HEI) research programme

\(^7\) Factors are used in their non-statistical sense.
that followed up on recommendations from the consultation while engaging other partners (IOs, NGOs, academics, locally and internationally) in the process.

**Methodology**

Four case studies were developed to illustrate the unique challenges the ILO faces in identifying and implementing EWS that could serve as effective warning for three types of crisis situations: economic and financial crises; natural disasters; and conflict and post-conflict reconstruction.

Argentina, Guatemala, Sierra Leone and Sudan are presented here as cases for the development of EWS (EWS) in their respective country-specific contexts. Indicators specific to each of the three types of crisis situations are presented as the bases for the analysis of the case studies. The studies further provide recommendations regarding ILO action-targeted entry points.

The case study syntheses begin with a background to each crisis. They move on to identify the rationale behind relevant indicators and then elaborate ILO’s potential future role in research and action. Argentina examines that country’s late-2001 economic and financial crisis. Guatemala reviews its experience of natural disasters and the role of indigenous peoples in the provision of useful indicators. Both Sierra Leone and Sudan offer glimpses into two distinct experiences in conflict and post-conflict situations, and recommend methods and collaboration for strengthening existing EWS.

The four case studies are entitled ‘Early-warning and preventative aspects of the Decent Work agenda for economic and financial crises: Some lessons-learned from Argentina.’ ‘Indigenous indicators in the context of EWS of Guatemala.’ ‘Conflict early warning modelling: a case study of Sierra Leone for conflict and peace indicators with a focus on relevant socio-economic indicators and potential entry points for ILO in early warning frameworks.’ ‘Socio-economic indicators for conflict related EWS modelling: a case study of Sudan.’

The general method of the report focuses on the cross analysis of these four case studies in the interests of providing an evidence-based analysis for two interlinked aims: bridging existing knowledge gaps on early-warning and economic indicators, and assessing operational and programmatic possibilities with a view to contributing specific recommendations on the modalities for key stakeholders in crisis management to include the employment dimension in their prevention planning and responses.

In addition, this report draws from existing literature on EWS in the three areas of interest: economic crises, natural disasters and conflict in order to provide some critical observations on the subject matter under review. To this end, the report includes an analytical framework which sets the context for the report focus on EWS and economic indicators by reviewing key questions on the origins and practice of early warning. Finally, the report provides action-oriented recommendations and relevant concrete outputs based on key findings from the case studies that support how ILO can strengthen economic systems, and how effective economic systems strengthen the ILO.

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8 Title translated from Spanish
2. **Analytical framework**

*What is early warning?*

There is no single definition of early warning, nor is there agreement on what an early warning system should look like.

For the purposes of this report, the following definition will serve as a general definition of early warning:

‘Early warning may be defined as the ability to collect and analyze information in the interests of providing strategic options for preventive action or, as may be required, informed response.’ \(^9\) Early warning does not end with warning. To be effective, early warning analysis should be linked to options for preventive action. Thus early warning is not simply for predicting crisis risks but for informing decision-making with clearly formulated and realistic policy options.

Early warning of crises is central to effective prevention strategies as it provides an alert of impending calamities that threaten lives and livelihoods. Equally important is the capacity to closely monitor conflict situations with fluctuations in the levels of violence for an adequate response capacity throughout the conflict/post conflict phase. The principles central to effective prevention of deadly conflict are also arguably relevant to the other two crises areas pertinent to this study. These principles are: early reaction to signs of trouble; a comprehensive, balanced approach to alleviate the pressures, or risk factors, that trigger conflict and an extended effort to resolve the underlying causes of violence linked to well-formulated options for response. \(^10\) In the past, attention was focused on the collection of information in early warning, but with the internet revolution, attention has shifted to models and analysis. \(^11\)

Information for early warning may be defined as data that are collected on the basis of the applied standards of reliability, timeliness and verifiability. The application of these standards permits the user to judge for themselves the reliability of a document, the credibility of a source, and thereafter the authority of the analysis. Information alone is not early warning – it requires analysis. Comprehensive analysis that supports key actors in taking informed decisions requires accurate and trustworthy information that admits of challenge and is sensitive to the context of violent conflict. \(^12\) For some theorists, information collection and analysis is in itself a first step in an evolving process. \(^13\) For others, more important than analysis derived from a single or complex set of indicators is recognition ‘that the problem of securing and analyzing warning [data] should be linked

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\(^12\) Sharon Rusu, ‘Principles and practice of conflict early warning,’ *Conflict, Security and Development,* Centre for Defence Studies, King’s College London, 2001, p.127.

\(^13\) Charles J. Jefferson, ‘Information Sharing and Early Warning,’ in John Davies and Ted Robert Gurr eds., *Preventive Measures: Building Risk Assessment and Crisis EWS*, Lanham MD, Rowan and Littlefield, 1998, pp 246-47. Jefferson observes: As important as warning is to prevention, however, we should remember that historically most warning has been unsuccessful—unpersuasive, inaccurate, too late or whatever. Thus, the primary value of information-sharing will most likely come from its effects on mitigating or resolving conflicts, not in predicting them in advance.
closely with the problem of deciding whether responses are appropriate and useful in the light of the available warning.\textsuperscript{14}

A key factor in early warning is how to make it operational. Central to this concern is the issue of sustainability. This latter is especially important in the light of the reality that the origins of a new war often lay just beneath the surface of the latest peace accord. A central question is how far is early warning appropriate and sustainable? These and other questions relevant to the principles and practice of EWS are taken up below.

\textit{Models of conflict early warning}

Conflict early warning had its roots in the prediction of natural disasters and economic forecasting. With the early forecasting models (disaster and economic) the focus was not on preventing disasters but minimizing their impact or damage, and contingency planning for assistance to the victims. Equally, these early models were heavily aligned to the hard sciences and indicator systems.\textsuperscript{15}

The first recognized study based on qualitative methods was arguably that produced by Prince Sadruddin Agha Khan in 1981 while he was Special Rapporteur for the UN Commission on Human Rights.\textsuperscript{16} Using a case studies approach, his work focussed on the linkage between human rights violations and structural and facilitating factors: repressive government policies, food scarcity, resource strain due to population growth, and economic disparities. The push-pull factors of coerced migration in Saddruddin’s study gave way in the late eighties to a more highly evolved theoretical framework of causal linkages to conflict: root causes, proximate conditions and triggering events.\textsuperscript{17}

Since then at least four types of conflict prevention models have been developed: correlation (focussing on structural factors), sequential (emphasizing short term variables and lessons from past conflicts), conjunctural (using inductive methods to identify the role and perhaps links between combinations of variables), and response (focussing on conflict intervention and resolution).\textsuperscript{18}

These models are more than simply window dressing. They are the products of a shift from symptom-oriented approaches and ‘late warning’ where the disaster had already occurred by the time the warning was sounded, to root causes and evolution.

\textit{Who is doing early warning?}

As a consequence of the above-mentioned factors and the result of various global efforts, there are currently a number of early warning initiatives in the public domain that can be accessed via the World Wide Web. On the humanitarian side, there is the UN Office for the Coordination of Humanitarian Affairs’ ReliefWeb and IRIN(Integrated Regional Information Network). Though not themselves EWS, ReliefWeb and IRIN provide the humanitarian community with global access to continuously updated

\textsuperscript{14} See above A. George and J. Holl, foreword p.9.

\textsuperscript{15} See above Davies and Gurr, 1998. Some early hard science-based systems included: The Global Environment Monitoring System (GEMS) 1975 developed by the United Nations Environment Programme. In the same year, the Food and Agriculture Organization of the United Nations developed(GIEWS). In 1988, the USAid developed a famine early warning system (FEWS) against a repeat of the drought in Ethiopia.


\textsuperscript{17} Lance Clarke, ‘Early Warning of Refugee Flows.’ Washington, DC, Refugee Policy Group, 1989.

information, analysis and comment from hundreds of cited sources from the UN and international humanitarian community actors. Additionally, the International Federation of Red Cross and Red Crescent Societies (IFRC) has published annually since 1993, the World Disasters Report which brings together the latest trends, facts and analysis of contemporary crises -- whether 'natural' or human-made, quick-onset or chronic. The ‘Hyogo Framework for Action 2005-2015-Building the Resilience of Nations and Communities Report’ is an output of the Disasters World Conference on Disaster Reduction (WCDR) 2005. Amongst other things, it highlights priorities for action from 2005 to 2015, as defined during the conference and is committed to ensure that risk reduction is a national and a local priority with a strong institutional basis for implementation. ‘Socio-economic impacts of Natural Disasters’(2004) by the United Nations Economic Commission for Latin America and the Caribbean analyses the socio-economic effects of hurricane Mitch using a gender approach and proposes new analysis indicators for crisis situations that may better reflect the vulnerability of women in disaster situations.

On the policy side, the UN, through the United Nations Office for Coordination of Humanitarian Affairs (OCHA) organizes an inter-agency and departmental Framework for Coordination for early warning and response (Framework Team). This group has three main concerns: early warning, preventive actions and preparedness measures. There are ten members in the Framework Team: OCHA, Department of Peacekeeping Operations, Department of Political Affairs, UNDP, UNHCHR and, since 1999, FAO, UNHCR, UNICEF, WFP, and WHO. In 2000 and 2001, the Department for Economic and Social Affairs (DESA), the Department for Disarmament Affairs (DDA) and the World Bank became members as well.19

Other selected EWS include FAO’s Global Information and Early Warning System on Food (GIEWS) and USAid’s Famine Early Warning System (FEWS); for the environment, the UN system-wide Earthwatch and UNEP’s Global Environment Monitoring System (GEMS); for natural disasters, HazardNet; the International Tsunami Warning System (ITWS) and the Global Volcanism Network; for health, the Epidemiological Early Warning System (EEWS).

There are many other initiatives at the international, national and local levels and others that publish information critical to early warning analysis. This selection is hardly an exhaustive list. The efforts by civil society in respect of monitoring and reporting are important in this regard and are taken up below in reviewing the case studies on Guatemala, Sierra Leone and Sudan.

*How far is early warning appropriate and sustainable?*

Addressing the questions of appropriateness and sustainability of EWS leads irrevocably to comparisons between scientific-based EWS versus community or civil society-based initiatives. Some differences are obvious. One sets a high technical standard and costs whereas the other offers lower technical standards and costs. But in assessing these two, other factors should be taken into consideration. For example, what are the political, cultural and development environment aspects of the situation in which the early warning system is operationalized? What outputs are envisaged? What tools are best adapted to link the collection and analysis of information with outputs specific to informing key stakeholders? How far is the system sustainable once donor funding fades out?

19 See Reliefweb [http://www.reliefweb.int/RWSearch](http://www.reliefweb.int/RWSearch).
The strength of civil societies in early warning is that they maximise the leverage attained by the formation of information networks. Information-sharing is not just simply about amassing information; it is about building networks of interested organisations for the purposes of verifying information and sharing expertise. The additional strength of civil society networks is that they offer an alternative to clearly defined and pondered indicators. Their outputs are flexible, subjective and community-based early warning provided by good and knowledgeable local monitors.

In a word, there is a need for both types of EWS. But in the context of protracted conflict which can flare up again at any time, or in early warning for natural disaster preparedness and response, there are distinct advantages to local monitoring and monitors. The first advantage is appropriateness and the second, sustainability. That the two are related is undeniable. The principle behind the practice in this case is: to ensure sustainability, whenever possible the system of indicators for early warning should reflect the history, culture and livelihoods of the people and places for which they are developed and be operationalized by relevant local societies. Finally, civil society can provide both the information and the normative pressure critical to the development of effective EWS.

**Challenges to early warning**

As mentioned earlier, a major challenge to early warning is political. Using the excuse of the inexact nature of early warning as a reason not to act, political will is the crucial factor in the linkage between warning and action. Another challenge is how to act on warning without contributing either to the conflict or to unravelling the peace. How to back prevention and peace initiatives in the knowledge that peace too is ever-negotiable and conditional is a problem of major proportions. A third challenge relates to definitional and conceptual issues. Early warning is variously interpreted. There is a need for greater specificity in its definition but this is most important when related to what is to be assessed and the accountability that accrues to assessment and the issuing of a warning. On the conceptual side, work needs to be done on standard-setting for EWS. There is no real agreement on what an early warning system looks like or how it should operate. In this regard, and in line with its mandate, the ILO should consider a standard-setting role in early warning for economic crises. A critical area for clarification is to ensure that early warning on economic downturn is clearly defined.

These are significant elements, about early warning and EWS in general, to keep in mind as the review begins below of the four case studies: Argentina, Guatemala, Sierra Leone and Sudan. As the narratives of each study unfold, it is important to recall that it is all too easy to confuse early warning with late warning, which is the case in most so-called warnings today that take place as the crisis is about to occur.
3. Argentina case study: The economic crisis

Context

At the end of 2001, after three years of rather mild (albeit protracted) recession and a few months of social unrest and increasing uneasiness in the financial community, the Government of Argentina declared it would not continue serving its debts, and a widespread economic crisis ensued. The currency collapsed, banks were ordered to freeze deposits, and the nation’s output fell by an additional 10.9 per cent in 2002 (relative to 2001), on top of an accumulated fall of 8.4 per cent since its previous peak year (1998), for a total 18.4 per cent loss of output and a decrease in per capita income of more than 23 per cent. The crisis also caused a rise in joblessness to 26 per cent in the wake of the enormous contraction of consumption, investment and output. After a decade of price stability, inflation returned with a rise of 40.9 per cent during 2002, especially during the first half of the year, and a further 40 per cent distributed over 2003-2005, in spite of a Government-imposed freeze on the price of utilities, public transportation and other regulated public services (a freeze still in force by mid 2005). Real incomes fell under the combined effect of higher unemployment, lower economic activity, and price increases not fully compensated with pay hikes. Private consumption fell by 14.4 per cent and gross investment by 36 per cent in 2002 relative to 2001. Imports fell to one third of their previous level. Time deposits were kept frozen for a long time, and those denominated in US$ were forcibly converted to pesos at a loss (in US$) of about one half of their previous worth.

This crisis was one of the most severe in Argentine history, and arguably the worst. It featured political upheaval and widespread social unrest to a hitherto unknown level. The President resigned in December 2001. His interim replacement resigned a week after being appointed, but not before having declared a default on public debt. His successor in turn anticipated elections and thus governed for barely more than a year instead of completing the interrupted presidential term. In the meantime, the country started a protracted negotiation with creditors which did not reach a conclusion until 2005 (when about three quarters of the defaulted debt was exchanged by new bonds with much longer terms, a much reduced rate of interest and a deep cut in capital). Also, an economic recovery since 2003 gradually brought national output back to its pre-crisis level (by mid-2005, GDP was roughly equivalent to its 1998 levels).

Purpose of the study

The aim of the Argentina case study was to analyse the origins and nature of economic crisis in order to consider the role played by early warning and in particular the relevance of ‘real economic’ indicators in comparison with financial monetary indicators. Hence the special focus on the employment and social dimension of the crisis. Considering the policies of the government in failing to address mounting threats and its response to the crisis acts as a corollary to the crisis and the role of early warning in it.

Investigating these issues required the use of several sources of data and a combination of methods, comprising an analysis of national accounts, household surveys, price indices and data from social programs monitoring systems. Further, the study makes several points involving a critique of existing methods of measurement; for example, of poverty and unemployment and proposes improved measurement through additional indicators and stepping up the frequency of others.
Signals of impending crises unheeded

The nature of the economic downturn its causes and sources, its future prospects and lessons to other countries has been variously interpreted. The process itself is usefully explored in the Argentina case study. According to the study, the nature and cause of the crisis determines much of what has to be said about its predictability, its impact and the future prospects for the country.

The dramatic economic and political events of December 2001 and early 2002 in Argentina, including the resignation of the President, the messy transfer of power to a disorganized opposition, and the default on public debt, followed by a breakdown of the monetary and financial system, were not altogether unexpected. The country had been suffering a protracted recession from the second half of 1998; the Vice President had resigned in 2000; the Government had not fared well in the 2001 midterm elections; and there was widespread discontent in many ranks of society after three years of recession and mounting unemployment. Months before the crisis, the outgoing government had imposed harsh but ultimately fruitless measures to stop the impending meltdown, and was in the midst of negotiating a debt swap with creditors.

Signs of an impending meltdown increased in 2000 and 2001 as the Government failed to reduce expenditure and stop growing indebtedness. The financial market sent abundant signals of concern, chiefly through increasing risk premiums attached to Argentine Government bonds. Signals of the growing severity of the impact on the labouring classes were also abundant, especially from the regular INDEC nationwide household surveys that were showing an increase in unemployment and poverty.

One conclusion that could be already anticipated is that it was not the absence of early warning indicators but the decision not to pay heed to them that caused the situation to progress to a point in which a catastrophic outcome was no longer avoidable.

Analysis

The wide social upheaval of 2001-2002 and the deep drop in output and employment resulted in government policies targeted at vulnerable groups. The share of social spending on total public expenditure and the share of targeted programs within social spending increased perceptibly after the crisis.

There were various events occurring within the Argentine economy in the 1990s that were signals of impending economic crisis – components of the economic indicators that were visible but not acted on by either the Government – itself a contributor to the crisis through its fiscal policies – or by international organizations and internal stakeholders. These included:

- An increasing trend in unemployment
- Changes in labour force participation
- Lower employment rates

Normally, during times of crisis the quality of jobs deteriorates. People tend to accept temporary jobs, or informal conditions (for example, unregistered jobs for which no social security contributions are paid). However, this does not seem to have been the case during the Argentine crisis.
Events preceding the crisis

Before undertaking economic reform in the 1990s, Argentina had long been a country with a relatively low rate of unemployment. This was due to several reasons. One is demographics: the country is large and under-populated. It is nearly as large as India but its population represents less than 4 per cent of that of India. An abundance of natural resources and a sparse population suggests that labour is in relatively scarce supply. The country has consequently been an immigration destination for more than a century, first mainly from overseas, changing recently to predominant immigration from other South American countries. Another reason for the low unemployment is the closed condition of the economy in recent decades: millions of people had secure jobs in the public sector or in protected private industries, shielded from competition from abroad, and protected from economic downturns by labour legislation that made dismissals relatively difficult and costly for employers. This explains, for example, that employment grew during the 1980s whereas output was falling (implying a large fall in labour productivity).

The employment picture changed during the 1990s as the economy opened up and market forces were given a stronger role in the allocation of resources (including the labour force). Most labour legislation remained in place, but new laws allowed for short-term contracts and many firms tended to rely more on these types of contracts in times of uncertainty.

Many sectors of the economy were profoundly transformed by macro and microeconomic reform. In general, long-delayed labour-saving technologies were introduced in a very short time, thus requiring the downsizing of large numbers of workers. One vivid example is the State-owned oil company, YPF, with a staff of nearly 60,000 workers (many of them working at clerical rather than technical or operational levels) and losing money as few other oil companies ever did. Restructuring and privatization drastically downsized the company’s payroll to 5,000, concentrated on key staff essential for the operation of oil extraction and distillation. The result was its operations and output soared and the firm turned profitable. However, thousands found themselves unemployed for perhaps the first time in their lives. Commercial banks are another example: a more open financial system forced banks to modernize operations, replacing tellers by ATMs and upgrading the qualifications of their staff. The implications of these changes were that the number of bank employees went down by a third in spite of enormous expansion and diversification in bank activity. A third useful example is the auto industry. Many automakers in Argentina had been operating plants installed several decades back, like the plant producing the Ford Falcon (a model from the late-1950s which was produced in Argentina up to 1990). Workers at those obsolete plants were promptly dismissed when a more open market forced companies to compete with imported cars in the home market and enter the export market too. Someone trained to produce a car with 1950s technology was unlikely to find a new job at a new, robotized plant, for which they lacked experience and training.

These process changes were common in many countries worldwide: workers in Europe or the United States had also been experiencing the effects of increased competition, resource reallocation and technological change as a consequence of globalization. What is peculiar to Argentina is the fact that many companies postponed change for a very long time and thus, the prevailing technology was in many cases more obsolete than elsewhere in the world. In the late-1960s, Ford workers in the United States passed from the Falcon to new models and gradually learned new ways of building cars, so the latest technology was not far above their current skills. However, Argentine workers coming from the Falcon plant had to catch up with three decades of technical change in auto making and this proved enormously difficult for many and involved a dramatic downsizing in the payroll.
As a result of rapid economic reform, the whole structure of labour supply transformed rapidly leading to higher unemployment and a general rise in the qualification of personnel in many branches of production. With labour demand overcoming supply, employers faced applicants willing to accept lesser posts which would have been shunned some years before, therefore improved the qualification level along the entire skills scale. Besides, a better educated applicant meant not only better productivity prospects but in many cases better appearance and manners which came as a bonus to the employer. Another indication of the rise in qualitative and quantitative underemployment was that former wage workers started working as self-employed people, or formal wage workers become informal, most often beneath their skill level.

Restoring economic stability

The old days of an Argentina with very low rates of joblessness may be gone not to return for a long time. Even with rapid economic growth, returning to the unemployment rates of the late 1980s or early 1990s will be difficult especially in view of the requirement of improving productivity.

How much growth per year is needed to bring unemployment back to its former levels, say to the 6 per cent rate of 1991, within a reasonable number of years? Or conversely, how long will it take to achieve that goal, at achievable rates of growth? A low level of unemployment (in the range of 4 to 6 percent of the labour force) could be of course temporarily reached on a transitory basis, but not as a permanent state of affairs, unless the economy grows fast enough to cover population and productivity growth.

The labour force is expected to grow at the pace of population, about 1.2 per cent per year in the coming decade or so. Average labour productivity has fallen about 20 per cent in 1998-2005 and needs not only to recover the previous level but to catch up with improvements achieved by the world economy, especially trade partners, in the intervening years and those to be achieved in the coming years. Assuming a world productivity growth of about 2 per cent per year, which is a modest hypothesis, these two factors set a floor of 3.2 per cent per year for output growth, just to keep things as they are relative to the rest of the world. Recovering lost productivity and shortening the distance with more advanced economies would require at least a further 2 per cent increase in productivity, not impossible in view of the record in Argentina during the 1990s and in other countries during the last two or three decades. Therefore, 5.2 per cent is needed just to cover population growth, world productivity growth, and productivity recovery and catch up. Anything above that figure will reduce unemployment, in a measure depending on the elasticity of employment relative to output. This elasticity has been high during the recent recovery but is already down at 0.8, and may fall further down to the levels observed in 1996-98; that is, about 0.5. If 0.5 is assumed to be a reasonable elasticity for the long run, then achieving a given increase in employment requires that output grows double that.

The return to more stable levels of unemployment

As for how much employment should grow to bring unemployment down from the current 15 per cent to a more reasonable 5 per cent, an increase of 1 per cent in employment for a labour force of given size and productivity means about 0.35 percentage points decrease in unemployment; that is, a 2.3 per cent reduction in a rate of unemployment of 15 per cent. In turn, to achieve an additional 1 per cent growth in employment, an additional 2 per cent annual growth in output would be required in order to achieve a yearly 2.3 per cent reduction in the rate of unemployment. The goal is to reduce the unemployment rate by two thirds, from 15 to 5 per cent, in a sustainable manner (i.e., without sacrificing productivity, competitiveness, or macroeconomic stability). At a rate of 2.3 per cent per year, reducing the rate of unemployment by two thirds would take 17 years. In other words, returning to low unemployment at a competitive productivity level would take a long time, during which output should grow at an average rate above 6
per cent. Shortening the time by one half; that is, achieving the goal in about 8.5 years, would require sustained growth at about 7.2 per cent per year during that period, and 5.2 per cent afterwards to maintain low unemployment and competitiveness.

These rates are higher than the current government aims to achieve. On several occasions, the Finance Minister has declared that growing too fast is dangerous and the goal should be to grow at about 4 per cent per year. That would be fine in a closed economy, but hardly in today’s world. The aim should be raised to 6-7 per cent to achieve full recovery of both social and economic objectives in a reasonable time.

Achieving such levels of growth for over a long period of time is not an easy task and would undoubtedly require that the country overcome its persisting status as a non-attractive destination for investment. Strengthening institutions and establishing reliable rules of the game, reducing inflation (which is steadily increasing), ensuring a sustained and sufficient level of primary budget surplus, and gradually re-opening the economy to foreign competition and capital flows, are among the key ingredients to achieve those results.

*An economic crisis with social and political links*

The case of Argentina demonstrates that the boundaries of different types of crises are not always clear. For example, financial and economic disruptions often accompany or trigger processes of social and political transition and vice versa. Collective action often leads to institutional failures such as the herding behaviour that has been observed generally in collapsing financial markets. Thus, while structural economic reforms are needed, priority must also be given to strengthening social policies. Social protection can help to prevent the negative effects of economic reform. Also important is the pace of reforms which are best when introduced in a stepped manner with sufficient monitoring and oversight.

The Argentina study also demonstrates that inaccurate predictions and the use of inadequate tools for measurement can result in policies that aggravate crisis rather than mitigate it. Choosing the right type of research to support policies that advocate the social dimension in government macro-economic policy, and deciding how best the unfulfilled economic needs of communities and populations emerging from crisis can be met is critical to the process of preventing or mitigating economic downturn.

Simply determining which socio-political system is best, or developing generic policies that address transition processes, is not sufficient. Rather, it is important to devise solutions that address the high social costs involved in economic transitions and develop the appropriate structural reforms to deal with both the social and the economic sides of the equation which is related to the abovementioned observation on the pace of reform.

While economic theory recognizes the close link between macroeconomic issues and labour markets, the ILO has seldom joined other international organizations in advising governments on stabilization policies at the moment when key decisions are being made. As in the case of Argentina, the ILO has tended to be involved at a later stage, when social emergency programs have to be designed to compensate for the social costs of economic measures in terms of open unemployment and falling real wages.
Early warning

As the study explains, ‘Whatever the causes and interpretation of the crisis, it was a crisis foretold.’ The causes of which have been reviewed above were sealed by two major factors: the failure of the authorities to act on clearly indicated statistical monitoring reports and to put ‘corrective measures’ in place. These failures in turn were the consequence of the failure to comprehend the implications of the default on debt service and convertibility in 2001 and 2002 combined with the self-interest of the Menem administration which ignored the increasing budget deficit and indebtedness.

As the study further observes, Argentina has a well-developed statistical system that supports an abundant supply of economic indicators. On a monthly and quarterly basis it monitors occurs on revenue from all sources on government expenditure, money and banking, foreign reserves and monetary supply, industrial output and foreign trade, GDP, investments and balance of payments and on a daily basis it analysis on the price and returns of government bonds and others. Further monitoring and reporting goes on with surveys on labour force employment, wages and poverty, health care services, access to welfare, household incomes and expenditure. The national statistic agency INDEC carries out regular household surveys, but rural areas and towns with populations of 5,000 people or less, comprising around 15 per cent of the country’s population, are not covered.

In terms of an early warning system, the study recommends data collection ‘about the underlying economic processes that could lead to an economic downturn, such as fiscal deficit and public indebtedness, increases in the perception of country risk in the international financial system, or [closer to the employment impact] any changes in the level of real economic activity.’ In the end, an early warning system recommended for predicting the onset of economic crisis in Argentina, carries attributes for larger application. In this sense, it is based on the sensible conclusion that any workable early warning system should monitor the status and expected evolution of the domestic economy (using indicators as described above) in the context of the international economic system.

Role of the ILO

ILO and early warning

The role of the ILO in future early warning processes to monitor economic downturns leading to fiscal crises is based on the recommendations drawn from the Argentina study and elaborated with conclusions drawn from the May 2000 High Level Consultation. These two sets of recommendations support the participation of the ILO in the development of an EWS for the Argentine economy that may well have application for other countries that face similar fiscal policy problems. Overall, the critical issue is to build upon employment strategies and research that has been accumulated in order to link it with early warning.20

Facilitating Transitions

The ILO’s objectives should be tied to medium and long-term perspectives rather than exclusively short-term. The objective would be to contribute to facilitating the transition from short-term stabilization to long-term structural change. There are any number of alternative structural adjustment schemes that should be reviewed and piloted for

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20 ILO’s EMP/STRAT has been involved for some time in these issues as well as that of the ILO Office in Buenos Aires which has been producing a whole series of working papers.
compatibility with alternative economic styles and effective labour market arrangements. The ILO’s promotion of tripartite programs to address economic and financial crises could enable it to become involved at earlier stages of the process and would help to elicit input from civil society actors. Stabilization policies (explicitly or otherwise) could help to define the relative burden workers and employers would have to share. The ILO has considerable experience in reaching such consensual agreements with regard to labour market adjustments. Programs that are discussed openly with social partners are more likely to succeed.

**Critical issues and concrete steps**

Critical issues for research and analysis in this area are related to the creation of jobs, income generation, and job protection during and after crisis in order to mitigate adverse effects of financial and economic shocks.

Concrete steps for the ILO include the following:

- developing tools based on existing ILO instruments and methodologies that can help to resolve those elements of crises related to the ILO mandate;
- ensuring that ILO research addresses the short, medium and long terms in crisis prediction, mitigation and recovery, and which instruments and methodologies are required for each phase;
- establishing how the various components of an economic or financial crisis affect the living conditions of the population, particularly of vulnerable groups;
- determining how affected groups, particularly the poor, cope with crisis;
- deciding which are the key components of a good social protection system that responds to crisis and helps to reduce structural poverty; and determining the best institutional design for a social protection system;
- developing ways in which short-term social protection can be linked to medium-term reduction of poverty and creation of employment opportunities;
- improving the capabilities of public and non-governmental institutions to respond to particular crises;
- determining how social programs can be optimized during a crisis and how social benefits can be targeted more efficiently;
- achieving a suitable balance between macroeconomic stability and social protection; and
- establishing how economic and social policies can be linked effectively, the kinds of institutions needed, and how macroeconomic adjustment programs can protect social spending
- encouraging social dialogue may provide essential forums for discussion of impending crises as well as for overcoming such crises.

Four central themes emerged from the May 2000 Consultation that provide key indicators for early warning and the monitoring of financial and economic crises:

- study of the role of various measures and interventions relating to employment, income creation and social protection before, during, and after crisis, in mitigating the adverse effects of shocks during the short run and over the longer term;
- research of the particular impacts of shocks on the formal and informal sectors and on urban and rural environments, in both the short and long run;
- research of the special impacts on particular groups of workers, such as the poor, the unskilled and women; and
- study of the impact of economic crises on the quality of jobs (wages, standards, security).
Lastly, to add value, the ILO’s should develop a system of potential employment crises scenarios. These should be continuously reviewed, updated periodically and encompass all sectors. Local communities should also be engaged as monitors and contributors to early warning programs. A key tool in this type of activity could be surveys that pose specific questions, such as how workers adjust their expenditures in times of crisis, and what other coping mechanisms are used like, for example, informal economy activity and advocacy that is inspired by and is an outcome of social dialogue.
4. **Guatemala case study: Natural disaster crisis**

**Context**

Guatemala is a country of innumerable contrasts. Situated on the Central American isthmus, and cradle of the Mayan civilization, Guatemala has made itself into a model of development for the entire Central American region. As a result of the colonization process that began with the Spanish, indigenous cultures and mainstream society coexist between two seas, along a chain of volcanoes, valleys and plains. Guatemalans struggle against the vestiges of a history marked by conquest, the challenges of underdevelopment, and adaptation to globalization imposed by developed countries.

The population in 2005 is estimated to be around twelve million inhabitants with a multi-ethnic base rarely seen in other countries of the continent. Guatemala is advancing through a process of reintroduction to sustainable development. After three decades of civil war, it concluded a peace agreement in 1996 and began a new chapter in pluralistic political, social and economic development at the national level. As reported in the 2004 in the presidential report to Congress, the country is advancing by means of state decentralization, demilitarization, democratization and modernization. However, in economic matters, the state has not been able to recuperate to the level that existed in the 1970s.

**Purpose of the study**

This case study examines human responses to natural disasters: earthquakes, cyclones, floods and other disasters that have caused fatalities and substantial losses and temporarily arrested development of communities and societies in Guatemala as well as in diverse regions of the world. In Guatemala, the ancestral Mayan culture recognized the capacity of such natural phenomena to totally destroy various aspects of human life. The historical experience of conquest in Guatemala erased much of the knowledge that accrued from centuries of Mayan culture and the different indigenous ethnicities. Today, however, that experience is creating a coexistence of cultures in Guatemala – traditional alongside an emerging mainstream culture. Interestingly enough, over the centuries, the mainstream culture that emerged from the colonial process believed that the various catastrophic events were punishment by God for sins committed by society. These beliefs still continue today in some rural communities in Guatemala.

Different branches of science have turned their efforts to understanding, modelling and explaining the origins of diverse natural phenomena that occur all over the planet. Civil engineering has developed construction standards and techniques that have reduced the vulnerability of residential dwellings, buildings and telecommunication to the impact of natural disasters. In recent decades, science has elaborated a new vision of the state as having a role in sustainable development and a responsibility to find ways to reduce the impact of natural disasters on its citizens. This study underlines the need for the state to recognize the role of prevention, preparation and early warning as strategies in minimizing the impact of natural disasters. The state also has a responsibility to implement these strategies by encouraging development that is less vulnerable to various natural phenomena.
**Disaster reduction and early warning: people and science**

In the context of disaster reduction, early warning plays a crucial role in minimizing fatalities and losses through systems that integrate knowledge of phenomena with anticipated responses to such phenomena issued as warnings by authorities and monitoring institutions. EWS should be developed with emphasis on people, so that alerts are issued as a result of community participation and with sufficient advanced warning to enable the implementation of comprehensive disaster preparedness measures. Systems should also take demographic aspects, gender and cultural characteristics into account when determining how best to respond to warnings. It is also important to recognize the role of community participation in these EWS. Community participation can be an active component of EWS through the organization of local committees to encourage preparation for efficient local responses in times of natural disaster.

The primary cause for EWS is disaster risk in any context, a need that is compounded by socio-economic vulnerability. It is also necessary to promote a rapprochement between indigenous and ethnically-diverse communities considered at high risk and national EWS such as the National Institute of Seismology, Vulcanology, Meteorology and Hydrology (INSIVUMEH) and the National Coordinator for Disaster Reduction (CONFED). A strategic alliance between these institutions and indigenous communities at risk that encourages community participation in early warning could serve as the basis for promoting the acceptance of such systems in the long term. One advantage of such an alliance is that it can establish dialogue and recognize indicators associated with different phenomena, from the centuries-old, identified indicators of indigenous communities, to those which have developed over the past century through modern science.

In conjunction with the Institute for Environment and Human Security of the United Nations University ( UNU/EHS), the ILO has united its efforts to strengthen capacities in early warning in Guatemala. The strategy behind the Guatemala case study was that early warning indicators were a good entry point to developing common understanding and dialogue between indigenous communities and state actors over the larger question of disaster management and prevention. Recognition of indigenous indicators by CONRED would allow for a mutual recognition and acceptance of scientific-based alerts at the level of indigenous communities. This though has already proved to be a challenge in Guatemala. Indicators are only an element in the broader issue of the mutual benefits that indigenous knowledge and scientific knowledge, as well as greater community participation can bring to disaster management. Risk mapping and/or coping strategies are other areas of potential mutual interest and spill over.

**ILO interest in early warning**

The study observes that the ILO’s interest in early warning is borne out of the recognition of the impact of natural disasters on different societies, in particular the most vulnerable ones, and especially in the area of socio-economic impacts. Moreover, the ILO’s role in ‘Convention 169 on Indigenous and Tribal Peoples in Independent Countries’ of 1989 establishes the right of indigenous peoples to decide their own priorities to control, to the extent possible, their own economic, social and cultural development.

Recognizing the need to integrate early warning within the more general framework of socio-economic development in Guatemala, this case study analyzes the actual situation in terms of demographics and social and economic aspects in order to illustrate the dynamics of different processes over the last decades. It also points out the current status of thinking around natural risks, stressing threats and vulnerabilities, with a view to offering an analysis of the actual state of early warning that exists in Guatemala.
In its desire to improve upon the EWS that already operate in Guatemala, the study contrasts the indicators of the country’s techno-scientific institutes with those that have been identified and translated historically, from generation to generation, in the Maya Kaqchikel indigenous ethnic community of Guatemala. The goal is to identify and integrate elements deriving from indigenous culture in the area of disaster reduction. The strategy proposed for achieving the goal, is to commence a dialogue between governmental institutions dedicated to early warning and indigenous groups as a strategy to improve disaster EWS in all its aspects. The study concludes with a series of recommendations on how to initiate this process.

Analysis

In line with the ILO’s capacity-building goal of the revitalization of indigenous traditions in the Guatemalan experience, early warning indicators were investigated in the community of San Pedro Yeocpaca, situated along the folds of the Fuego volcano. The community suffered the impact of a strong volcanic eruption in 1974 as well as other weaker eruptions in recent years by various earthquakes, including the most recent one in February 1976. This community was selected for study in respect of CONRED’s and Inisvumeh’s EWS that operate at this and three other of Guatemala’s most active volcanoes – and chosen because volcanic activity has intensified in recent years.

The study identified various indicators associated with the different types of naturally-occurring phenomena in this indigenous community. Among the indicators identified were the behaviours of wild animals that live in unpopulated areas of the volcano and similar behaviour of barnyard fowl; sleep patterns; and the phases and particular signals of the moon as well as eclipses. Some of these indicators are not specific to a particular natural phenomenon and for this reason were not included as indicators for the disaster early warning system pilot.

An indigenous tradition of natural disaster indicators

As the study observed, Guatemala’s Mayan communities have handed down from generation to generation their knowledge of indicators for events such as earthquakes, strong winds, rain and drought. However, one of the more negative results of the process of Spanish conquest and colonization in Guatemala and Central America was the replacement of local culture with the Spanish one, which signals the destruction of acquired knowledge during the centuries of the Mayan and other civilizations on the continent. In modern times, ignoring or discounting indigenous knowledge is not only short-sighted from the point of view of early warning but equally has the tendency to perpetuate discriminatory attitudes within the society and its institutions.

Traditional indicators that have been handed down through Guatemala’s indigenous communities are not the only means of knowing the indicators that can preclude natural phenomena. Physical indicators have also been identified and have caught the attention of the scientific community through a process of study, data analysis, monitoring and systematization. Many of these physical indicators are experienced and observed well beyond Guatemala’s borders. The table below is the result of the analysis of the indigenous indicators identified by a Sotz’íl expert (involved throughout in the design of CONRED) in EWS for natural disasters in Guatemala. It represents, therefore, a first step in merging the indigenous culture and the scientific culture; recognition from a scientist of the potential of indigenous indicators. The same point is to be made for the comments of Insivumeh and CONRED to the indigenous indicators recorded further down in the study, that may be mentioned in the report.
<table>
<thead>
<tr>
<th>Phenomenon</th>
<th>Indicator</th>
<th>State of Systematization</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>Area of silence or seismic calm</td>
<td>In progress</td>
<td>INSIVUMEH maintains and helps to maintain seismic catalogues and carry out investigations at the scientific level at national universities and in other countries</td>
</tr>
<tr>
<td></td>
<td>Unusual presence of wolves around communities</td>
<td>Not systematized</td>
<td>The indicator for this study is from Asociación Sotzil, although it also applies to volcanic eruptions</td>
</tr>
<tr>
<td>Volcanic eruption</td>
<td>Caused by seismic tremors</td>
<td>In progress</td>
<td>INSIVUMEH manages a network of seismometers in active volcanoes in Guatemala. It carries out investigations at national universities and in other countries</td>
</tr>
<tr>
<td></td>
<td>Caused by emission of gases</td>
<td>In progress</td>
<td>INSIVUMEH and CIMDEN (Centre for the Investigation and Mitigation of Natural Disasters) maintain vigilance by means of instruments. National scientists carry out investigations</td>
</tr>
<tr>
<td></td>
<td>Presence of noises and tremors before an eruption</td>
<td>Not systematized</td>
<td>The indicator for this study is from Asociación Sotzil, although CONRED also has knowledge of this indicator</td>
</tr>
<tr>
<td>Cold Lahars (debris flows)</td>
<td>Presence of torrential rains in active cones</td>
<td>In process</td>
<td>Already measured on an empirical scale designed by Dr. Conde Carpio as applied to the Santaguito volcano</td>
</tr>
<tr>
<td></td>
<td>Tremors on the slopes that rise from volcanic cones</td>
<td>Systematized</td>
<td>It applies in two community-based EWS that CONRED operates at the Santaguito and Fuego volcanoes</td>
</tr>
<tr>
<td>Hurricane</td>
<td>Formation of hurricanes in the Caribbean Sea</td>
<td>Systematized</td>
<td>Satellite images, National Oceanic and Atmospheric Administration, World Meteorological Organization</td>
</tr>
<tr>
<td></td>
<td>Loss of barometric pressure, hurricane-force winds</td>
<td>Systematized</td>
<td>The Safir-Simpson scale catalogues hurricanes on the basis of wind magnitude. The combination of indicators strengthens early warning</td>
</tr>
<tr>
<td>Flooding</td>
<td>Presence of hurricanes in coastal zones</td>
<td>Systematized</td>
<td>Such presence has always generated floods in areas with a propensity for flooding along coastal areas</td>
</tr>
<tr>
<td></td>
<td>Accumulation of precipitation beyond the critical level</td>
<td>In progress</td>
<td>Systematization is the responsibility of CONRED in relation to different EWS that operate in different basins of the country</td>
</tr>
<tr>
<td></td>
<td>Increase in river levels beyond the critical level</td>
<td>In progress</td>
<td>See previous comment</td>
</tr>
<tr>
<td></td>
<td>Peculiar smell in the high and mid-level river basin</td>
<td>In progress</td>
<td>See previous comment</td>
</tr>
<tr>
<td></td>
<td>Specific bird species building nests higher up in the trees</td>
<td>Not systematized</td>
<td>The indicator for this study is from Asociación Sotzil</td>
</tr>
<tr>
<td>Hurricane force winds</td>
<td>Magnitude of the hurricane</td>
<td>Systematized</td>
<td>See Hurricanes</td>
</tr>
<tr>
<td>Drought</td>
<td>Change in regional climatic patterns</td>
<td>In progress</td>
<td>Systematization is being carried out by INVISUMEH and the CRRH (Regional Committee of Hydro Resources) through analysis of regional climatic data</td>
</tr>
<tr>
<td>Landslides</td>
<td>In progress</td>
<td>This indicator has been identified by geologists as a characteristic for these types of events</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>-------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Presence of rains of high intensity and for several days in areas with a propensity for landslides</td>
<td>Not systematized</td>
<td>This indicator has been identified in other countries of Asia and the Caribbean</td>
<td></td>
</tr>
<tr>
<td>Formation of cracks in slopes or hills</td>
<td>In progress</td>
<td>See previous comment</td>
<td></td>
</tr>
<tr>
<td>Strong, disagreeable smells hours before a landslide</td>
<td>Not systematized</td>
<td>Presented by CONRED personnel and identified by members of communities that have experienced landslides</td>
<td></td>
</tr>
<tr>
<td>Tsunami</td>
<td>In process</td>
<td>INSIVUMEH already has a catalogue of tsunami data. It counts on support from the Pacific early warning system in the case of distant tsunamis</td>
<td></td>
</tr>
<tr>
<td>Strong earthquake in coastal areas</td>
<td>In process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in the behaviour of the sea along the coast</td>
<td>In process</td>
<td>See previous comment</td>
<td></td>
</tr>
</tbody>
</table>

Whether via standardized scientific indicators or via informal, indigenous indicators which have been handed down through the centuries, Guatemala is striving to merge these two vital processes to create a more effective and responsive series of systematized indicators to guide its EWS processes.

The Guatemala case study affirms the need for EWS, crisis preparedness, emergency assistance, rehabilitation and development. At the same time, crises cannot be considered purely in terms of universal calamities: their effects are determined by the level of vulnerability of the affected population and national and local capacities to cope and respond effectively. Levels of food security, poverty, access to producing resources and to employment and income generating activities, can increase or decrease the impact of a crisis.

**Disaster preparedness**

Disaster preparedness measures should partly aim to reduce the level of vulnerability of individuals and communities while strengthening their coping capacities. Such activities can also be built into development initiatives by promoting sustainable practices, mainstreaming preparedness and strengthening coping capacities. While the gender dimension of natural disaster preparedness has not been fully explored, there have been regional initiatives to improve gender-related responses to emergencies in other States with the aim of promoting women's participation in the prevention and mitigation of disasters. Research on local knowledge to provide a basis for policy and programming decisions is key to the implementation of disaster prevention strategies.

**Vulnerability mapping**

This exercise can help to determine which specific population groups are most likely to be affected by particular types of crisis (for example, the landless, farmers, wage labourers and women) and by extension, which groups should be specifically monitored and targeted for disaster assistance. Vulnerability can also identify why specific population groups are vulnerable and how efforts can be undertaken to decrease destructive impacts and increase capacities for coping with and responding to crisis.
Capacity mapping

This activity can be instrumental in identifying a range of skills and economic activities that are sustainable when confronted by crisis, and which should therefore be promoted and mainstreamed in development programs. Capacity mapping can also serve to identify local, national and international organizations involved in disaster prevention for the purposes of networking and collaboration. Such linkages are vital within agencies and institutions already involved in disaster-related.

Vulnerability as an indicator

The case study illustrates that little data has been collected and analyzed on the social and cultural context of disaster prevention, response and reconstruction at the grassroots level. It could be helpful to approach the question from a holistic perspective focussed on but not exclusive to: vulnerability to disaster; capacities and responses; disasters and social change; economics and the socio-cultural context; and research priorities and methodological considerations.

The degree to which groups and individuals are vulnerable to particular natural hazards is shaped largely by existing economic, social and political systems. As stratification increases, vulnerability to disaster increases for those at the bottom of the hierarchy, whether due to poverty, disability, nomadism, minority ethnic status, political affiliation, age, illiteracy, or for a wide range of other reasons. Increased vulnerability also means greater likelihood of destructive impact, reduced ability to cope effectively, and less likelihood of timely reintegration following a disaster.

The most significant social indicator of vulnerability to disaster is poverty, partly because poor families tend to live in sub-standard housing in high risk areas with poor infrastructure, but also because the poor are also least likely to receive or have access to sufficient aid.

Further studies of the socio-economic impact of disaster operations should be undertaken to identify opportunities that both support beneficial effects and mitigate adverse effects. The impact of disaster operations on local housing and labour markets should be considered as a priority.

Mitigation programs

These programs can be successful if preceded by proper risk assessment processes to better understand potential future threats. The various approaches to disaster mitigation initiatives can be regional, national or local, depending on the administrative level of the institution taking the initiative. Temporary employment opportunities can be created during crisis situations, such as the construction of temporary shelters and restoration of infrastructure during the emergency response phase and removal of rubble, or physical rehabilitation and reconstruction works during the recovery phase. Mitigation here would involve reconstruction and rehabilitation with a specific focus on reducing vulnerability to natural threats.

Mitigation programs and employment programs can be directly related. Well-planned mitigation programs can create employment opportunities by generating the professional jobs that correspond with the different phases of mitigation, including the implementation of physical works and structural programs. It is critical that various stakeholders are involved in planning a mitigation program where employment issues are taken into account. A sustainable mitigation program should be able to provide both immediate and long-term income-generation opportunities.
Indigenous peoples

The indigenous peoples of Guatemala and the Americas in general, have been the most economically and politically marginalized groups in their respective countries. While crises often produced problems related to obtaining or losing wage employment, the greatest portion of this population suffered indirectly through disruption of their traditional economies and life styles, rapid political changes, troubled national economies, hyperinflation, decreased opportunities to participate in labour or retail markets and similar phenomena over which they had little control or influence.

A number of natural disasters and other crises currently affect indigenous populations in the Americas. While these events have generated an initial body of literature, there has been little objective research and no crisis has yet produced a broadly accepted response process. The marginalization of indigenous people is often exacerbated by an absence of genuine dialogue in which they are included.

ILO Convention No. 169 is a useful example of some of the dilemmas surrounding crisis response. This Convention provides for a broad range of civil, political, social and economic rights for indigenous and tribal peoples. However, country-specific interpretations of the articles are often plagued by local disputes, while indigenous actors seek greater involvement in the definition of rules and regulations, as a means to provide them with a sense of ownership and security. Their responses thus reflect a broad concern for inclusion and full participation.

Role of the ILO

The case study puts forward a number of recommendations that focus on the role of national systems in early warning. This section will confine itself primarily to the ILO with reference to the national role where needed.

Guatemala is advancing through a process of social integration after a civil war that lasted more than three decades. Although there have been advances in distinct aspects like education, the legacies of a process of conquest and subsequent colonization have put the brakes on the process of social integration between the larger community and the distinct ethnicities that coexist in the country, despite efforts in the countryside. With a rural, indigenous population that depends on the state for its development, it is necessary to find ways that can support this process of social integration. Recognizing this need, the Peace Fund and the Social Investment Fund were established several years ago to drive development in indigenous communities.

Natural disasters have also negatively impacted advances with regard to sustainable development by destroying communities and ways of life as well as diverting development funds that were destined for reconstruction of communities exposed to (and which have not adapted to) natural disasters.

Natural, centralized EWS and indicators

Guatemala has taken novel steps in early warning for natural disasters by way of implementing multiple communities of EWS that build on decentralized systems in which, in many cases, the municipalities are responsible for the system with technical support from CONRED. Together these systems are helping high-risk populations to minimize the loss of human life. In this regard, the ILO should look doing advocacy an offering technical on behalf of the integration of indigenous knowledge and experiences in the
routine operation of existing EWS in Guatemala. Another aspect of this role, might involve standardization of indicators deriving from the Guatemala experience.

**Studies of vulnerabilities**

Beyond early warning, it is recommended to begin a systematic study of the vulnerabilities of indigenous communities in order to diagnose the risks which face these communities and the causes that contribute to a generation of such vulnerabilities. Although poverty has been identified as one of these causes, one must also analyze the role that traditions and habits play in promoting a generation of vulnerabilities. The characterization of vulnerabilities and risks should have as its goal the establishment of projects that focus on their reduction in a systematic, consistent and appropriate cultural manner.

At the same time it would be important to sensitize indigenous communities to science and scientific advancement in prediction while preserving hereditary knowledge. The scientific community has made advances in this regard in communities where such knowledge was previously unknown. It is also recommended that the ILO promote the sensitization of rural communities to such knowledge.

**Themes of the May 2000 Consultation and the role of the ILO in Guatemala**

Some of the most important ideas that emerged from Guatemala case study for an ILO role also support the findings of the May 2000 Consultation process, including:

- the need for the ILO to emphasize disaster preparedness. Guatemala experiences natural disasters that to a certain extent can be foreseen, depending on the geographic location and natural history of the country. This type of forecasting can apply to other countries and regions. Thus, for areas prone to certain types of natural phenomena, the ILO can play a role (together with local and national actors) in the advance development of specific mitigation and response mechanisms and budgeting procedures;
- while it is evident that natural disasters cannot be prevented, their effects can be mitigated by an adequate preparedness plan. As the ILO executes response plans for natural disasters, it should also plant the seeds for development of preparedness plans for future disasters of the same type.

Other strategies include:

- linking debt relief to programs of hazard mitigation can potentially serve as one of the most effective ways to induce countries to engage in disaster preparedness;
- thinking not only in terms of community vulnerability, but also in terms of the capacities of individuals, households and communities to galvanize their personal strengths and resources to overcome the obstacles produced by crisis collectively;
- understanding the gender elements of disaster impacts, as disasters often affect women and men in different ways. There is also a need for the ILO to lead the way in developing gender-coping strategies for post-disaster reconstruction. In addition, the psychological and social effects of disasters on children are often overlooked;
- addressing the problems of the withdrawal of long-term business capital. The ILO should analyze how this can be prevented and to determine the types of incentives that can be offered to the private sector to encourage continued investment;
- seeking to include advancement of employment opportunities and opportunities for income generation in its disaster response plans;
- researching creative financing mechanisms that incorporate environmental protection and disaster preparedness; for example, the debt for nature swaps that prevent soil
erosion and mitigate the impacts of floods. The ILO can conduct further research on
debt swaps and other creative mechanisms of this type in addressing disaster
preparedness;
• promoting the view of disaster management as an on-going item in national budgets,
rather than an extraordinary expenditure when disasters strike.

The critical issues to analyze in this area relate to the creation of jobs and income
generation, economic and social reintegration, the impacts of natural disasters on
individuals, communities and societies, and social protections. These are necessary if the
ILO is to assist in mitigating the adverse and unexpected impacts of natural disasters, and
minimizing destruction through planning and preparedness, coping mechanisms and
capacity building.
5. Sierra Leone case study: Conflict and post-conflict environments

Context

Promoting and realizing fundamental principles and rights at work, campaigning for the creation of more and better opportunities for women and men to decent employment, promoting social protection for all, and strengthening structures for social dialogue all constitute the noble strategic objective of the ILO. Concerned with crises that have undermined human dignity and the overall goal of decent work, the ILO has also made efforts to document the role of unemployment and job-related factors in causing, fuelling, and sustaining violent conflicts.

Sierra Leone is currently experiencing a period of fragile peace. Relatively peaceful elections were held in May 2002. The country is embarking on a post-conflict reconstruction process yet the task is daunting in a country where the people, infrastructure and institutions have all been ravaged by a decade of horrendous violence and crimes against humanity. According to UNDP’s Human Development Index, Sierra Leone has become the poorest country on earth.

Purpose of the Study

This case study and the field research demonstrates how Sierra Leone, while looking ahead for better times, must not overlook the belligerent factors that remain deep-rooted in the country. Indeed, in fragile states where institutional and economic consolidation is at best tentative, the risks of a relapse into war remain typically high.

In the light of the decade-long conflict in the country and in consideration of the threats to peace and recovery that the country is still facing today, this study provides a multi-disciplinary critical assessment of the key root, aggravating and proximate causalities of the conflict with a view to advocating for a widened focus for early warning and early response. In relation to the multi-causal nature of conflict, the study underlines the importance of ensuring that developers of EWS do not limit themselves simply to political and security-related indicators.

Causes of the conflict

The conflict in Sierra Leone can be traced back to the following causalities, in a complex web of interactions and where distinctions between root, aggravating and proximate factors often become blurred:

- dependence on the extractive industry to the detriment of agriculture, and especially on the diamond economy, which attracts smugglers, organized criminals and war barons, coupled with the inability of public authorities to administer the sector or stem the widespread corruption;
- endemic corruption is a plague that has deeply affected the whole fabric of society;
- daunting youth unemployment, with thousands of former fighters and graduates roaming the streets susceptible to manipulation and recruitment for purposes of destabilization;
- years of impunity and a perceptions of denied justice are powerful propellants for people to resort to ‘other means’ to satisfy their grievances. Peace agreements have tended to aggravate this sense of injustice as victims feel neglected when perpetrators go unpunished and often top the priorities of international assistance programs;
• effects of regional conflicts in Cote d’Ivoire, the uncertainties of the situation in Liberia and the latent crisis in Guinea and now Togo have the potential to undermine peace efforts in Sierra Leone;
• a flourishing mercenary enterprise in the Mano River Basin is a threat to peace in Sierra Leone;
• effects on the local economy of soaring oil and rice prices and the anticipated dollar shocks when UNAMSIL pulls out of the country; and
• other threats such as international terrorism with links to Sierra Leone also constitute a menace.

International efforts at establishing a permanent early warning capacity in West Africa have resulted in a collaborative approach coordinated by the Economic Community of West African States (ECOWAS) as a starting point. The development of some and refinement of several existing indicators for EWS enabled the study authors to understand and relate better the different dimensions and complex aspects of conflicts. This process in turn has helped in the definition of a conflict early warning system for Sierra Leone.

The study underlines that an EWS for conflict should operationalize indicators that have their bases in the different levels (local/national/regional/international) of peace and conflict, and serve to monitor political as well as socio-economic indicators. Four socio-economic key indicators are proposed in this regard: youth unemployment (a problem viewed as critical for future peace or conflict in Sierra Leone); employment by sector; informal sector employment; and primary and secondary education enrollment rates. Entry points are outlined for ILO collaboration and the contribution of its knowledge and data sources to identified socio-economic dimensions of internal conflicts. ILO inputs, the study notes, should be seen within a broader framework that provides a comprehensive picture of internal conflict and post-conflict peace consolidation and recovery.

Finally, the study stresses the role of civil society as a powerful and necessary component of EWS in order to ensure that local level realities are properly harnessed in the pursuit of peace and conflict prevention modalities within conflict-prone societies.

Analysis

No one single factor can explain Sierra Leone’s civil war. Rather, it is a complex web of inter-locking factors that underlie war: from over-centralization of the state machinery to inadequate resource allocation, politics of affectivity - called ‘connectocracy’ rather than ‘meritocracy’ - to a weak and corrupt military. Three main causal axes include socio-economic factors, political factors and the regional and international dimensions. As explained above the conflict causes are several, but most important are those relating to the economy, food, land, human and regional security.

The following table identifies the multi-layered web of causalities or indicators (potential and real) of conflict in Sierra Leone.

Table 2: Structural and Dynamic Indicators

<table>
<thead>
<tr>
<th>Political/Security</th>
<th>Socio-Economic</th>
<th>Regional/International</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Poor governance</td>
<td>- Mass poverty</td>
<td>- War in Cote d’Ivoire and Liberia</td>
</tr>
<tr>
<td>- Lack of judiciary capacity</td>
<td>- Sharp economic decline</td>
<td>- Uncertainty in political situation in Guinea and pre-elections period in Liberia</td>
</tr>
<tr>
<td>- Corruption, culture of impunity</td>
<td>- Unemployment and Under-employment</td>
<td></td>
</tr>
</tbody>
</table>
- Nepotism, clientelism, patronage, ethnicism
- Politically motivated assassinations
- Erosion of traditional chieftaincy power and authority
- Hike in armed robberies
- Breakdown of law and order
- Breakdown of security
- Generalized indiscipline
- Breakdown in the value system

- High dependence of diamonds
- High illiteracy rate
- Money laundering
- Brain drain
- Inadequacy of basic and economic infrastructure (i.e., roads)
- Poor educational facilities
- Poor health facilities
- Massive displacement of families
- Increase in child abuse, prostitution
- Dependence on the domestic international economy and on donor funding
- Environmental degradation
- Street children/youths
- Drug abuse and alcoholism
- Refugee and IDPs problem
- Emigration and asylum seeking

- Border dispute with Guinea over Yenga
- Proliferation of small arms and light weapons in sub-region
- Presence of mercenaries
- Cross border criminality
- Withdrawal of UNAMSIL and international stakeholders
- International terrorism

Given the fragility of the state of Sierra Leone, the factors outlined above are, in variety of possible combinations, capable of dragging the country back into a state of chaos. These factors are critical in post-conflict Sierra Leone because first, they were cited by leaders of recent violence as justification for their acts; second, a large part of the country’s population is well aware of their political and civil rights and have also been convinced about the effect of these conditions on the country’s stability; and third, accelerating factors that often feed on these conditions are still present in Sierra Leone.

**Selected socio-economic indicators for peace and conflict**

The following key indicators are proposed as critical to account for the escalation of economic root, aggravating or proximate causalities into open armed conflict.

**Unemployment**

Almost all informants and organizations during field work for the Sierra Leone study made allusion to the daunting unemployment situation in the country (especially youth), before and after the civil war. If unemployment is one of the underlying or structural causes of the war, then there is every reason to fear that it is still a danger.

**Informal sector**

The informal sector is the only sector capable of responding to the resettlement and re-insertion programs of the Disarmament, Demobilization, Rehabilitation and Reintegration Programme (DDRR). There have been reports of scuffles between the various armed forces and DDRs. However, with an economy that hardly solicits or makes use of the skills of the former fighters, most of the so-called resettled and ‘re-skilled’ ex-combatants have even auctioned their tools and slid back into forced idleness.

**Industry**

Instead of leading Sierra Leone to prosperity, the diamond sector has the potential to fuel resource-based conflicts. Transparency in the extractive sector is not yet attained and this poses a threat to future peace and stability.
The following selected indicators illustrate the nature and extent of socio-economic conditions relevant to sustainable peace. These are further informed by the ILO’s standardized indicators as produced under the Key Indicators of the Labour Market series (KILM):

- youth unemployment (a daunting problem that all our informants highlighted as the crux of future peace or conflict in the country);
- employment by sector (on the importance of accounting for the extractive sector activities for instance, on its attractiveness for government and foreign (legitimate and illegitimate) investors, and its low employment-intensity);
- informal sector employment (this is the sector that would accommodate the large majority of the unemployed in the present circumstances); and
- primary and secondary education enrolment rates. Education represents for the poor and vulnerable an investment in the future with an expectation for them to break the conflict cycle. It is therefore critical to early warning monitoring, especially in the case of Sierra Leone.

A central objective of this study, as in the next study on Sudan, was to provide research on socio-economic indicators relevant in general to EWS as well as to begin to develop a methodology for doing so in other contexts. In this event, and to begin to operationalize findings regarding socio-economic indicators, the study underlines the need for cooperation between and among key actors: ECOWAS, the Government of Sierra Leone, international organizations based in Sierra Leone, civil society, led by the West Africa Network for Peace building (WANEP), the Network for Collaborative Peace building-Sierra Leone (NCP-SL) and donor organizations such as the World Bank and the Africa Development Bank.

Relevance of community-based EWS

WANEP’s experience developing an early warning and early response culture has brought to light the importance of the local dimensions of early warning, analysis and early response. Local analysis that is evidence-based can be verified. The nearer the monitor and analyst is to the source, the more accurate the analysis, and more potentially appropriate the recommended action. Territorialized threats, for instance, share some common ethnic, political and socio-economically based grievances or threats. Local threats also have the propensity to spill over and inflame an entire region. Ethnic affinities (Fullahs and Mandingos for instance) in Sierra Leone extend into Guinea, Liberia, and beyond. Local conflict is capable of becoming a national or regional conflict in an instant as family lines transcend these states’ borders, which are porous at best.

EWS, therefore, need to be anchored in local realities, and they need to be able to sense these local dynamics and their propensity to spill over. Hence, the relevance of involving local level, community-based and non-governmental organizations that can interact in a bottom-up and also top-to-bottom relationship with the central EWS coordinating structure, especially when these ‘small’ organizations feel they are part of the process, not just informants. Moreover, these community-based and local organizations have a personal stake in diffusing conflict and promoting a culture of peace. In local communities, even rumours cannot simply be dismissed, for they in themselves are a source of ‘(mis)information’ and can only be proven locally.
Role of the ILO

The concept and reality of an early warning regional capacity in West Africa is gradually gaining ground. For the process to lead to a comprehensive early warning capacity requires addressing the complex, multi-layered, and interlinked dimensions of conflict as the experience in Sierra Leone has exemplified. In addressing this challenge, the ILO, together with various key stakeholders, should take into account political and security issues, international and regional dimensions, as well as the socio-economic realities that were earlier discussed. Economic indicators require further investigation and research. They have not been given their due attention and weight so far within established EWS. The ILO’s expertise in guiding the elaboration of an economic indicator base is still missing but is in the process of being addressed by the current research programme. In addition, points of entry for the ILO into the region include the following:

Conflict prevention and mitigation

The ILO is well placed to utilize its in-house resources and experience to engage into conflict prevention through collaboration with wider exercises of regional early warning and response. ECOWAS and WANEP are currently in the process of establishing a list and structure of ‘monitorable’ indicators for conflict. This is a key opportunity for the ILO to influence the mainstreaming of such indicators, not only in this (important) instance, but also for future approaches to conflict monitoring and analysis.

Research on preventive methods and tools involving the creation of sustainable employment opportunities should be encouraged. The benefit of creating job opportunities should be taken into account in the cost-benefit analysis of prevention and mitigation measures.

Lessons learned from various global crisis responses and reconstruction experiences should be documented and disseminated. Manuals and guidelines for response and reconstruction phases of various crises emerging from different types of hazards, taking into account employment issues, should be developed and promoted. The manuals should also contain methodologies for assessing real needs in generating sustainable employment.

Economy and employment

The ILO should support efforts focussed on reintegrating people into the economy. Approaches such as the redevelopment of human capital and re-skilling, require a sustainable and holistic approach framed by parallel political, sociological, economic and cultural perspectives. To do this will require critical assessment of the constraints and opportunities that exist at the political level during transition processes and during the process of developing political agreements. At the same time, review from a socio-economic perspective is required on the impact of the transformation on individuals, households and communities.

The ILO should focus on substantiating the link between employment, related economic and social issues and conflicts by assisting in the design of the peace and conflict indicators. By collaborating with key international organizations working in Sierra Leone and neighbouring countries, the UN System (ECOWAS and UNOWA) and civil society players such as WANEP and its network members, the ILO’s technical involvement in the field of early warning could prove to be instrumental in strengthening the effectiveness of EWS in West Africa. It could also support the development of a new dimension of conflict-related EWS.
**Humanitarian assistance, human factors and development**

The ILO should lobby for a major shift in international assistance strategies from peacekeeping and humanitarian aid in failed states to Reconstruction Missions that could possibly be led by ILO, UNDP, UNIDO, FAO, UN ECOWAS and other development-oriented UN and international agencies. It is the failure of economic and social structures that have led to or perpetuated crisis; humanitarian assistance, peacekeeping and elections alone are proving inadequate to address the complex peace and security issues at stake.

Apart from physical and material needs, the human factor should be taken into account when developing research agendas for post-crisis contexts, thus creating a multi-tiered knowledge base addressing all levels, including the social, organizational, psychological and cognitive levels.

Strategies should be adopted to enlist the aid of external actors, including such as development banks, to address reconstruction strategies and create innovative policies and programs to mitigate crisis impacts.

**Information collection and analysis**

To effectively influence and complement the process of operationalizing the early warning processes in Sierra Leone and West Africa, the ILO should take part in the collaborative establishment of a credible information network in Sierra Leone by:

- influencing the selection of indicators;
- taking part in the selection of key monitors on the ground and assisting in capacity building of organizations; and
- training individuals to monitor respective indicators of the conflict.

Analysis of data is related to and equally important as the selection of indicators. The ILO should actively engage in the training of EW conflict and peace analysts, bringing to bear the socio-economic and employment related indicators that influence trends that fuel conflict and sustain peace. An ILO analyst based in Freetown, for example, analyzing data and trends and feeding this into the national and sub-regional early warning system(s), would be an added asset both as a model and provider of analysis.

**Market support and investment**

The ILO should work in tandem with ECOWAS to address the root causes of conflicts in West Africa through ambitious and coherent poverty reduction. Further in support of conflict prevention, the ILO should work with the international community to promote investments in fragile and potentially unstable countries like Sierra Leone. The Government’s capacity to mobilize potential investors, including the Sierra Leonean Diaspora, and in particular the agricultural sector so as to create jobs and increase food supplies, should be strengthened. A sub-regional, liberalized market that stretches from Guinée-Forestière and includes parts of Liberia and Sierra Leone, a project explored by UNDP, the World Bank and Africa Development Bank, should be supported.

**Victim support**

Victims of the atrocities and especially the amputees and victims of sexual abuses are frustrated as they perceive that the peace and reconstruction process focuses on reintegrating the perpetrators, while they are abandoned to the assistance of a few NGOs with limited means. A Special Fund for the compensation and rehabilitation of victims needs to be developed, with an autonomous institution established to closely monitor the
administration of the funds. Youth development programs designed by the Government require support and are yet to be implemented.

Early warning without early response is an exercise in futility. To counter this, a functional advocacy and lobby structure spearheaded by the ILO with capacity to influence policy both in Sierra Leone, the Mano River Basin, ECOWAS sub-region as well as at the international level, should be envisaged. The ILO’s lead role in this direction would transform the notion of early warning from concept to reality. Such efforts bolster system-wide participation and initiative. For example, in July 2005, the UN convened a special conference in New York to emphasize the shift from ‘reaction to prevention.’
6. Sudan case study: Conflict and post-conflict environments

Context

Sudan has experienced a long period of violent conflict pitting the northern-dominated Government against the southern. The first phase of the conflict lasted from 1956-1972 when the Addis Ababa Peace Agreement was signed between the southern rebels and the Government of Sudan. The second phase began in 1983 and continued until very recently (9 January 2005) when the Comprehensive Peace Agreement was signed in Nairobi, Kenya by the Sudan Peoples Liberation Movement/Army (SPLM/A) and the Government of Sudan. The violent conflict in Darfur which began towards the end of 2002, whose roots extend historically to the long-running wars between Libya, Chad and Sudan over territories extending from the Nile to Lake Chad, is still ongoing. With the signing of the Comprehensive Peace Agreement in Sudan, there is hope that progress and peace will prevail. However, there is no question that the violent conflict ravaging Darfur is a setback to efforts towards a peaceful Sudan.

Points for consideration in the research of armed conflict

Research on armed conflict environments needs to address not only the central political differences themselves, but the underlying social, cultural and economic problems that led to the situation. Points for consideration include the following:

- armed conflicts disrupt societies and communities in profound and protracted ways and international organizations can play an important role in addressing them. One of the principal impacts which warrants study, especially from the perspective of the ILO, is the loss of assets, resources, employment and sources of income for large segments of the population;
- the impact of armed conflicts on rural and urban areas is very different and needs to be studied so the findings can be used in the development of reconstruction plans. Post-crisis reconstruction programs should be tailored to the specific area context;
- research into political and armed conflict should involve experts in economics, anthropology, sociology and others from the broad social science spectrum;
- adaptation of the tripartite approach of the ILO can be an appropriate mechanism for conflict settlement;
- research into methodologies for applying tripartism to conflict settlement can prove very useful;
- the collection of longitudinal employment data should be encouraged to develop employment profiles and study potential conflict coping mechanisms.

Purpose of the study

The Sudan case study focuses on specific conflict and conflict prone zones in the south of the country and in Darfur. The main objective of this study is to examine the relationship between employment and related socio-economic issues and conflict-related EWS within the context of the conflict in Sudan. Specific objectives include: developing the methodological aspects or approaches that can be used by organizations to assess the correlation between socio-economic disparities and violent conflict; developing a knowledge base for addressing the socio-economic dimensions of internal armed conflicts; and strengthening the capacity of conflict-related EWS to predict and prevent episodes of violent conflict by enlarging and sharpening the scope of relevant indicators to be operationalized.
In the study, economic variables are reviewed in relation to conflict. These include: the nature of the labour market, participation in the labour market, wages and the observance of internationally ratified conventions on basic standards in the labour market, identified employment trends in Sudan and their relation to conflict. Other variables such as strategic resources, education, refugees and internally displaced persons (IDPs) were reviewed and analyzed in order to correlate them with violent conflict. The focus on these issues yielded a check-list of socio-economic conflict indicators for conflict early warning..

The study considers the conflict in Sudan from the point of view of a specific focus on conflict-prone zones in the south of the country and in Darfur. This study further attempts a careful analysis of the relationship between socio-economic variables and violence and points to the extent to which socio-economic variables interact with the conflict environment at the local level to affect escalation of violence and the spread of violent conflict.

Analysis

**Socio-economic and labour market indicators**

Contemporary academic debates on the socio-economic causalities of conflict point to several broad sets of intervening factors: poverty, unemployment, socio-economic inequalities, and access to natural (lootable) resources. It seems safe to assert that conflicts and particularly civil wars can hardly be considered as a ‘mono-causal phenomenon[a].’ A framework for analysis of the conflict in Sudan is proposed below, focusing on the Darfur and south-Sudan hotbeds. The key indicators are poverty, employment, and inequality of wages and access to better jobs. These comprise the basis for a sectoral analysis of labour market indicators as identified below:

**Employment indicators**

- Wide disparities in the education levels of the active population;
- major wage differentials among workers and poor pay;
- rise in the levels of unemployment, and of skilled unemployment; and
- serious contraventions of internationally ratified labour conventions.

**Strategic resource indicators**

- The existence of valuable and extractable mineral resources under the control of one party;
- adverse effects of oil exploitation on peoples’ livelihoods;
- commissioning of oil companies to carry out new oil exploration;
- competition over the control of valuable minerals;
- tension revolving around water access and use; and
- tension over land use and ownership.

**Education indicators**

- The extent of acceptability of the education policy;
- the extent of acceptability of the official curriculum;
- major regional disparities in enrolment and literacy levels;
- rise in the overall rates of illiteracy by age, gender and region; and
- accessibility and normal operation of educational institutions.
Refugees and IDP indicators

- Conditions of drought;
- rampant cases of human rights violations;
- increase in the number of refugees and IDPs;
- competition between refugees, IDPs and local communities over scarce resources;
- proliferation of small arms and light weapons.

Employment challenges in post-conflict reconstruction

The study points out that many developing countries have undergone, or are currently undergoing, recurring armed conflict and cycles of violence. Understanding the root causes of protracted conflicts is essential to the design of relevant policies for long-term development. The economic and political spheres are closely intertwined, in the sense that decisions in the economic domain affect and are affected by the political environment. Reconstruction in post-conflict countries poses serious development challenges of which the ILO should be mindful.21

Public employment is an important element of post-conflict reconstruction, both because of the limited size of the private sector and also because of the role of the government in building and rebuilding public infrastructure. As such, public employment can serve as a tool for reconciliation and signal the end of an era of political exclusion. Equity in employment can act as a bonding instrument in countries with a history of social conflicts, since opposition movements generally draw support from segments of the population that feel disenfranchised in their country as a result of exclusion.

The ILO should consider the following elements in assessing employment entry points: the central role of employment in the growth process, which could become uneven and fragile if it emphasized solely capital accumulation and trade-led growth, without adequate attention to employment of the general population; and the role of credit systems, often ignored in reconstruction processes in general and in employment promotion in particular. In post-conflict countries, the role of finance and credit systems was essential to the reconstruction process. In this regard, various linkages require consideration: the link between discriminatory employment practices and conflict, the linkages between the employment content of post-conflict reconstruction programs and economic growth and the types of incentive mechanisms which could be offered for employment creation in the private sector. The ILO and other stakeholders have to ask the question: how far efficient credit systems could be devised to help in the task of employment promotion and the incentives and disincentives for armed conflict among different sectors?

Role of the ILO

Livelihoods, mainstreaming employment and rapid assessment

The Inter-Governmental Authority on Development’s (IGAD) Conflict Early Warning and Response Mechanism (CEWARN) is currently the only operational, continuous early warning system covering Sudan. A working arrangement with ILO could

21 Armed conflicts destroy economic infrastructure and cause high levels of poverty; post conflict countries tend to have a distorted public spending structure (with a heavy proportion of military spending), fiscal deficits and high public debt. Post-conflict countries further face severe constraints associated with weak state institutions and lack of mechanisms of effective popular representation. Obviously, these countries are often characterized by high levels of social tension.
prove mutually beneficial strengthening IGAD-CEWARN capacity and efficiency. Considering IGAD-CEWARN’s current focus on pastoral conflicts, the ILO has an opportunity to examine marginalization and the concept of pastoralism as a source of livelihood. As CEWARN plans to expand in the next five years to address all types of conflicts, there is an opportunity for the ILO to mainstream employment and related socio-economic conflict indicators in the process. The ILO could play a role in enhancing the capacity of local civil society organizations in the IGAD region in conflict prevention, management and resolution, so that they can play a more effective role in conflict early warning data collection, and the overall operation of the conflict early warning mechanism. The ILO could also play a role in the coordination of regular rapid assessment exercises with other organizations so as to continuously feed the early warning system and thereby ensure its accuracy.

Research, knowledge management, databases and indicators

The critical issues for research and analysis in this area relate to the prevention of conflict and include developing systems for early warning and early response; breaking cycles of violence; building capacities for rapid response; analyzing coping mechanisms; and the creation of jobs and income generation in post-conflict/militarized environments.

There is a need to strengthen the knowledge management of conflict-related EWS to achieve greater accuracy and efficiency in their operations for the purpose of preparedness, rapid response and adequate response. EWS must be based on the close monitoring of comprehensive (that is, multidisciplinary) knowledge and databases that integrate socio-economic variables along with other more conventional sets of variables (such as political, cultural, military, regional/international).

The protocol establishing CEWARN empowers the IGAD-CEWARN Unit and the IGAD Directorate of Political and Humanitarian Affairs to initiate cooperative arrangements with international, regional and sub-regional organizations. The current focus of CEWARN is on cross-border pastoral conflicts, so the indicator base is therefore narrow. As CEWARN is planning to expand its scope in the next five years in order to cover all types of violent conflicts in the region, there will be need to enlarge and refine the scope of the indicator base. The ILO can make an important contribution toward this end.

Advocacy, collaboration and early action

In this respect, it becomes clear that the key focus for the ILO is to advocate for the development of EWS grounded in the key elements of conflict causalities in the socio-economic dimension. Equally, the ILO should strengthen existing, collaborative EWS and approaches with other organization that deal with other dimensions of conflict EWS. By taking part in such collaborative approaches, the ILO can contribute to the prevention of violent conflict by strengthening the efficiency of EWS, but it will also reap important benefits for its own development operations by acquiring precise knowledge on the situation on the ground through a close and continuous monitoring of events. In contexts of protracted conflicts and the early stages of the post-war phase, when relapses into conflict are likely, early action on the part of UN system-wide responses is essential, including the ILO. Further, action related to the consolidation of peace as a basis for development programs could also benefit from ILO expertise. Early action is crucial to the consolidation of peace efforts and to build solid paths to development. Getting in early, as early as possible, with appropriately designed responses of intervention (i.e., limited rehabilitation/recovery or full-fledged reconstruction) can be crucial asset for the ILO. Among other things, early and appropriate intervention are linked and should permit the ILO to make the best informed decisions in respect of the nature and extent of its involvement, further to supporting the investment of people and resources to support positive outcomes.
Facilitation of the development of CEWARN

The ILO can play a role in encouraging policy makers and opinion leaders in the region to move towards establishing a comprehensive conflict prevention, management and reconstruction framework. CEWARN can encourage international organizations, including the ILO, to help facilitate IGAD-CEWARN’s expansion of its focus to include all types of conflict in the region. Other non-state stakeholders can help meet some of CEWARN’s costs as it expands through providing grants and donations, or by technically supporting the organization in its development.

Supporting the role played by civil society

Owing to the acknowledgement of the role, presence and knowledge of the field, of civil society organizations in conflict prevention and post-conflict peace-building and reconstruction, civil society organizations have been incorporated into CEWARN’s activities. However, not all of them have sufficient capacity to efficiently contribute to the process of conflict monitoring and early response. The ILO should engage in the capacity-building of grassroots civil society organizations for conflict prevention, management, and resolution training, as well as for monitoring conflict indicators and reporting.

The ILO and response options

The ILO can take steps to ensure it has input into the response arm of CEWARN, enabling it to address employment-related conflict factors. The ILO can do this by establishing close working relations with IGAD and IGAD member states. Such arrangements will provide the ILO with an opportunity to advise the regional organization and the member states on response options which can help to address some of the employment and related socio-economic conflict factors.

In addition to the above considerations, the ILO could add value by:

- updating its labour market data base on Sudan in order to provide more current data that can be useful when used in conjunction with primary data; and
- collaborating with other international, national or governmental organizations and agencies that maintain a stronger presence on the ground in particularly sensitive or conflict-prone areas, for the purposes of socio-economic information collection and sharing. The ILO may engage in equipping such organizations and agencies with the tools and capacities to effectively monitor certain socio-economic variables through rapid assessment methodologies.
7. Principal findings

What the four case studies demonstrate

The four case studies typify early warning as a tool for preparedness and prevention whether as a result of economic downturn, natural disasters or conflict. They focus on how early warning is aimed at preventing crises. The success of crisis early warning and early response is much more likely when information and analyses are shared, response options are further shared, and the actual response is a coordinated effort among multiple actors, ranging from States and civil societies to regional and international organizations.

While the experiences of the four countries in question differ greatly, they do share in three main objectives that underscore the principles of crisis EWS. These are:

- avoiding or minimizing violence, deprivation or humanitarian crises that threaten the sustainability of human development;
- buying time for short-term containment and relief strategies as well as designing/building support for and implementing longer term pro-active strategies and development programs that can reduce the likelihood of future crises; and
- generating analyses that identify key factors driving instability and risk, providing a basis from which to assess likely future scenarios and recommending appropriate options for local and international policy makers oriented towards preventive action. In other words, linking indicators with response.

The UN framework team and socio-economic indicators

According to the Report of the UN Framework Team on EWS indicators and methodology, socio-economic indicators are ‘comprised largely of structural preconditions for conflict, or the background conditions [and] root causes that make violent conflict more likely’. This assessment is based on the analysis of a given country for background signs of structural risk, rapid change or deteriorations of socio-economic conditions, the presence of structural factors that may be used or are being used instrumentally to mobilize political will in favour of violence, the degree to which the public recognizes and participates in an elite discourse that is conducive to violence, and the medium to long term implications of the prevailing socio-economic trends. However, some of the socio-economic factors/conditions can be categorized as proximate/intervening variables. It becomes clear, therefore, that the causes of conflict cannot be compartmentalized into distinct categories either as structural, proximate or triggers. Instead, a dynamic interactive consideration is more appropriate both conceptually and within the operational model of an early warning system in order to seize the relevance of socio-economic factors.

The ability of EWS to monitor and detect the potential for violent conflict is based on the observance of several indicators. These indicators include state institutions, regional and international issues, security factors, elite discourse and behaviour, ideological factors and socio-economic conditions.
8. Conclusions

The ILO and EWS

Concern about the immense humanitarian, material and strategic costs of crises and their impact on economic stability and development efforts has led to the realization of the value of crisis prevention strategies in general, of which early warning is a key component. As evidenced by the various studies, the devastation, human, material and infrastructure, wreaked by economic downturns, natural disasters, and conflict have led to research and advanced studies in prevention and reduction efforts leading to the formulation of a variety of indicators. The central objective for the involvement of organizations like the ILO and other non-state stakeholders’ in early warning frameworks is to strengthen the efficiency of EWS as a way of reducing the likelihood of crises, whether economic, natural or violence-based through the development and enhancement of conflict prevention mechanisms. Generally, international organizations and other non-state stakeholders should aim to:

- prevent crises at the earliest possible stages;
- find proper mechanisms for cooperation with other actors in preventing crises;
- closely monitor highly volatile contexts so as to facilitate informed decisions and planning to intervene at the earliest possible juncture, in an appropriate manner;
- establish instruments and mechanisms for prevention relative to the future in cases of economic crisis, disasters and conflict in areas that have been previously affected.

Models

A sequential model of early warning would be conceptually useful for the ILO specifically, and the UN system in general. Whatever model is preferred in the development of EWS, however, it is important to keep in mind that for predictions to be reliable, quantitative EWS demand strictly regulated and standardized procedures for the collection and processing of data, as well as harmonized usage of conflict indicators and rigorous application of all the concepts involved. Coordination of information among information gatherers is therefore of considerable importance and there is a definite role for the ILO in developing and standardizing such processes. The ILO should further collaborate with major stakeholders to strengthen existing conflict EWS where they exist, while extracting benefits for its own operations. Such systems should be dynamic, time-based, continuous and comprehensive.

Methods

What is clear from these case studies is that the ILO cannot rely solely on one methodology in its efforts to play an effective role in EWS. The unique cultural, physical, economic, social political dimensions of each state’s experience, combined with a plethora of individual historical and contemporary backgrounds and experiences, requires the ILO to be vigilant in its approach to effective monitoring of the causal factors and emergency situations as presented in the case studies. To this end, the ILO will need to employ a variety of comprehensive indicators that are specific to the country/situation being monitored. This will necessitate novel approaches to inter-organizational and governmental relationships; establishing, maintaining and strengthening partnerships for collaborative work on existing strategies as well as developing new models for EWS to optimize its own and its partners’ roles in areas of conflict, disaster and related crises.
Informed action

The case studies illustrated the importance of identifying priorities, establishing criteria, exploring the types of data needed and designing appropriate methodologies. The ILO needs to explore the institutional context for service delivery and for determining how best to transfer research findings into direct action.

It is important to reiterate the need to distinguish between crises while at the same time recognizing the similarities in respect of EWS and responses. International organizations like the ILO can play an important role in ensuring that social and economic factors are taken into account when developing transition programs.

Standard-setting

ILO participation in future EWS should consider including work on standards for data collection, analysis and warning. In addition, the ILO should consider involvement in the creation and use of standardized methodologies for identifying indicators. These efforts are especially critical if the relationship between socio-economic indicators and monitoring are understood to be key to structural sustainability. In this latter regard, the ILO is uniquely equipped with the tools necessary to be as effective as is operationally feasible within the ambit of EWS development and forging enduring solutions for conflict-affected peoples. Marshalling the resources of the ILO and its partner organizations can help shift crisis work from ad hoc relief to long-term prevention, mitigation and sustainable development, informed by the principles of decent work.22

The table below details ILO crisis entry points and recommendations for the four case studies.

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22 The concept of decent work encompasses productive employment, international standards, social protection and social dialogue.
<table>
<thead>
<tr>
<th>Country</th>
<th>Type of crisis</th>
<th>ILO entry points</th>
<th>Recommendations</th>
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<tbody>
<tr>
<td>Argentina</td>
<td>Economic</td>
<td>Study the role of various measures and interventions relating to employment, income creation and social protection before, during, and after crisis, to mitigate the adverse effects of shocks during the short run and over the longer term.</td>
<td>Propose options that minimize negative impacts on labour markets.</td>
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<td>Research the impacts of shocks on the formal and informal sectors and on urban and rural environments, in both the short and long run.</td>
<td>Strengthen research and experience in labour-related macroeconomic policies.</td>
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<td>Research the special impacts on particular groups of workers, such as the poor, the unskilled and women.</td>
<td>Objectives should be tied to medium- and long-term perspectives rather than exclusively the short-term.</td>
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<td></td>
<td>Study the impact of economic crises on the quality of jobs (wages, standards, security).</td>
<td>Promote tripartite programs to address economic and financial crises and thus enable ILO to become involved at earlier stages of the process.</td>
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<tr>
<td>Guatemala</td>
<td>Natural disasters</td>
<td>Link debt relief to programs of hazard mitigation to induce countries to engage in disaster preparedness.</td>
<td>Integrate indigenous knowledge and experiences in the operation of EWS.</td>
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<td>Analyze how to prevent withdrawal of long-term business capital and determine the types of incentives that can be offered to the private sector to encourage continued investment.</td>
<td>Standardize indicators.</td>
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<td>Develop creative financing mechanisms that incorporate environmental protection and disaster preparedness.</td>
<td>Provide training and trust-building of indigenous populations based on Convention 169 through dialogue and inclusiveness of indigenous peoples.</td>
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<td>Promote the view of disaster management as an on-going item in national budgets, rather than an extraordinary expenditure when disasters strike.</td>
<td>Develop a database on indigenous populations.</td>
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<td>Identify new research activities to make the case for higher levels of international assistance.</td>
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<td>Demonstrate linkages between disaster and development activities, particularly with regard to employment generation.</td>
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<td>Trace the impact of programs more accurately over a protracted time period.</td>
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<td>Country</td>
<td>Type of conflict</td>
<td>ILO entry points</td>
<td>Recommendations</td>
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<tr>
<td><strong>Sierra Leone</strong></td>
<td>Conflict and post-conflict environments / political and social transitions</td>
<td>- Look to mitigation methods and tools involving the creation of sustainable employment opportunities.</td>
<td>- Collaborate with relevant players in wider exercises of regional EWS and responses.</td>
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<td>- Create job opportunities in the cost-benefit analysis of mitigation measures.</td>
<td>- Lobby for a major shift in international assistance strategies from peacekeeping and humanitarian aid in failed states to Reconstruction Missions.</td>
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<td>- Document and disseminate lessons learned from various global crisis responses and reconstruction experiences.</td>
<td>- Work with ECOWAS to address the root causes of conflicts in West Africa though ambitious and coherent poverty reduction.</td>
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<td>- Develop manuals and guidelines for response and reconstruction phases of various crises.</td>
<td>- Work with the international community to promote investments in fragile and potentially unstable countries as the best way to prevent conflicts.</td>
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<td>- Issues related to employment opportunities, vulnerability reduction and mitigation programs are interlinked and should be considered as a whole.</td>
<td>- Take a lead role to transform the notion of early warning in West Africa from concept to reality.</td>
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<td>- Consider the human factor when developing research agendas for post-crisis contexts.</td>
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<td>- Adopt strategies to enlist the aid of external actors, including development banks, to address reconstruction strategies and create innovative policies and programs to mitigate crisis impacts.</td>
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<td><strong>Sudan</strong></td>
<td>Conflict and post-conflict environments / political and social transitions</td>
<td>- Strengthen existing, collaborative EWS and approaches.</td>
<td>- Update labour market database on Sudan in order to provide current data to be used with primary data.</td>
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<td>(note: ILO entry points and recommendations for Sierra Leone have application here as well)</td>
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<td>- Contribute expertise for development programs arising post-conflict.</td>
<td>- Collaborate with other international, national and governmental organizations that maintain a stronger presence on the ground in sensitive or conflict-prone areas for the purposes of socio-economic information collection and sharing.</td>
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<td>- Enhance the CEWARN relationship and encourage regional leaders to move toward comprehensive conflict prevention.</td>
<td>- Equip such organizations with the tools and capacities to effectively monitor certain socio-economic variables through rapid assessment methodologies.</td>
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<td>- Coordinate regular, rapid assessment exercises with other organizations to update the early warning system information base.</td>
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Early-warning and preventative aspects of the Decent Work agenda for economic and financial crises: Some lessons-learned from Argentina

Hector Maletta

October 2005
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Abstract

The economic crisis of 2001-2002 in Argentina caused a large increase in unemployment. Policy responses have been imperfect. This paper discusses the roots and character of the crisis, the policies implemented to address the resulting social situation and the quality of early warning indicators available at the time.

The main causes of the crisis were the rapid increase of public expenditure, public indebtedness and debt servicing in the late 1990s and the failure to reverse it when a new administration took office in December 1999.

These fiscal developments prompted a large increase in the rate of interest the country had to pay in international markets, and eventually capital flight and a sudden stop of international financing both for the government and the private sector. The government announced it would stop servicing public debt, imposed capital controls and scrapped the currency system, causing a deep fall in economic activity, a sharp increase in inflation (80 per cent from 2002 to 2005) and a considerable increase in unemployment during 2002 and early 2003, until a recovery went underway.

Some interpretations of the crisis have linked it to the monetary system (of the currency board type) the country had adopted in 1991 after several bouts of hyperinflation also linked with excessive public indebtedness and fiscal deficit. An examination of the arguments for this interpretation shows them lacking as an explanation of why the crisis occurred, though in the event of a crisis already happening a more flexible monetary system would have been helpful.

The main responses to the social impact of the crisis have involved:

- a large workfare programme, which at its peak covered about 14 per cent of total labour force;
- a freeze on utility charges (electricity, gas, fuel, telephones and others), further straining relations with the private firms running public services;
- a stiff cut in public debt to bondholders (i.e. except debt to international organizations), accepted by three-quarters of bondholders so far. This, and obtaining a primary budget surplus, enabled the government to engineer a recovery and accumulate foreign currency reserves while preserving its ability to finance social programmes.

Argentina disposes of an efficient and well-developed statistical system, and therefore there was no dearth of indicators and early warning signals concerning the crisis. Even if improvements could be implemented in the main indicators available, they were enough to ascertain the probability of the crisis, and its impact. The main problems with forecasting the crisis lay in conflicting interpretations of the signals and the inability to respond through policy.
1. Introduction

By late 2001, after three years of rather mild (albeit protracted) recession and a few months of social unrest and increasing uneasiness in the financial community, the Argentinian Government declared it would not continue serving its debts, and a widespread economic crisis ensued. The currency collapsed, banks were ordered to freeze deposits, and the nation's output fell by an additional 10.9 per cent in 2002 (relative to 2001) on top of an accumulated fall of 8.4 per cent since its previous peak year (1998), for a total 18.4 per cent loss of output and a decrease in per capita income of more than 23 per cent. The crisis also caused a rise in joblessness to 26 per cent in the wake of the enormous contraction of consumption, investment and output. After a decade of price stability, inflation returned with a rise of 40.9 per cent along 2002, especially during the first half of the year, and a further 40 per cent distributed along 2003-2005, in spite of a Government-imposed freeze on the price of utilities, public transportation and other regulated public services (a measure still in force by late 2005). Real incomes fell under the combined effect of higher unemployment, lower economic activity and price increases not fully compensated with wage increases. Private consumption fell by 14.4 per cent and gross investment by 36 in 2002 relative to 2001. Imports fell to one-third of their previous level. Time deposits were maintained frozen for a long period, and those denominated in US$ were forcibly converted to pesos at a loss (in US$) of about one-half of their previous value.

This crisis was one of the most severe in Argentinian history, and arguably the worst. Moreover, it entailed political upheaval and widespread social unrest to a hitherto unknown measure. The President resigned in December 2001, its interim replacement resigned a week after being appointed, not before having declared a default on public debt and the successor in turn anticipated elections and thus governed for hardly more than a year instead of completing the interrupted presidential term. Meanwhile, the country started a protracted negotiation with creditors, which did not reach a definition until 2005 (when about three-quarters of the defaulted debt was exchanged by new bonds with much longer terms, a much reduced rate of interest and a deep cut in capital). Also, an economic recovery since 2003 gradually brought national output back to its pre-crisis level (by mid-2005 Gross Domestic Product (GDP) was roughly equivalent to 1998 levels).

The nature of this process, its causes and sources, its future prospects and its lessons to other countries have been variously interpreted, and one of the secondary goals of this paper is to clear these various explanations. In fact, what is the nature and cause of the crisis determines much of what has to be said on its predictability, its impact and the future prospects of the country.

The dramatic economic and political events of December 2001 and early 2002 in Argentina, including the resignation of the President, the messy transfer of power to a disorganized opposition, and the default on public debt, followed by a breakdown of the monetary and financial system, were not altogether unexpected. The country had been suffering a protracted recession from the second half of 1998, the Vice-President had resigned in 2000, the Government had not fared well in the 2001 midterm elections, and there was widespread discontent in many ranks of society after three years of recession and mounting unemployment. Months before the crisis, the outgoing government had imposed harsh but ultimately fruitless measures to prevent the impending meltdown, and was already negotiating a debt swap with creditors.

The economic regime of Argentina at the time, and especially its monetary cornerstone, had been drawn at the beginning of the 1990s to stop a major hyperinflationary recession in 1989/90, and in the years subsequent to the 2002 crisis it has
often been said that the economic regime itself was to blame for the outcome. This indictment led to the adoption of policies deliberately intended to cancel the most fundamental components of that economic regime. One tenet of this study will be that this view is mistaken. Even if the monetary regime established in 1991 and the structural reforms that accompanied it may be partially a factor in the crisis, the crisis was directly caused not by the regime itself but by a series of erroneous political and economic decisions taken during the decade, and especially from 1997 onwards, which went directly against the nature of the ongoing economic regime. In particular, the said regime was mounted chiefly on a monetary arrangement (the so-called Convertibility system) whereas the crisis was caused mostly by a failure to maintain fiscal expenditure under control. A large and increasing fiscal deficit financed by additional debt is unsustainable under any monetary regime, and any monetary regime is sustainable as long as public finance is sound.

This misunderstanding occurred both before and after the crisis, both in the Government and the opposition. It contributed both to the lack of preparedness before the crisis materialized and to shortcomings in the subsequent policy response.

Signs of an impending meltdown increased over the period 2001/2002 as the Government failed to reduce expenditure and put an end to rising indebtedness. The financial market sent abundant signals of concern, chiefly through increasing risk premiums attached to Argentinian Government bonds. Signals of the growing severity of the impact on the labouring classes were also abundant, especially from the regular INDEC\textsuperscript{23} nationwide household surveys that were showing an increase in unemployment and poverty.

One conclusion that could be already anticipated is that it was not the absence of early warning indicators but the decision not to pay heed to them caused the situation to progress to a point in which a catastrophic outcome was no longer avoidable.

The aim of this paper is to investigate several related issues:

- the origins and nature of the crisis;
- the crisis' impact on employment;
- the availability of accurate early indicators of the impending crisis, and the way they were used and interpreted;
- the timeliness and efficacy of public policies directed to soften the impact of the crisis on those groups most severely affected;
- The nature and prospects of governmental economic policies since the crisis.

Such an array of issues calls for the use of several sources of data and a combination of methods. These comprise a thoughtful utilization of national accounts, household surveys, price indices, and data from social programme monitoring systems. Moreover, several points will be made involving a critique of existing methods of measurement, e.g. of poverty and unemployment (involving an overstatement of poverty and an understatement of unemployment, as it turns out).

\textsuperscript{23} Instituto Nacional de Estadística y Censos
2. **Argentina and the origins of the crisis**

The events of 2001/2002 can hardly be understood without analyzing the processes leading to them in the medium and long term. What occurred in 2001/2002 was not a momentary downturn of economic activity but the collapse of a specific institutional organization of economic activity established at the beginning of the 1990s, whose capital touchstone was the monetary system, but which includes a number of other components. That institutional arrangement, in turn, was a response to the disastrous combination of recession cum hyperinflation that hit the country in 1989/1990, itself the end result of about 40 years of economic mismanagement and failure to choose adequate economic policies. Thus for a proper understanding of the crisis a brief revision of this long process is needed.

2.1. **Import substitution and populism**

Up to the 1930s the Argentinian economy was largely based on the agricultural sector. Opening up for cultivation the fertile plains of Argentina at the end of the 19th Century brought enormous prosperity and attracted millions of European immigrants to this extensive and largely unpopulated country. Manufacturing, on the other hand was a subsidiary activity, mainly concentrated on meat and grain-processing. However, from the 1930s and especially during World War 2, the industrial sector grew steadily, taking advantage of Argentina's neutral status and the absence of foreign competition during the hostilities.

After the war, under the populist Peronist regime, several policy instruments were used in order to promote the manufacturing sector, mostly at the expense of agriculture, and to expand the domestic market for manufactured products. This scheme of industrialization, import substitution and expansion of the domestic market was facilitated by the architecture of the international economic system outlined by the 1944 Bretton Woods agreements. Under those agreements, national currencies were exchangeable at fixed rates against the US dollar, which Central Banks could in turn redeem in gold at the US Treasury, at a fixed rate too (35 US$ per troy ounce). Capital movements were restricted, and in practice had only a compensatory role when temporary imbalances arose in the balance of payments. The Bretton Woods regime allowed countries to pursue their own national economic policies but, if those policies (especially through large and repeated fiscal deficits) led to a sustained disequilibrium in the balance of payments, the currency had to be devalued in order to regain external balance through encouraging exports and discouraging imports. The International Monetary Fund (IMF) was created to provide emergency loans in order to smoothen out any such crisis.

This was precisely the scheme followed by Argentina. During the first post-war decade economic growth and the use of international assets accumulated during the war allowed the country to avoid major disruption of its policies, except by the exceptionally severe 1951/1952 drought causing a drop in exports and fiscal revenue, forcing the government to enact an austerity programme. After 1955, its post-war assets already depleted, the country became a member of the IMF and made repeated use of its support in the balance-of-payments crises that ensued in the following years (1956, 1959, 1963, 1967, 1970, 1975, 1981, 1985 and 1989).

As a matter of fact, the import substitution scheme was reaching its own limits, and this was evident from 1973 onwards when Bretton Woods agreements collapsed
worldwide, but was visible since the 1950s. On the one hand, the domestic industrial-goods market expansion had reached saturation levels (at the given overall productivity and income levels). On the other hand, having evolved under heavy protection, the domestic industrial sector was not competitive enough to face the growing world markets of the post-war period, and the agricultural sector stalled due to heavy taxation (including farm export duties) throughout the decades from 1950 through 1990, and even State control of foreign trade in the 1950s. The State-owned infrastructure for basic public services (roads, ports, electricity, oil, gas, communications, etc.) was gradually neglected as the State faced growing fiscal strictures, and as a result the physical business environment gradually deteriorated, further damaging industrial and agricultural competitiveness.

A major policy instrument in those years was the farm export tax. This tax applied to all major agricultural and agro-industrial exports, and achieved several concurrent goals: (i) cheapen food and agricultural products in the domestic market, and thus make subsistence for workers less expensive; (b) through cheapening food, provide more room in household demand schedules to enlarge the market for industrial products; (c) provide easy-to-collect fiscal revenue that was also immune to domestic inflation (though not immune to worldwide price fluctuations). The downside of the export tax was of course the discouragement of agricultural investment. Farms faced an excise (often around 20, but sometimes up to 50 per cent) in their prices relative to international farm prices, while having to pay full price (plus import tariffs) for machinery and inputs, and most farmers found it less than encouraging. After eight decades of growth the farm sector stagnated from the 1950s to the 1980s; some growth was registered in the 1970s as new seed varieties were introduced, but far behind competitor countries such as the US, the EC, Australia or Canada. Farm yields in Argentina, at a par with the US or other relevant countries up to the immediate post-war years, lagged steadily behind, missed most of the growth due to the Green Revolution in the 1960s and 1970s, and by 1990 were below one-half of the levels achieved in the US. As the manufacturing sector was heavily-dependent on machinery and inputs from abroad, but was not able to export much, the stagnation of farm exports generated a setup for permanent trade deficit and recurring balance of payment crises.

During the second half of the 20th Century the populist politics of Peronism dominated Argentina's life, first from the government (1946-1955), then as proscribed but decisive opposition (1955-1972) and once again in the government (1973-1976). The main tenets of Peronism, basically a generous Welfare State and a powerful role for trade unions, were not altogether abolished during its years of proscription. On the contrary, some of the major instruments of its power were obtained (usually as a kind of peace offering) from non-Peronist governments, such as the much coveted administration of health care funds, granted to the unions by the military dictatorship of 1966-1970. As a matter of fact the main pillars of the populist regime survived through most of the long period after the demise of Peronism in 1955, including elected and military governments up to 1989.
2.2. A stubborn reluctance to change course

The demise of the Bretton Woods system in 1971-1973, when the US dollar ceased to be redeemable in gold and world currencies started floating, entailed a gradual but steady liberalization of private capital flows, and an acceleration of the trend towards liberalization of trade among nations. Indeed, maintaining the rigid Bretton Woods system in the new scenario would have caused much greater volatility in financial markets. Freedom for capital to invest in any country and in any currency creates competition between currencies and between countries to attract capital. This includes attracting capital from foreign places, and keeping domestically-invested capital from fleeing. Those countries most successful in that competition would have more investment and more growth. Decisive factors to attract capital are macroeconomic stability, a business-friendly legislation, institutional stability, enforcement of law and order with an impartial and independent judiciary, thorough respect for private ownership (including intellectual property) freedom of movement for capital and profits flexibility in the labour-market, free trade with a low tariff and sound infrastructure providing efficient telecommunications and transportation at a competitive cost. In developing countries, considering the inherent risks of entering emerging markets, these conditions included also a higher expected return on investment than required in rich countries (otherwise capital would prefer safer environments).

Developed countries followed suit, not altogether quietly, during the 1970s, but most developing countries did not. In the case of Latin America, most countries and especially those with earlier industrialization processes such as Argentina's, had developed a complex and entrenched system of heavy State intervention and an economy hidden behind high tariffs and often multiple official exchange rates. They were therefore ill-prepared to face worldwide competition. However, their process of protected industrialization had reached a ceiling. The economic development of these countries under import substitution, paradoxically created an increasing demand for imports (especially machinery and intermediate goods for protected industries), and rather stagnant exports. As a result, they were hit by frequent balance-of-payments crises (compounded by an ever-increasing debt service) and afflicted by slower growth and increasing inflation levels. In the case of Argentina, average annual inflation was only 2.8 per cent between 1900 and 1944, jumped to 20.4 per cent per year between 1945 and 1954, and increased to an annual 31.6 per cent between 1955 and 1974. In the years from 1975 to 1984 it showed an average 270 per cent per year, which increased to an average 901 per cent per year in 1985-1990 (peaking at 3080 per cent in 1989). Clearly the end of the Bretton Woods system and the attendant developments in real and financial sectors (such as the oil crises of the 1970s and the debt crises of the 1980s) put the Argentinian economy in a critical situation.

Along with rising inflation, growth stalled. Argentinian GDP oscillated with no discernible trend between 1970 and 1990. In those two decades GDP annual average growth registered 0.7 per cent, implying a net fall of about 1 per cent per year in per capita terms, a dismal record that was even worse (-2.5 per cent annually) in the 1980s.

During all this period of stagnation and high inflation, successive governments refused to acknowledge the end of the home-market-oriented growth pattern encouraged by the Bretton Woods agreements, and the need to reshape the economy and face world competition. In the rare cases where they ostensibly did, the necessary reforms were not conducted in a systematic and comprehensive manner. Even governments nominally committed to free market policies, like the murderous dictatorship that ruled the country from 1976 to 1983, kept most of the interventionist apparatus in place, failed to stop inflation and ran large fiscal deficits financed with increased public indebtedness. By the end of the military regime in 1983 the State owed about 40 billion US$ (plus a large undocumented debt to State suppliers, pension holders and others, amounting to about 10
billion US$). During the frustrating 1980s, after the dictatorship was sank in the South Atlantic following its ill-fated adventure in the Falkland Islands, the elected Alfonsin government tried to gain a more solid foothold in power and redress the wrongdoings of the military regime, but it was unable to put the economy on its feet. The bond-documented State debt increased to 60 billion US$ in the 1980s (including unpaid arrears). Undocumented public debt increased to about 30 billion US$. Several stabilization plans failed. The process ended with the hyperinflationary depression crisis of 1989.

Employment in the 1980s followed a course almost exactly contrary to output. While per capita GDP fell by about 10 per cent, total employment increased by about 10 per cent between 1980 and 1989. This means a decrease of about 20 per cent in average productivity. Most of the increase in employment was concentrated on the public sector and some protected sectors. During the decade the exchange rate had been very high, following the old-fashioned theory that an expensive dollar (and a feeble peso) meant more exports and was thus good for the economy. In fact, it was not so: exports stalled or grew very modestly (especially in real terms once international price fluctuations are taken into account). This is mostly because increasing exports implies acquiring more competitiveness through incorporating new technology, which often requires importing equipment and intermediate goods, and attracting foreign companies with the know-how to compete internationally. In fact, exports were to grow much more in the 1990s, under a supposedly uncompetitive exchange rate, than during the 1970s and 1980s.

2.3. The crisis of 1989 and the transition to an open economy

The crisis of 1989 was not the first of its nature: it was only the deepest and most violent of the cyclical downturns that followed each period of short-lived expansion (usually fueled by increases in public expenditure) since the 1950s. This crisis, however, demonstrated a need for the country to change its course.

Since 1987 the government was not servicing its debts, and the way out was through an agreement with creditors within the so-called Brady framework, involving the exchange of old debts with newly-fangled US-backed bonds. The Brady agreement, however, implied addressing the long-delayed structural reforms, and having the national economic policy monitored by the IMF, to ensure the government remains committed to sound macroeconomic conduct. Several measures towards structural reform had already been taken in the late 1980s, such as reducing trade tariffs and export duties, but most of the task was still not addressed.

The new Menem government, in office since mid-1989 had no clear idea of all this. In fact, its first scheme to address economic affairs was directly framed on past policies: it entrusted the Ministry of Finance to a corporate executive from an agribusiness conglomerate, who did not attempt any serious reform schemes other than trying to stabilize the economy. A second bout of hyperinflation followed in 1990, and a change of minister. The new minister faced a difficult situation: the government was financing itself through short term borrowing in the local market, issuing money to pay interest and generating a spiraling quasi-fiscal deficit in the process. The government addressed the situation by forcing peso depositors to exchange their short-term peso funds by dollar-denominated long-term bonds, thus converting most domestic public indebtedness into foreign debt with longer repayment periods. This course of action did alleviate problems in the short run, but failed to solve the debt problem that increased again in the aftermath of the deposit for debt exchange, leading to a third hyperinflationary spurt at the beginning of 1991.
At that stage the national currency was only nominally in force. The economy was thoroughly “dollarized”, and the willingness to hold domestic assets (other than for cash retail purchases) was conditional on extremely high rates of return. Through prolonged and irresponsible use of monetary, fiscal and exchange rate policies the Argentinian Government had literally destroyed its own currency.

A third finance minister was sworn in; Domingo Cavallo proposed in March 1991 a fundamental change in policy, quickly approved by Congress and a disoriented government both of which had run dry of ideas. The new strategy was established and implemented in 1991/1992 and remained in place in its essentials until the beginning of 2002, though faltering away in the late 1990s, especially after Cavallo was replaced by another minister in the second half of 1996. The cornerstone of the new economic policy was the establishment of a new currency, since the former peso had been degraded by years of inflation and finally pulverized by hyperinflation. The new currency, the convertible peso, was to have 100 per cent backing in hard currency at all times. The Central Bank was made totally independent (by a reform of its stature law approved by Congress in 1992), with the sole responsibility of defending the value of the national currency. The Central Bank would not lend to the Treasury unless it was against hard currency collateral, and this only within strict limits (not more than 20 per cent of foreign reserves could be invested in hard-currency bonds issued by the Argentinian government, taken at their market value). The Central Bank may not come to the rescue of failing commercial banks either, except in the case of short-term liquidity problems and even that only against solid collateral. Since at the time there were nearly 4 billion pesos in circulation and about 4 billion US$ worth of international reserves, while the market exchange rate was approaching one peso per dollar, the Central Bank was required by law to redeem all pesos presented for exchange at a rate of one dollar per peso, and was authorized to purchase US$ in the market at the going market rate (which could possibly be less than one peso per US$).\footnote{Argentina changed its national currency on several occasions since the late 1960s, in order to “shave” zeroes off the currency in the midst of runaway inflation. In fact, when the Convertibility Law was issued in March 1991 the national currency was still the short-lived Austral introduced in 1985, and therefore the law wording is actually in terms of australs (with a top exchange rate of 10,000 australs to the US dollar.) The austral was formally replaced by the new convertible Peso shortly thereafter, at a rate of 10,000 australs per peso. These and previous changes in currency denomination introduced since the 1960s are ignored here for the sake of clarity.} If the market exchange rate at a given time was say, 0.90 pesos per US$, the Central Bank could purchase US$ by issuing 0.90 pesos per unit of foreign currency purchased, and later sell the US$ at one peso each, thus making a profit.

This monetary reform implied that the Government could not rely on discretionary monetary expansion to finance its deficits. Since its capacity to enlarge public indebtedness was also limited by the market, it followed that the Government would have to keep its expenditure under control and reduce or eliminate fiscal deficits. However, and this was a crucial element in the events precipitating the 2001 crisis, nothing in principle prevented the Government from running a deficit and financing it by borrowing in domestic or foreign financial markets. The Government had its monetary hand tied up, however its fiscal hand was still able to do mischief.
3. The impact of reform

Besides reforming the monetary system in 1991, Argentina entered into the full array of market-oriented economic reforms recommended by the so-called "Washington consensus". Most State concerns were privatized including companies producing and distributing oil, gas, telephone services, electricity, air transportation, railroads, road maintenance and many others; the tax system was overhauled and simplified (to become a system based mostly on VAT and income tax) and most subsidies and special-purpose taxes were abolished (including the farm export tax); the operation or oversight of many basic services was transferred to local governments, including public health and education, environmental protection, water supply and sanitation amongst others; many economic activities underwent deregulation, and new regulatory boards and legal frameworks were created for privatized services; the pension system was reformed and most of the labour force pension plans became personal accounts under private management (though the old State-managed system survived); imports were liberalized and import duties lowered (including zero duties for capital goods); a free trade association (later becoming a customs union) with Brazil and other neighboring countries (MERCOSUR) was established in 1995; many specific areas of economic activity were deregulated (especially through an omnibus presidential decree in 1992) allowing for untrammeled operation of market forces.

The long term growth record of Argentina was rather dismal in the decades prior to 1990 (see Figure 1, based on the Penn World Tables' latest edition, in terms of purchasing power parity, expressed in constant international US$ of 1996). Up to the crisis of Bretton Woods in 1973 there was growth, though not at spectacular rates, and afterwards there was stagnation and decline. Per capita PPP output had grown from approximately 6,000 to 10,000 US$ per capita from 1950 to 1974, at an annual rate of about 2.6 per cent; then it stalled, oscillating around the same value up to 1981, and finally it fell precipitously during the 1980s. In 1990, the year before convertibility was adopted, GDP per capita in PPP terms was back at the level attained in 1960, and barely above the levels of the early 1950s.
The economy grew very strongly in the 1990s as the market-oriented reforms were implemented. In just three years it made up for the accumulated losses of the 1980s, and after the small dent of 1995 it continued growing to reach about 12,000 PPP US$ per capita in 1998, an accumulated growth of 62 per cent from 1990, and well above the former peak of 10,550 US$ briefly attained in 1980.

For consumption the view is similar, though growth or decreases in consumption were less acute. It grew at about 2.07 per cent from 1950 to 1974 (below the 2.6 per cent growth rate of GDP), stalled in the 1970s, fell in the 1980s (though not by so much as GDP), and recovered between 1990 and 1998 at a yearly rate of about 5 per cent (below the 6.1 per cent growth of GDP in that period). Consumption in PPP terms, relative to total domestic absorption, was about 68.5 per cent both in 1950 and 1998, but fluctuated between 60 and 75 per cent in the intervening years.

![Figure 2: Domestic absorption components, 1950/2000 (PPP US$ values)](image)

Real investment grew at an even faster pace. The contraction of the economy in the 1980s consisted mainly of less real investment and less real governmental spending per capita, while consumption per capita remained stable or fell only slightly (Figure 2). From 1990 to 1998 gross fixed investment grew by 138 per cent, at an annual rate of 11.46 per cent. Besides, investment goods became cheaper relative to services and other goods, due to monetary appreciation and zero import duties for capital goods, and also more efficient for creating output, as the opening-up of the economy permitted rapid catch-up with recent technologies which were kept out the country for decades due to protectionist policies. Therefore the same amount of real investment and growth was achievable with a lower amount of savings and a lower percentage of GDP. For comparison, the previous peak value of gross investment per capita in PPP terms was attained by the military dictatorship from 1977 to 1980, involving gross inefficiency as well as a large proportion of armaments, and was quite unable to spur sustained growth. As a consequence, more growth was obtained in the 1990s with investment at 19-20 per cent of current GDP, or 15 per cent of PPP GDP, than had been achieved with 23-25 per cent (or 19 per cent of PPP GDP) before that time. That advantage, among others, was to be lost after the 2002 devaluation of the currency that made equipment more expensive in domestic terms.

About 10 per cent of gross investment, representing some 2 per cent of GDP, was financed with foreign savings in the 1990s, as the country received a steady flow of foreign direct investment in many sectors and also a large flow of portfolio investment directed at
State bonds and corporate paper. It is estimated that Argentina’s residents repatriated about half of their assets abroad (which were roughly equivalent to total foreign debt by 1989). The gross marginal efficiency of capital (i.e. the marginal output/capital ratio equivalent to GDP growth divided by gross investment) was very low or negative during the 1970s and 1980s, but strongly positive in the 1990s.

The system created in 1991 was robust enough to withstand the blow of the Mexican crisis of 1995: the convertibility system survived even if the country suffered a 2 per cent recession that year, and a strong surge in joblessness, only to recover strongly in the two following years with annual growth rates of 6 to 8 per cent. Unemployment (formerly 9 to 11 per cent) grew to 18 per cent with the Mexican crisis but promptly fell to 12 in 1997/1998.

Foreign trade growth was also a major component of the process of economic growth in the 1990s. Exports, which had accounted for 8 billion US$ in 1988, grew for the first time to 12 billion US$ from 1989 to 1992 and kept growing to approximately 26-28 billion US$ in the second half of the 1990s, with an increasing participation of manufactured exports relative to oil, gas and farm-related commodities. Imports also grew from a very low initial level of about 2 to about 30 billion US$ at the end, driven mostly by imported equipment and intermediate goods (imports of consumer goods represented just a fifth of total imports). Trade balance was negative for most of the decade (except during the recession caused by the Mexican crisis of 1995, in which it turned into a trade surplus). The reason for this varying trade balance was mostly the net inflow (or outflow) of capital, financing excess imports during most of that period. The trade balance turned to be positive after the devaluation of 2002, when imports fell by 70 per cent, due not only to the more expensive US$ but to deficit in the capital account due to massive capital flight.

The system, in short, provided strong growth, although it brought about also higher unemployment, and was by itself quite robust. Many observers believed at the time that it would last indefinitely. However, a fatal flaw remained: the political institutions and processes were deeply weakened by corruption and clientelistic practices. Many of the privatization processes were tainted by bribery, and the resulting contracts were consequently drawn in a suboptimal fashion. Some reforms stalled when resistance was encountered in the political sphere, such as reform of State institutions at provincial level, reform of provincial tax systems and budgetary processes, reform of provincial pension schemes and updating revenue-sharing regulations between the federal and provincial governments. Many backward provinces remained under their traditional leadership, ruled by entrenched clientelistic systems based on local dynasties or powerful political machines.

Political maneuvering was at the root of the increased indebtedness and fiscal deficit in the late 1990s. President Menem was elected for a six-year term not allowing for immediate re-election, but he strongly campaigned to reform the 1853 Constitution in order to enable him to run for re-election in 1995. The 1994 Constitutional Assembly shortened the presidential term to four years and allowed for only one immediate re-election. After being re-elected in 1995, Menem started pushing for an interpretation of the new constitution that would give him a chance to run for a third term in 1999, while other politicians (especially provincial governors) expanded public expenditure (and provincial indebtedness) to strengthen their political bases also with a view towards the 1999 elections. Neither succeeded, as Menem was not allowed to run for a third term in office and an opposition coalition finally won the elections, but huge amounts of money were spent in the process. Total public expenditure, which had moderately increased from 30 to 32 per cent of GDP from 1990 to 95 and decreased back to 30 per cent with the adjustment to foreign shocks in 1996/1997, grew to 36 per cent of GDP in the short span of three years (from 1998 to 2001, but especially in the 1999 election year), as GDP contracted but expenditure kept growing.
Fiscal balance initially improved from the depths of the 1989 crisis but had been deteriorating since 1993. In that year, revenue was enough to pay for all expenditures, including debt services, even not counting revenue coming from the sale of public assets under the privatization process. The overall fiscal balance in 1993 was positive, with a fiscal surplus equivalent to 1 per cent of GDP after servicing debt. Afterwards this result deteriorated gradually. Up to 1999, however, the deficit was contained below 2 per cent of GDP, but increased to nearly 3 per cent in 2000 and almost 4 per cent in 2001.

This deepening deficit explains the increase in public debt occurring at the time and a corresponding rise in debt servicing costs. Throughout the 1990s public indebtedness showed a marked tendency to increase in absolute and relative terms. Public debt as a percentage of GDP showed a moderate rise from 1993 to 1997 but a clearly accelerating upward trend since 1998. Public debt service, which hovered at about 2 per cent of GDP from 1990 to 1996, climbed to nearly 6 per cent by 2001, especially in the years after 1998 when GDP started to decline while interest rates.
Between 1992 and 1996 the increase in total indebtedness was accompanied by a fall in interest rates (especially after the Brady deal of 1992), so debt service did not increase above 2 per cent of GDP during that period, but started to climb rapidly after 1997. The increase in service costs was partly due to increased indebtedness as well as to failure since 1998 to reduce fiscal expenditure and Government deficit in the face of a contracting GDP.  

A fiscal deficit of 2-3 per cent of GDP and public debt of about 30-40 per cent is tolerable in developed countries (the Maastricht Treaty, for instance, imposes a maximum deficit of 3 per cent and maximum indebtedness of 60 per cent, and several European countries are still above those figures without noticeable damage to their economies), but for a developing country perceived by businessmen as a risky environment, and trying to compete for international investment in the context of an open world economy, such levels

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25 In a financially closed economy experiencing recession, the classic reactivation policy consists of increasing expenditure and thus usually creating or enlarging a fiscal deficit. In an open economy, however, such measures may have a net negative impact because their beneficial effects on aggregate demand may be offset by inducing capital flight and reduced investment, caused by fear of excessive public indebtedness, when the expansion in expenditure comes from new indebtedness for a government that was already deep in debt. This is especially true of small emerging economies lacking a long history of institutional stability and financial soundness. Under such conditions it is often the case that reducing expenditure and balancing the budget during a recession has a net positive impact on investment and growth, by creating investor and consumer confidence and attracting private investment.
of deficit and debt may be too high. Increasing the deficit to 4 or 6 per cent is definitely not compatible with maintaining good investment ratings and low country risks, as demonstrated among other cases by the Argentinian experience between 1998 and 2001. The same applies to the upward trend in the indebtedness ratio, which was approaching 60 per cent by 2001, and especially the increasing cost of debt service.26

In addition to new federal indebtedness, both in local and foreign currency, provincial governments also resorted to debt to finance their budgets. Many provinces had been induced to dismantle or privatize their public-owned banks, on which they used to delve for easy funds in times of need (with the Central Bank ultimately paying the bill), and therefore had to turn to the commercial financial sector at home and abroad to cover excess expenditure. In the wake of the 2001/2002 crises some provinces resorted also to issuing scrip, i.e. provincial bonds in small denominations which were forced into the pockets of provincial government employees and suppliers instead of regular cash payments, and circulated as money in the provincial economy.

The external shocks of 1998 coming from Russia and Asia, plus the Brazilian devaluation of the real in January 1999, should have been withstood just as well as the Mexican Tequila effect was overcome in 1995, if conditions had not changed. Markets were wary to accept the new and increasing levels of indebtedness of the Argentinian public sector, and demanded ever higher rates of return to keep financing the deficit. This led to a steady rise in country-risk indicators (equivalent to the difference between the return on Argentinian long-term bonds and US Treasury bonds of similar configuration) and put a heavier burden on further indebtedness while strongly increasing the yearly debt service cost. Any scheme to survive the crisis and resume growth should include a reduction in public spending and resuming the pace of reform at federal and provincial levels to instill confidence in markets and foster investment by residents and foreigners. That was the challenge faced by the new coalition government inaugurated in December 1999, a challenge it failed to stand up to.

The Alianza coalition was based on two main parties: the old Radicals, a moderate social-democratic party, which had governed the country in the 1980s and presided over the hyperinflation of 1989 that led them out of office, and Frepaso, a coalition of center-left and left-wing groups of various origins and inclinations. The presidential candidate for the coalition, however, was the Buenos Aires city mayor, a center-right politician (Fernando de la Rúa). This political incongruity in addition to de la Rúa's indecisive temperament determined much of the outcome of the Alianza government that ran the country into the disastrous crisis of late 2001.

The government attempted several approaches to face the ominous economic situation. Upon being inaugurated it announced a social-democratic programme with tax increases and only modest reductions in expenditure. The tax increase backfired: it further angered investors and accelerated the recession during de la Rúa's first year in office. In 2001 a new finance minister announced a more severe plan to reduce spending by 2.4 billion US$ (which was not much indeed, in view of the situation), but street protests, congressional opposition and presidential vacillation led the new minister to resign two weeks later. The President then halfheartedly called on Cavallo, the architect of convertibility, to come to the rescue, but when he took office as Finance Minister by mid-

26 The series for indebtedness ratio is shown from 1993 onwards because total public indebtedness between 1989 to 1992 was difficult to determine. On the one hand, the US$-value of GDP (or the peso value of foreign debt) is debatable during 1989 and 1990 due to repeated bouts of hyperinflation unequally affecting various sectors. On the other hand, several important debts (e.g. to pensioners, due to the Government failing during several years to adjust pensions according to law) were undocumented at the time and not classified as public debt. They were recognized, converted into bonds and included in debt accounting during that period. If account is taken of these debts, the indebtedness ratio seems to have been decreasing from 1989 to 1992 as GDP in current US$ grew rapidly from about 2,700 to 7,000 US$ per capita due to real growth and monetary appreciation.
2001 it was probably too late, and besides he enjoyed little, if any, congressional support. Country risk was about 1000 basis points (i.e. 10 percentage points above US bond rates), total public debt was bordering on 150 billion US$ (nearly 55 per cent of GDP), and the ongoing recession showed no sign of ending. Unemployment was increasing again, reaching 16 per cent in October and marching clearly towards the former maximum level of 18 per cent reached in the 1995 crisis. Social unrest was growing. Mid-term parliamentary elections in late 2001 further reduced governmental support in Congress. Cavallo enacted a zero-deficit rule whereby the government would spend only according to revenue, and opened negotiations for a voluntary debt swap (offering new bonds with attractive rates but longer terms). The zero-deficit rule was difficult to maintain, and adopted too late. There was, besides, much opposition to the new Minister (and implicitly to the President and his center-right oriented policies) in Congress and civil society.

By October-November 2001 a steady outflow of funds from commercial banks signaled the start of capital flight, while the inflow of foreign capital came to a sudden stop. All sorts of funds were withdrawn, small and large, especially through withdrawal of deposits in pesos or US$ and sales of Argentinian bonds, to buy foreign securities or to transfer the funds abroad. For many small depositors, the money (usually in the form of US$) was often moved from bank accounts to safe boxes. It was expressed in a fall in deposits, a fall in foreign currency reserves at commercial banks and the Central Bank, and a fall in the price of governmental bonds (with immediate impact on country risk indicators). Most importantly, there was a stop in direct foreign investment, and also a decline in reinvestment of profits by privatized public services and other companies.

This moved the government, fearing a bank panic, to impose a temporary freeze on withdrawals from bank accounts, both in pesos and US$, allowing only for small fund movements and the withdrawal of salaries and pensions. This, of course, fuelled panic and pushed the middle-class (concerned for its savings) to join other groups previously engaged in social unrest. In the face of this scenario, and after police shot demonstrators near the presidential palace resulting in several deaths, the President resigned.

The interim administration suspended the service of public debt, and a few weeks afterwards the whole convertibility system was scrapped. As a result, GDP spiraled down. After losing an accumulated 8.4 per cent from 1998 to 2001, it contracted a further 10.9 per cent in 2002 for a total fall of 18.4 per cent, making this the most severe depression on record in the country (for comparison, the Tequila effect crisis of 1995 caused output to drop by just 2.8 per cent, and during the recession from 1987 to 1990, culminating in hyperinflation, the GDP total fall was just 4.5 per cent).

The decade-long experiment with convertibility and an open economy had produced profound changes in the Argentinian economy, but ultimately ended in disaster. The reasons why are not altogether clear. Before turning to the implications for employment it remains worthwhile examining some frequently-debated issues on the nature of, and reasons for the crisis.
4. Some misunderstandings dispelled

The economic regime that started in April 1991 has been the object of much discussion and more than a few misunderstandings over the years. To account for all its aspects and developments would be beyond the scope of this paper, but it is unavoidable to discuss, albeit briefly, some nagging questions.

4.1. A fixed rate of exchange?

One frequently-alleged reason for the crisis had been that convertibility is a fixed exchange rate regime, lacking the flexibility to withstand a crisis.

In practice, from its inception in 1991 to its demise in 2002, convertibility meant indeed, a one-to-one exchange rate between the US$ and the Argentinian peso. However, the legal framework of the convertibility law did not mandate a fixed exchange rate. What it dictated was a lower bound for the value of the Argentinian currency, but allowed for its indefinite appreciation. The Central Bank was obligated to redeem any peso presented for exchange at the rate of one US$ per peso, thus in effect establishing a minimum worth of the peso. A reserve of at least 100 per cent for all the monetary base ensured the Central Bank always had enough US$ to aid all fiduciary currency and all commercial-bank deposits at the Central Bank (i.e. the entire monetary base). However, the exchange market was liberalized and the peso was free to fluctuate with supply and demand. As a matter of fact, at the beginning of the regime the rate was slightly more than one dollar per peso, and was to remain so for several years. The huge amounts of foreign exchange flowing into the country during most of the 1990s would have had the effect of appreciating the peso, but the Central Bank as well as the Treasury prevented that effect by persistently buying US$ in the market at a set ”price of intervention“ close to one peso per dollar. At the very beginning the purchase intervention limit was 0.90 pesos to the dollar, later raised to 0.98 pesos per dollar. These purchases were required, on the one hand, to enlarge the Central Bank reserves from its initial level of 4 to 5 billion US$ to around more than 20 billion in subsequent years, as demand for pesos also increased to the same extent; on the second hand, in order to enable the Treasury to pay debt obligations denominated in foreign currency, whereas the Government revenue is mostly denominated in domestic currency. The Treasury also financed expenditures by selling bonds to the Central Bank (which was allowed, as said before, to hold up to 20 per cent, and later up to 30 per cent, of foreign reserves in Government bonds denominated in foreign currency, though it usually kept not more than 10 per cent of reserves in those instruments).

Persistent intervention of Treasury and Central Bank in open market operations prevented the peso from nominally appreciating, as it would have done in the absence of intervention, at least during the first half of the 1990s. Thus the nominal exchange rate was kept nearly fixed, not by law but by the practical requirements of the public sector. Had it been allowed to appreciate in the 1990s, there should have been some room for depreciation when a crisis arrived. Why the Central Bank and the Government kept purchasing US$ during the 1990s is a question with no simple answer. One reason is just an increased demand for pesos: circulation and deposits in national currency soared during the decade. Another reason is the Treasury demanding US$ to comply with a growing schedule of payments in foreign currency (for loans and bonds) and paying with its peso revenues. A third reason was the desire to avoid hurting exports with an appreciation of the currency (as productivity was growing fast and exports were soaring during the decade, especially since 1993, this should not have been a matter of grave concern).
In short, the exchange rate was potentially flexible if only the Government had stopped expanding the monetary supply and let the peso to appreciate in the good years, to create room for flexibility afterwards. Besides, as will be seen shortly, other monetary measures were available, and were put to use during the Tequila crisis of 1995.

4.2. No room for monetary policy?

Convertibility kept the Government from printing money and thus fuelling inflation, through the requirement that any monetary base expansion should be backed by additional international reserves. However, this rule allowed for a substantial portion of reserves to be held in the form of Government bonds denominated in foreign currency (accounted for at their market value). Initially the allowed portion of bonds was up to 20 per cent of reserves, and later extended to 30. The Central Bank usually held bonds for not more than 8 to 10 per cent of reserves, and thus at the time of the Tequila effect, for instance, it was able to increase monetary supply by purchasing Government bonds up to the legal limit, thus smoothing monetary supply and sustaining activity during the foreign exchange crunch. The Central Bank was also able to lower bank encashment requirements, thus easing credit and inducing a fall in interest rates, and it actually did so. This (plus an IMF aid package) helped to overcome the crisis without major damage; once the crisis was over the Central Bank lowered again its holdings of Argentinian bonds to the usual share of about 10 per cent. During the 1998 to 2001 recession this remedy could have also been applied, if only the Government and the Central Bank had so decided. Instead, further indebtedness was used to cover the gap in public revenue, with dire ultimate effects. In short, certain sound monetary policies were allowed, but they were not used to good effect (in retrospect) in the event of the 1998 to 2001 recession.

4.3. Was the peso overvalued?

A very common contention is that convertibility, supposedly implying a fixed exchange rate, has allowed an overvaluation of the peso which had finally to be devalued (thus bringing down the rigid regime with it). But the overvaluation of the peso is not an obvious proposition. It could be possible, of course, to choose an appropriate point in the past and verify that the peso during the 1990s was worth more than it was at that specific moment, but that does not show it was overvalued in the 1990s since it could have been undervalued in the other period.

There is no consensus about what actually defines overvaluation (or undervaluation) of a currency. The most frequent grounds on which a currency may be said to be overvalued are: (a) a short-term overvaluation in the foreign-currency market, meaning that at the current rate the market for foreign currency is not in short term equilibrium of supply and demand (excess demand for foreign currency at the going exchange rate); (b) a short term overvaluation concerning foreign trade, that is said to occur whenever at the current rate there are imports in excess of exports, (i.e. a trade deficit); (c) another form of short term overvaluation regarding foreign trade, defined as a situation in which the going exchange rate makes many domestic products uncompetitive relative to foreign goods; (d) a long term overvaluation in terms of the price level, when at the current rate the price level in the country is higher than abroad. Conditions (a) and (d) were not present in Argentina in the 1990s or up to 2001 (quite the opposite situation prevailed, indeed), and conditions (b) and (c), which are essentially the same, make no sense in economic terms for an open economy, as will be discussed below.
Concerning condition (a), and as stated before, for most of the 1990s the Treasury and the Central Bank were purchasing US$ at the lower limit of the (narrow) band allowed between the purchase and sale price (usually 0.99 and 1.00 pesos per dollar). Recall the dollar sale price of the Central Bank (1.00 peso per US$) was mandated by law, while the dollar buy price was set by economic policy and could have been lower. Were it not for these public sector US$ purchases, the exchange rate would have been less than 0.99 pesos per unit, in other words, market conditions would have dictated an appreciation, not a depreciation of the peso. If anything, conditions in the foreign currency market indicated the peso was undervalued.

Regarding condition (b), the widespread belief that a trade deficit is the symptom of an overvalued currency is a fossil from the era of fixed exchange rates and restricted capital movements prior to 1973, (i.e. the world organized around the Bretton Woods agreements of 1944). At that time, the only way a country could regularly obtain foreign currency was through exporting commodities, and the only way of sending them abroad was to import foreign commodities. In those conditions, currency flows were governed by trade, and trade was in turn governed by a fixed official exchange rate; therefore a deficit indicated an overvaluation of the domestic currency (relative to the situation of a trade balance). Since no other regular source of foreign currency existed, except delving in the nation's foreign reserves, any sustained trade deficit would lead to devaluation, and any sustained surplus to revaluation of the currency.

This is no longer valid in a world with free capital movements, where people can freely buy, hold or sell foreign currency assets in their own country or abroad. In these open economy conditions, the flows of currency into and out of the national economy (i.e. the sum total of foreign currency purchased with national currency, and the opposite) greatly exceed the amounts respectively received for exports or paid for imports; as a consequence, trade is no longer the cause of movements in the exchange rate: capital movements are the prime factor. When capital inflows are large, this on the one hand determines greater demand for the national currency, and on the other hand triggers some increase in imports (as part of the added money goes to purchase foreign commodities). Later, the inflow of capital may also imply an inflow of better technology, an increase in productivity and consequently larger exports, but in the short term a large increase in capital inflows (or a reversion from net outflows to net inflows) would determine a trade deficit (or at best a smaller surplus), possibly an increase in the country's reserves, and an appreciation of the domestic currency vis à vis foreign monies. As countries now compete among themselves to attract foreign capital (and to persuade local investors to keep their money within the country's borders), success in that competition would probably entail a trade deficit, which is no longer to be seen as a problem in itself. In fact, most open economy analysts tend to assign no importance per se to having a trade surplus or a trade deficit (even if trade in services is added to trade in physical commodities). In the case of Argentina, trade surpluses usually accompany crises: the country had a surplus during the 1989/1990 hyperinflation cum recession, another surplus during the impact of the Tequila crisis in 1995, and another in the wake of the 2002 crisis still persisting up to 2005 (though narrowing out as imports grow along with economic recovery and exports cannot keep the pace). During the expansive periods of 1991 to 1994 and 1996 to 1998 trade showed a deficit, which lasted through the initially mild recession since 1998 up to 2001.

Thus in an open economy context a trade deficit does not signal an overvaluation of the currency in any significant sense. Economies can thrive with either a chronic deficit (e.g. the US) or, surplus (e.g. Japan and China).
Condition (c) posits the nominal competitiveness of domestic industry as the criterion for judging the exchange rate. The reasoning behind is as follows: the country has a certain industrial structure and technology, working with a certain level of physical productivity and efficiency; the rate of exchange should make this given structure competitive; any exchange rate failing to do so is said to be overvalued. Indeed, this is not a sound criterion for an equilibrium exchange rate in an open economy; if market conditions dictate a rate of exchange making some industries non-competitive, what would be overvalued in that case is the domestic industrial structure and efficiency, not the exchange rate. In an open economy, besides, the real rate of exchange (the amount of domestic goods and services worth a unit of foreign goods and services) is not under the control of the authorities, who can only manipulate the nominal exchange rate. The real rate responds to many factors including foreign price fluctuations, capital flows and changes in domestic prices induced by capital and trade flows and (if any) the resulting changes in the nominal exchange rate. Once a currency depreciates, for instance, most goods and services produced in the country appear to be cheap in foreign currency terms, thus affording them a newfound "competitiveness" in world markets, but it is only a matter of time before domestic prices start to climb in response to the increased prices of foreign goods at the new rate of exchange. This includes the price of tradable goods as well as many non-tradables: for instance, wages would have to rise once the price of food, clothing and other consumer goods (most of which are tradable) adjust to the new rate of exchange, and the rise in nominal wages would trigger increases in the cost and price of many other goods and services, possibly up to the point of cancelling out the momentary gains in competitiveness obtained by a depreciated currency.

In the case of Argentina, on the other hand, the idea that Argentinian industry was rendered non-competitive by the exchange rate resulting from convertibility defies facts: once domestic productivity was risen by infrastructure modernization, deregulation, and importation of new technology and capital goods in the early 1990s, exports soon soared under the one-to-one exchange rate of convertibility, with the added bonus that only firms with true competitiveness based on high productivity could successfully enter the world market under those conditions. These advantages are still present once the peso was devalued, and are not easily wiped away by short term economic downturns or fluctuations in the exchange rate.

Of course, many companies had to reconvert or close down during the process of adjustment to an open economy, with clearly a cost in terms of employment. This was not certainly a desirable outcome, though it was probably inevitable given the long period in which companies operated under heavy protection. It should be noted, however, that the process of opening-up the economy was not simply a free choice of economic "model", taking just one of the possible economic systems from a metaphorical “list” containing several more. If a choice was involved, it was strictly constrained by economic conditions prevailing at the time, at home and abroad. It was a development imposed by the harsh realities of world economic development and the disastrous results of long-held economic policies that had stifled the country's growth since the 1970s and ultimately led to the hyperinflationary depression of 1989, as described in Sections 2 and 3. Opening up the economy was (and remains) a worldwide process undertaken by countries with variable degrees of enthusiasm, but embraced nonetheless as an unavoidable component of living in today's world, and a necessary ingredient for growth and macroeconomic equilibrium.

The costs of economic conversion from a closed to an open economy are proportional to the degree of closure at the start of reforms, and the time spent in closed conditions before opening-up to the world market. Some industries were hardest hit, such as those previously operated by State concerns (like oil extraction, railroads, State banks, telephone services, electricity generation and distribution, road maintenance, etc.) and certain branches of manufacturing previously enjoying protracted protection (e.g. clothing, footwear, home appliances). As most of the firms in these industries were far behind
current technology, the impact was blunt. Many companies collapsed, and most of the survivors dismissed important numbers of workers, purchased new machinery, and frequently changed ownership and management to favour adoption of new technology and access to wider markets. Many new firms entered the market, including upstarts, offshoots of existing companies, or investments by foreign (often transnational) firms. A few Argentinian firms also became transnational in the process (e.g. in the oil business). This process of microeconomic adjustment, including the birth, death or transfiguration of many businesses small or large, was at the core of the economic transformation of Argentina during the 1990s. The impact on employment of the 1990s and the ensuing crisis has to be analyzed in the light of this process.

Along with condition (a), condition (d) for an overvalued currency was simply not met in Argentina under convertibility. This condition requires that the price level at home is higher than abroad, and is regarded as a long-term equilibrium exchange rate for open economies. It refers to the general price level, and not to the price of every individual commodity. While the short-term currency market showed no sign of overvaluation, neither did the price level. As is well known, in an open economy the domestic price level tends in the long term to converge to the price level of trade and financial partners. Tradable goods soon equalize (account taken of differences in tariffs and other domestic inputs into the retail price of tradable goods) and non-tradable goods tend also to equalize, pushed by their use of tradable goods as inputs for their production or delivery (including consumer goods and services as “inputs“ for the supply of labour). Any remaining differences are adjusted through consumer substitution, as consumers reduce expenditure in items which have become relatively more expensive and shift demand to goods that are now relatively cheaper.

There are several different pieces of evidence to the effect that the peso was not above its absolute purchasing power parity (PPP, i.e. the theoretical exchange rate at which the domestic price level equals the foreign price level).

**World Bank estimates of purchasing power parity**

The PPP exchange rates implicit in the World Bank estimates of GDP valued at PPP prices show first a convergence from overvaluation to PPP in 1990 to 1992, and then an increasing undervaluation of the peso along the decade, from 1992 to 2001, further aggravated by the devaluation of 2002. In short, the peso was undervalued in 1990/1991, was close to its theoretical PPP value in 1992 to 1995, and then gradually lost ground from 1997 to 2003.²⁷

Table 1: Purchasing Power Parity exchange rate of the peso, 1990-2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Per capita Gross National Income in US$</th>
<th>Under and over-valuation relative to Purchasing Power Parity</th>
<th>Pesos per dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At market exch. rates</td>
<td>At PPP exch. rates</td>
<td>PPP/market(^a)</td>
</tr>
<tr>
<td>1990</td>
<td>2,370</td>
<td>4,680</td>
<td>1.975</td>
</tr>
<tr>
<td>1991</td>
<td>2,790</td>
<td>5,840</td>
<td>2.093</td>
</tr>
<tr>
<td>1992</td>
<td>6,050</td>
<td>6,080</td>
<td>1.005</td>
</tr>
<tr>
<td>1993</td>
<td>7,220</td>
<td>8,250</td>
<td>1.143</td>
</tr>
<tr>
<td>1994</td>
<td>8,110</td>
<td>8,720</td>
<td>1.075</td>
</tr>
<tr>
<td>1995</td>
<td>8,030</td>
<td>8,310</td>
<td>1.035</td>
</tr>
<tr>
<td>1996</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>1997</td>
<td>8,570</td>
<td>9,960</td>
<td>1.161</td>
</tr>
<tr>
<td>1998</td>
<td>8,970</td>
<td>10,200</td>
<td>1.137</td>
</tr>
<tr>
<td>1999</td>
<td>7,600</td>
<td>11,324</td>
<td>1.490</td>
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<tr>
<td>2000</td>
<td>7,440</td>
<td>12,090</td>
<td>1.625</td>
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<tr>
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<td>6,960</td>
<td>11,690</td>
<td>1.680</td>
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<tr>
<td>2002</td>
<td>4,060</td>
<td>9,930</td>
<td>2.446</td>
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<tr>
<td>2003</td>
<td>3,650</td>
<td>10,920</td>
<td>2.992</td>
</tr>
</tbody>
</table>

\(^a\) Not available.
\(^b\) Values above 1.00 indicate overvaluation of the US$ (and undervaluation of the peso), and conversely.
\(^c\) Values above 1.00 indicate overvaluation of the peso (and undervaluation of the US$), and conversely.

Sources: World Bank, World Development Report (1992 to 2005 issues), and market rates of exchange as per official INDEC and Central Bank statistics. Austral per US$ exchange rates in 1990 and early 1991 were converted into pesos per US$ at the conversion rate of 10,000 australs per peso.

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Figure 7: World Bank: Actual vs. PPP rates of exchange (US$ per peso)
The Penn World Tables

Estimates of Alan Heston and associates about PPP exchange rates and real output in the world, reflected in the well-known Penn World Tables, also show that the peso was undervalued relative to PPP during the 1990s, and (as in the case of the World Bank estimates) was becoming more and more undervalued along the decade.

Table 2: Penn World Tables: Actual versus PPP exchange rates, 1989-2000

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual/PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>0.47</td>
</tr>
<tr>
<td>1990</td>
<td>0.70</td>
</tr>
<tr>
<td>1991</td>
<td>0.82</td>
</tr>
<tr>
<td>1992</td>
<td>0.84</td>
</tr>
<tr>
<td>1993</td>
<td>0.73</td>
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<tr>
<td>1994</td>
<td>0.74</td>
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<tr>
<td>1995</td>
<td>0.74</td>
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<tr>
<td>1996</td>
<td>0.73</td>
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<td>1997</td>
<td>0.71</td>
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<td>1998</td>
<td>0.69</td>
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<tr>
<td>1999</td>
<td>0.67</td>
</tr>
<tr>
<td>2000</td>
<td>0.66</td>
</tr>
</tbody>
</table>


The Economist's Big Mac Index

A similar picture emerges from the more light-hearted (but often surprisingly correct) PPP index of The Economist, based on one single good, namely a McDonald's Big Mac, which also reflects an undervalued peso in the late 1990s and the beginning of the new century as the Big Mac was slightly cheaper in Argentina relative to the United States. The Big Mac maintained its price at 2.50 US$ in Argentina for most of the decade, whereas in the United States it was about that price in the first half of the 1990s but reached 2.90 US$ around the end of that decade, indicating a gradual undervaluation of the Argentinian currency in “Big Mac terms”.

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**Analysis of price indexes**

Finally, an analysis based on consumer price indexes\(^{28}\) showed again the same conclusion. Based on comparative consumer price surveys by the UN Economic Commission for Latin America going back to 1960, and a measure of intervening inflation corrected for substitution bias in the CPI of both Argentina and the US, it was estimated that the PPP exchange rate gradually converged to the PPP rate along 1991/1992 and early 1993. More precisely, since the market rate was then immobile around one peso per US$, it was the PPP rate that converged on the market rate via relative price adjustments, and remained in the vicinity of one peso per US$ from 1993 to 1995; in the late half of the decade local near-zero inflation or outright deflation combined with low but persisting inflation abroad implied a PPP rate of less than one peso per US$, meaning that by 1999 to 2001 the peso was (by this measure) slightly undervalued, in accordance with trends estimated by the World Bank, the Penn World Tables and *The Economist*. This analysis of consumer price levels took into account not only variations in consumer price indices at home and abroad, but also consumer substitution at both sides, and used superlative indices to avoid the potential bias derived from using either a domestic or a foreign basket of goods and services in the measure of relative inflation.

![Figure 9: Exchange rate (US$ per peso) as % of PPP rate, 1960 to 2000](image)

*Source: Maletta (1996, op.cit) and additional estimates for 1996-2000, Based on Argentinian and US Consumer Price Indexes, adjusted for substitution bias, and ECLA comparative price surveys*

In short, these various sources consistently suggest that the peso was not overvalued during the 1990s relative to absolute purchasing power parity. Around 1992-95 the price level seems to have been close to the PPP level, and from 1996 to 2001 the peso became increasingly undervalued. The undervaluation was accentuated and accelerated after the 2001/2002 crisis. Absolute PPP is only a long-term criterion for the rate of exchange in open economies, and is not expected to govern short term movements; however, as seen before, the peso was also not overvalued in the short term as regards the market for foreign currencies in Argentina. Therefore the idea that the crisis was ultimately caused by an overvalued currency seems to have no grounds in available information.

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4.4. The wrong choice of economic model?

The crisis in Argentina may be (and has repeatedly been) attributed to a bad choice of economic model made some years before. Some refer to instrumental aspects of economic policy (such as the monetary arrangement of convertibility) while others refer to the broader choice of a "neo-liberal" model reliant on market forces, as opposed to more interventionist economic schemes.

This approach is based on two tenets: (a) that countries have the choice of various economic "models", and (b) that their economic performance, including growth and income distribution, is a result of their choice, so that they ultimately get the economy determined by their choice. This is to some extent true, since countries are sovereign and are free to make their own decisions, and these decisions have consequences, but (a) countries are not altogether unconstrained in their choice, especially developing countries, and (b) governmental decisions do not control many aspects of the economy, especially in today's open economies and more so in emerging countries. The international capitalist economic system, covering now most of the globe, conditions the options open to any particular country, even for powerful ones and more so for small emerging economies (especially if they are in the throes of stagnation, hyperinflation, depression, macroeconomic imbalance and excessive indebtedness, as Argentina was when she adopted the convertibility scheme.) In particular, economic conditions at home and abroad for such an economy force countries to integrate themselves into international financial markets, orienting production to the world market and to world standards, to liberalize trade and financial flows, and to achieve sound institutional bases for competing in the struggle to attract capital to their shores. Failing to do so implies chronic external crises, rising indebtedness, stagnation, increasing technological backwardness, inflationary pressures, and the impossibility of gaining a foothold in the expanding world economy.

Within this general "model" there is some room for maneuver as regards the specific organization of economic policy within countries. When Argentina adopted the currency-board-like convertibility system it was not certainly the only "model" open for the country to adopt: some other arrangements –such as a floating exchange rate– could have been implemented instead, but the main features of the economic system compatible with macroeconomic equilibrium, low inflation and growth would have been approximately the same: fiscal soundness, a small (if any) budget deficit, monetary astringency, openness to capital and trade flows, reliance on market forces more than governmental intervention. These choices are not "better" in a moral sense: they could (and often do) produce undesirable, even horrendous social consequences, especially in the short term. What is implied here is that these features of the economic system are necessary to thrive in today's world economy, especially for developing countries. In an open economy, as said before, the key achievement of a country is keeping capital from fleeing away and attracting more capital from abroad. This is done mostly through competition between States to create within their territories more attractive conditions for capital investment, even at the expense (albeit temporarily) of the welfare of many of its citizens. Attractive conditions for capital, as mentioned earlier, are just the ones mentioned before, plus a stable and reliable institutional system, ensuring the sacredness of private ownership and thorough enforcement of law and order.

These conditions were not all present in Argentina during the 1990s. In particular, the political system was still corrupt and clientelistic, facilitating the inefficient allocation of some resources (for instance, through excessive public spending or faulty privatization processes). But enough was present to induce large amounts of capital (owned by foreigners and residents) to be invested in the country, to modernize its infrastructure, and allow for vigorous growth and for successfully overcoming external shocks like the *Tequila* effect. The institutional defects in the system, however, created the grounds for the
crisis, in particular through the irresponsible use of public spending and growing indebtedness, and a certain neglect of the immediate distributional effects of the reform process.

As regards to more specific policies such as the peculiar convertibility system adopted in Argentina, there were indeed other choices, but it should be recalled that in 1990/1991 the national currency was for all practical purposes destroyed, without public confidence. The economy was de facto thoroughly dollarised; the national currency was used only for restricted purposes (retail expenses, tax payments, government expenditures) but property, durable goods, debts and assets were calculated or sold in foreign currency, and contracts were drawn either in US$, in kind, or with various indexation devices. Other than convertibility the only other option seriously discussed at the time was outright adoption of the US$ as the national currency. Convertibility represented the option of rebuilding a national currency, as an alternative to having none at all.

Some analysts believe that convertibility may have been quietly transformed into a floating rate regime at some intermediate point, especially in the 1996 to 1998 expansion subsequent to the Tequila crisis. This was, however, quite difficult to achieve without evoking fears of runaway inflation or worse, and was regarded as politically not viable. Even opposition parties, or dissenting fractions of the governing party, which were generally opposed to the ongoing economic policy, were nonetheless forced to commit themselves to maintaining the convertibility scheme on the run to both the 1995 and the 1999 presidential elections.

Beyond discussion of the moral merits involved in these policy choices, the present analysis is mainly concerned with the objective constraints for economic policy, coming from the international system and from the country's institutional setting and troubled economic past, restricting the choice of economic policy. Policymaking in a country like Argentina at the end of its import-substitution process was not done by free choice of a "model" to apply on a tabula rasa. It was rather like the attempt of steering the course of a ship, adrift in perilous waters and already half wrecked. Choices existed, but they were all hard and narrow.
5. Economic reform and employment

Before undertaking economic reform in the 1990s, Argentina had long been a country with a relatively low unemployment rates. This was due to several reasons. One is demographics: the country is large and under-populated. It is nearly as large as India but its population represents less than 4 per cent of the Indian population. An abundance of natural resources and a sparse population suggests that labour is in relatively scarce supply. The country has consequently been an immigration destination for more than a century, first mainly from overseas, changing recently to predominant immigration from other South American countries. Another reason for low unemployment is the closed condition of the economy in recent decades: millions of people had secure jobs in the public sector or in private protected industries, shielded from competition from abroad, and protected from economic downturns by a labour legislation making dismissals relatively difficult and costly for employers. This explains, for example, that employment grew during the 1980s whereas output was falling (implying a large fall in labour productivity).

This changed during the 1990s as the economy opened-up and market forces were given a stronger role in the allocation of resources (including the labour force). Most labour legislation remained in place, but new laws allowed for short-term contracts and many firms tended to rely more on this sort of labour contract in times of uncertainty.

Many sectors of the economy were profoundly transformed by macro and microeconomic reform. In general, long-delayed labour-saving technologies were introduced over a brief period of time, thus letting out large numbers of workers. One vivid example is the State-owned oil company, YPF, with a staff of nearly 60,000 workers and losing money as few other oil companies ever did. Restructuring and privatization meant that the company's payroll was curtailed to a mere 5,000, concentrating on key staff essential for the operation of oil extraction and distillation, while its operations and output soared and the firm turned profitable. Commercial banks are another example: a more open financial system forced banks to modernize operations, replacing tellers by automatic teller machines and upgrading the qualifications of its staff; this implied that the number of bank employees was down by one-third in spite of enormous expansion and diversification in bank activity. A third useful example is the auto industry; many automobile manufacturers in Argentina had been operating plants installed several decades ago, like the plant producing the Ford Falcon (a model from the late 1950s which was produced in Argentina up to 1990); workers at those obsolete plants were promptly dismissed when a more open market forced companies to compete with imported cars in the home market and enter the export market as well. These changes did not always reflect in the macro-structure of employment, as the relative importance of the various sectors did not change by much, but it greatly affected individual firms and individual workers. Someone trained to produce Ford Falcons with technology dating back to the 1950s was not likely to find a new job at a new, robotized plant, for which it lacked experience and training.

These processes have been operating everywhere: workers in Europe or the US had also been experiencing the effects of increased competition, resource reallocation and technological change. What is peculiar to Argentina is the fact that many companies postponed change for exceptionally long, and therefore the prevailing technology was in many cases more obsolete than elsewhere in the world. In the late 1960s Ford workers in the US passed from the Falcon on to new models, and gradually learned new ways of making cars, and therefore kept up with the latest technology. Meanwhile the Argentinian workers coming from the Falcon plant had to catch-up with three decades of technical change in auto manufacturing, and this proved extremely difficult for many.
On the other hand, the importance of this specific phenomenon of "labour obsolescence" is not to be exaggerated. Specialized workers do exist that were fired when firms replaced old technology with new methods of production in which the workers were not skilled. However, cases like workers in the automobile, oil or bank industries expelled from their jobs by new machines and new-fangled technologies remain probably a minority. What seems to have been the general case is that (in the first phase of reform) so large a number of posts had to be destroyed that they were not fully compensated by new posts being created at the time for each specific level of skill. This is, besides, what normally occurs in such processes of technical modernization: during a certain time the lost posts are more numerous than new posts created, until all unviable jobs have been eliminated and the modernized and expanding sectors increase their demand for labour, making job creation prevail over job destruction. Therefore it is to be expected that total employment initially decreases or fails to increase, but tends to expand after a while.

As a result of such rapid economic reform, at each level of skill labour supply became over-qualified in relation to the number and requirements of posts on offer, leading to higher unemployment and a general rise in the qualification of employed personnel for a given kind of job in many branches of the economy. Faced with applicants with better credentials, willing to accept lesser posts which would have been shunned some years before, employers improved the qualification level along the entire skills scale. A better educated applicant, of course, meant not only better productivity prospects, but also (in many cases) better appearance and manners, which came as a bonus to the employer. Likewise, the informal sector also increased the qualification of its workers (in relation to the requirements of the jobs) when former wage workers started working as self-employed, or formal wage workers become informal, probably beneath their skill level.

Available data (especially from the Permanent Household Survey (Encuesta Permanente de Hogares or EPH, carried-out twice a year since 1974, and converted into a continuous survey in the early 2000s) reveal a complex and detailed process of changes in employment and unemployment along the 1990s, compounded in the new century by the economic collapse of 2002 and the accompanying shift in economic policy. A number of features would be discussed in what follows.

5.1. An increasing trend in unemployment

The most salient feature is the general rise in joblessness, insinuated in the 1980s but especially visible in the 1990s. According to available data from household surveys, open unemployment during the 1970s was quite low, hovering between 2 and 4 per cent even during serious economics downturns such as in 1975, or during harsh adjustment processes as initiated in mid-1975 and continued by the military government since 1976. In the 1980s and especially after the effects of the 1982 Mexican debt crisis fully struck the country from 1982 to 1984, joblessness climbed to an average level of 6 per cent. The severe crisis of 1989/1990, combining hyperinflation and depression, only caused it to rise to 8 per cent. In the 1990s, especially once microeconomic restructuring took hold after 1992, the rate of joblessness started a rapid increase that increased to 18 per cent during the Tequila crisis of 1995, and fell to 12 per cent during the strong economic recovery from 1996 to 1998, only to rise again during in ensuing recession, reaching 16 per cent in late 2001 and higher values as the crisis exploded and progressed. The general rising trend since the early 1980s but accelerating in the 1990s is clearly perceptible in the following chart.²⁹

²⁹ Unless otherwise stated, EPH figures in this report refer to the total of all urban centers surveyed in the country as a whole. Some tables refer to Greater Buenos Aires only. There might be some lack of comparability between waves, due to the gradual addition of new urban centers along the 1974 to 2003 period, but on the whole this is not regarded as a significant source of bias.
5.2. Changes in labour force participation

Changes in unemployment are the result of two interacting processes: changes in the size of the labour force and changes in the number of employed workers. The labour force changes due to the general increase in working-age population (which follows a predictable pattern with slow-changing rates of growth) and the percentage of population engaged in economic activity (either holding a job or looking for one).\(^{30}\) The growth of population in Argentina is relatively slow by emerging-country standards, and is slowly decreasing, with an annual rate that was about 1.5 per cent in the 1980s and has fallen to about 1.2 in the 2000s. Labour force participation varies in a less predictable manner. It has in general a rising trend because the population is aging and thus the percentage of children is slowly decreasing while the percentage of older people is increasing; in the case of Argentina, the decrease in the share of children is more important than the parallel increase in the percentage of aged people, and therefore the share of working-age adults is increasing, with the result that the total rate of participation in the labour force shows a rising trend for purely demographic reasons; however, short-term movements also occur due to economic factors.

Besides these changes in the age composition of the population, the other important demographic fact is the divergent path of male and female participation rates. In the last two decades of the 20th Century female participation rates have sharply risen. Male rates, instead, have fallen, except for older men in the 1980s when they temporarily increased. This is clearly perceptible by observing the three upper curves in Figure 11 (corresponding to males) and the three lower curves reflecting the participation of women. For females, the rates increased from 1980 to 2001. For males over the age of 40, they increased from 1980 to 1991 and fell between 1991 and 2001 (to levels below those of 1980). For young

\(^{30}\) Rates of labour force participation and rates of employment in Argentina are computed relative to total population of all ages. Survey questions about employment are asked of people of all ages. The figures, as explained in the text, refer only to the population of urban centers (with an expanding coverage, from a set of major cities in the 1970s to total urban population nowadays).
males (under the age of 25) rates in 2001 were higher than in previous dates, possibly reflecting the more severe employment problems at the time of the latest census, which may have been pushing more young men into the labour-market (though many of them are part-time students).

Lower male participation at ages over 30 seems related to early retirement and (to some extent) discouragement of dismissed workers. The participation rate of males in their late 20s did not decrease, and for males in their 30s the decrease was slight, whereas it was much larger for middle-age and older men. In the case of women, the increase in participation rates affects all ages, and is larger between 25 and 45 years of age. It is quite clear that these processes reflect on the one hand the almost universal trend towards higher participation of women in economic activities, and on the other hand the acceleration of effective retirement for men.

What is most remarkable, however, from the point of view of the present study, is that most of the changes in participation rates occurred during the 1980s (i.e. before the start of the economic reform process). During the 1990s the trends continued, but with a smaller impact. This reinforces the hypothesis that these changes in participation rates were not short-term effects of macroeconomic policy but long term processes rooted in demographics and general socio-cultural and socio-economic transformations at home and worldwide.

The general rise in female participation had undoubtedly more weight, by sheer numbers, that the decrease in male participation. As a result, the overall rate of participation (for the population of 15 years of age or older) showed an increase, from 51.2 in 1980 to 56.7 in 1991 and 58.4 per cent in 2001. In the 1980s both genders increased their participation, but in the 1990s higher female rates were partially offset by lower male participation. For this reason the overall increase was more significant in the 1980s. As the share of people over 15 in the total population was also increasing due to demographic aging, the participation rate of the entire population also rose, as seen in Figure 12, from 35.9 in 1980 to 40.5 in 1990 and 42.1 per cent in 2001 (rates referred to total population, urban and rural, as measured by population censuses). Again in this regard, most of the increase occurred in the 1980s.
Short term fluctuations, however, may alter this general trend. As seen in Figure 13 below, the rate of participation (Greater Buenos Aires only) actually decreased from above 40 in 1974 to about 38 in 1984, and then gradually increased to about 46 per cent in the late 1990s and early 2000s.\footnote{A consistent series for the rest of the urban centers covered by EPH is not possible because different cities were incorporated into the survey at different times. However, the general trend is the same everywhere. According to the 2001 Census, the Greater Buenos Aires area represents about 34 per cent of total labour force.} Even ignoring population growth, the change in participation rates would imply a 10 to 12 per cent increase in the size of the labour force.

Up to the early 1980s participation and employment rates moved in parallel. This probably reflected a more rigid employment structure, in which people out of work tended to drop out of the labour force altogether, not looking for a job any longer. It may also be due to changes in survey questions that at the time were more defective in capturing the job-seeking activities of people. The actual reasons are not investigated here. The fact is that, except for a low percentage of active job-seekers, which varied little over time, people without jobs appeared mostly outside the labour force. If labour force participation had remained at the 40 to 41 per cent level it had in 1974/1975, unemployment would have been much higher in the mid-70s but much lower in the 1990s.
From 1984 onwards, as seen in Figure 13, a divergent pattern set in. While employment rates kept oscillating cyclically between 36 and 40 per cent, as they had done from 1974 to 1984, participation rates changed direction and exhibited a marked tendency to rise in the long term (in both cases abstracting from short term fluctuations, which were larger for employment). The increasing participation rates from 1984 onwards explain a large part of the increase in unemployment (apart from short term fluctuations). In May 1995, for instance, at the trough of the Tequila crisis effect, employment was 36.6 per cent of the labour force, almost exactly as much as it had been back in May 1985. But participation had risen from 38.9 to 45.9 per cent of total population. As a result, unemployment in 1995 peaked at 20.2 per cent in the GBA, but it would have been only 6.1 per cent if the participation rate had remained at the level of 1985 (when unemployment had reached 4.9 per cent).

In other words, out of a total increase of 15.3 points in the rate of unemployment, from 4.9 to 20.2 per cent between May 1985 and May 1995, 14.1 points or 92 per cent of the rise were attributable to the increased rate of participation in the labour force. The conclusion is similar if other comparison periods are chosen other than May 1985. By whatever standard, most of the increase in unemployment levels can be traced to an increased rate of participation in the labour force.

This simple exercise in simulation, however, is not meant to be realistic: other things may have changed along with the global participation rate, and they may conceivably affect also employment. It is probably impossible that the participation rate of 1975 or 1985 prevailed in 1995 without affecting also the rate of employment. The numerical exercise is only proposed here to signify that the rising trend in participation rates, driven mainly by long-term demographic processes, is a major factor to explain a large portion of the rising trend in unemployment (leaving aside, of course, short-term cyclical fluctuations in employment).

32 There is also a net positive immigration, mainly from South American countries, but it has no perceptible impact on these figures. An exercise based on the 1995 household survey, at the height of the Tequila crisis, showed that even if all the immigration of the precedent 5 years was eliminated from the labour force, and their jobs taken by Argentinians (an extremely unrealistic hypothesis), unemployment would have decreased only from 18.4 to 17.6 per cent. That hypothesis was excessive not only because it posited zero immigration as an alternative, but also because immigrants work in jobs mostly not taken by locals (domestic service, harvest labourers, menial construction jobs, etc.). Besides, there has been no significant change in the share of immigrants in the labour force along the period examined here.
The idea has been advanced that part of the increased participation may, however, be endogenous, as families may send more members into the labour-market when unemployment is higher and especially when other family members become unemployed. This may have occurred, but hardly explains the very regular upward trend in the rate of participation, which (a) started in the mid-1980s when unemployment was still low, (b) does not correlate closely with fluctuations in employment, and (c) is mainly explained by purely demographic factors. Contrary to that hypothesis, participation may sometimes decrease, not increase, when employment falls. As a case in point, the Tequila crisis could be examined.

The employment rate steadily decreased from early 1993 to early 1996, and then gradually recovered. In fact, the advent of the Mexican crisis at the end of 1994 did not cause any additional drop in employment rates as it kept slowly falling until May 1996, and then started a regular recovery.

The endogenous participation hypothesis would require that the participation rate increases when employment decreases, and conversely. In this case, participation rates did not behave in that manner, as required by the endogeneity hypothesis, except for the short-lived (and possibly panic-driven) increase of participation in early 1995, which anyway decreased again in late 1995 and early 1996, even while employment continued to fall, and then steadily rose (instead of decreasing) when employment was again growing from 1996 to 1998.

That brief Tequila interlude, when participation in the Greater Buenos Aires grew from 43.1 to 45.9 per cent between October 1994 and May 1995, occurred at a time when the ultimate import of the Mexican crisis was still unknown, and great uncertainty reigned among economic agents of all sorts. The observed increase in participation rates may show the extent to which labour may respond with an expanded supply of workers to a decrease in employment in a context of uncertainty and fear. But the subsequent decrease (back to 43.5 per cent by May 1996) shows that those new prospective workers, added in haste to the labour supply, soon retreated again into inactivity in the face of a tough labour-market. Except for that episode (which does not confirm the hypothesis, as seen before), participation rates tended to fall and rise in step with the employment rate, contrary to the hypothesis of endogenous rises in participation rates during times of lower employment and increased joblessness.
5.3. **Lower employment rates**

However important is the rise in labour force participation rates, there was also a decreasing trend in the rate of effective employment (percentage of population actually holding a job), also shown in the precedent figure. Even if the rise in participation is discounted, unemployment would have risen to a certain degree because of the slightly decreasing trend in the employment rate. As seen before, even if participation had stayed constant at 38 to 40 per cent, unemployment would have risen anyway, and during the *Tequila* crisis would have reached between 6.1 and 8.5 per cent in GBA, well above the values of previous years.

The fall in employment rates, from nearly 39 to 35 per cent of the population, needs also to be explained. It cannot be attributed to rapid demographic growth increasing the denominator (total population), because as seen above demographic growth in Argentina is relatively low (even in urban centers, which receive immigration from rural areas and from abroad). During the 1990s urban population growth was about 1.41 per cent per annum according to INDEC population estimates. Working age population may have risen slightly faster, since it tends to reflect total population growth with a lag of about 10 to 15 years (the time it takes for new cohorts to reach working age). Urban dwellers in the 15 to 64 age-group increased at about 1.79 per cent per year during the 1990s, whereas total urban population increased at a rate of only 1.41 per cent in the same period. Population outside normal working age (i.e. children and the elderly, where children are far more numerous) grew at 0.74 per cent per year in the same period, chiefly due to decreasing birth rates. In other words, population growth was faster in the age groups more likely to be employed, and thus it cannot explain a fall in employment rates.

What apparently happened during the 1990s was an acceleration of changes in employment structure and dynamics, due to economic reforms implemented at the time. Labour legislation did not change by much, except for new norms giving firms more leeway for short term contracts; in fact, there was a rise in the share of short-term contracts within the formally employed. But the main legal restrictions operating on the whole of the labour force, especially payroll taxes and rules making dismissals difficult, remained in place with little change. What did happen was that privatization, State reform and microeconomic restructuring led to profound changes in employment during the decade, as shown by the 1991 and 2001 census data.

**Table 3: Argentina: Sectoral structure of employment, 1991 and 2001 (%)**

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>1991</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>11.0</td>
<td>8.3</td>
</tr>
<tr>
<td>Mining</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Manufacturing, electricity, gas, water</td>
<td>18.1</td>
<td>12.2</td>
</tr>
<tr>
<td>Construction</td>
<td>6.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Commerce</td>
<td>20.5</td>
<td>20.3</td>
</tr>
<tr>
<td>Transport, storage and communications</td>
<td>5.2</td>
<td>6.6</td>
</tr>
<tr>
<td>Finance, business services</td>
<td>5.3</td>
<td>8.2</td>
</tr>
<tr>
<td>Other services</td>
<td>31.7</td>
<td>34.2</td>
</tr>
<tr>
<td>Unspecified</td>
<td>1.0</td>
<td>3.9</td>
</tr>
<tr>
<td><strong>Total employed</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: INDEC, Population censuses.
The most noticeable change is probably the decrease in the share of manufacturing employment, broadly defined to include basic utilities, which falls from 18.1 to 12.2 per cent. Agriculture also decreases its share from 11 to 8.3 per cent. All tertiary activities, instead, increase their share of total employment, especially transportation, storage and communications, as well as finance and business services and all other services combined. Tertiary activities occupied 62.7 per cent of the labour force in 1991 and 73.2 per cent in 2001. These changes are similar to trends in other countries worldwide, as the production of goods (agriculture, mining, construction, manufacturing) is steadily automated (requiring less and less manpower per unit of output) and employment in services diversifies and grows faster. In fact, labour productivity in those sectors increased significantly along the process.

One major factor explaining changes in employment along the 1990s is job destruction and creation due to economic restructuring. In the first half of the decade, the net output elasticity of employment was very low, as more jobs were being destroyed than created, but that tendency changed in the second half. This can be seen by comparing two output growth periods: 1991 to 1994 and 1995 to 1998.

Table 4: Output elasticity of employment, 1991-98 (annual rates)

<table>
<thead>
<tr>
<th></th>
<th>Non agric. GDP (a)</th>
<th>Urban jobs (b)</th>
<th>Elasticity (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-94</td>
<td>7.7 per cent</td>
<td>0.7 per cent</td>
<td>0.09</td>
</tr>
<tr>
<td>1995-98</td>
<td>6.0 per cent</td>
<td>3.2 per cent</td>
<td>0.53</td>
</tr>
</tbody>
</table>

(a) Non agricultural GDP annual growth rates computed from GDP (total and agricultural) at constant 1986 prices for 1991-93, and at constant 1993 prices from 1993 to 1998, as reported in the National Accounts.
(b) Annual growth rate of employment computed from annual estimates of urban population multiplied by EPH participation rates for all surveyed cities (which cover about 80 per cent of total urban population as defined in population censuses and projections). During this period there were no changes in the list of cities surveyed.
(c) Non-agricultural output elasticity of urban employment (percent increase in employment per 1 per cent increase in non agricultural GDP).
Source: GDP, population and employment data from INDEC.

Immediately after the start of reforms, while the public and private sectors were undertaking profound restructuring, the strong growth in output was achieved with scant net increase in employment. Almost all output growth came from increased labour productivity. Later, once much non-competitive employment had been wiped out, the second phase of growth after the Tequila shock had a completely different nature: employment increased on average at more than half the speed of output, indicating strong job creation along with strong increase in labour productivity.

The increase in labour productivity does not mean that each worker achieved higher productivity. The average growth in productivity results from some new firms being established (and labour hired) with competitive technologies, other firms moving to a new and more competitive production function (possibly replacing some old workers with younger ones), some firms closing down (and dismissing their workers) or stagnating.

In the first half of the decade, workers laid out as an effect of reforms and a more open economy were nearly as many as those newly hired, and the net result was a very low increase in employment relative to output. When this process matured, there were fewer workers to dismiss, and therefore new workers hired were more numerous relative to workers fired, and average labour productivity had already risen in many sectors and was
not growing so fast any longer, and thus employment growth started to be higher than before, relative to output growth.

In the whole decade, as shown by the 1991 and 2001 censuses, total employment contracted from 12.4 to 10.9 million, while the unemployed soared from 0.8 to 4.3 million. This phenomenon is partly cyclical, as the first of these censuses was taken in a growth period and the second in the depths of recession, and it also reflects the fact that in 1991 many remained employed even if their employers were facing difficulties, due to a more closed economy and more restrictive labour legislation, while in 2001 both features had changed and more open unemployment was noticed.

During the decade it is remarkable to notice that total employment in the public sector was slightly up, increasing at an annual average rate of 0.4 per cent. As seen in household surveys, the increase came almost entirely from 1996 to 2001, while in the 1991 to 1995 period public employment was reduced by privatization and restructuring. Instead, wage workers in the private business sector decreased along the decade at a yearly rate of -0.4 per cent.

The self-employed, employers, and unpaid family workers decreased even faster (-2.4, -2.5 and -9.1 per cent respectively). This is remarkable because a common interpretation of the decade is that many former employees became precariously self-employed or family workers, but in fact in net terms the family sector decreased far more than wage workers, and thus reduced their participation in total employment. Domestic service (another possible refuge for dismissed wage workers, and also a common destination for female immigrants from neighbouring countries) decreased too, at the same pace that total employment (-1.2 per cent per year). The net result is that wage workers passed from 64.5 to 71.1 per cent of employment, while the self-employed and their family support passed from 28.2 to 22.7 per cent. Most unemployed persons seek wage jobs (if they had the means to establish themselves as self-employed or work at a family business, they would do have done so already). If people holding wage jobs and the unemployed are taken together, this labor force without the means for self-employment passed from 66.8 per cent to 79.4 per cent of the labour force.

Table 5: Labour force and employment by category, 1991 to 2001

<table>
<thead>
<tr>
<th></th>
<th>1991</th>
<th>2001</th>
<th>Annual (%)</th>
<th>1991 (%)</th>
<th>2001 (%)</th>
<th>Variation</th>
<th>Variation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage workers</td>
<td>7,980,327</td>
<td>7,764,115</td>
<td>-0.3</td>
<td>64.5</td>
<td>71.1</td>
<td>-216,212</td>
<td>14.9</td>
</tr>
<tr>
<td>Public sector</td>
<td>2,221,348</td>
<td>2,313,793</td>
<td>0.4</td>
<td>18.0</td>
<td>21.2</td>
<td>92,445</td>
<td>-6.4</td>
</tr>
<tr>
<td>Private business</td>
<td>4,874,910</td>
<td>4,663,890</td>
<td>-0.4</td>
<td>39.4</td>
<td>42.7</td>
<td>-211,020</td>
<td>14.5</td>
</tr>
<tr>
<td>Domestic service</td>
<td>884,069</td>
<td>786,432</td>
<td>-1.25</td>
<td>7.1</td>
<td>7.2</td>
<td>-97,637</td>
<td>6.7</td>
</tr>
<tr>
<td>Self-employed</td>
<td>2,825,191</td>
<td>2,210,473</td>
<td>-2.4</td>
<td>22.8</td>
<td>20.3</td>
<td>-614,718</td>
<td>42.2</td>
</tr>
<tr>
<td>Employers</td>
<td>872,919</td>
<td>680,754</td>
<td>-2.5</td>
<td>7.1</td>
<td>6.2</td>
<td>-192,165</td>
<td>13.2</td>
</tr>
<tr>
<td>Unpaid family workers</td>
<td>666,164</td>
<td>257,845</td>
<td>-9.1</td>
<td>5.4</td>
<td>2.4</td>
<td>-408,319</td>
<td>28.1</td>
</tr>
<tr>
<td>Not specified</td>
<td>23,727</td>
<td>0.2</td>
<td>0.2</td>
<td>0.0</td>
<td>-23,727</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Total employed</td>
<td>12,368,328</td>
<td>10,913,187</td>
<td>-1.2</td>
<td>100.0</td>
<td>100.0</td>
<td>-1,455,141</td>
<td>100.0</td>
</tr>
<tr>
<td>Unemployed</td>
<td>833,872</td>
<td>4,351,596</td>
<td></td>
<td>3,517,724</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total labour force</td>
<td>13,202,200</td>
<td>15,264,783</td>
<td></td>
<td>2,062,583</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: INDEC, population censuses.
6. Social policies in the 1990s

During the 1990s the impact of reform was felt in many quarters of society. Unemployment climbed to new heights, resources were reallocated between sectors and regions, and many workers and families were left behind. Was economic reform accompanied with indifference about its social effects? Were social programmes under-funded and their coverage limited? Indeed, the decade witnessed a rise in unemployment, and the initial fall in poverty rates from 1990 to 1995 was reversed in the wake of the Mexican crisis and especially during the 1998 to 2002 recession. The amount of resources that could possibly be devoted to social programmes was at the time constrained by the overall strictures of convertibility: the government no longer had the possibility of printing money for social (or whichever other) spending goals. However, evidence is strongly against the idea of poorly funded social assistance programmes during the decade. Public social expenditure as a whole (including also such universal programmes as education, health care and social security) represented above 60 per cent of total public expenditure, and its allocation was strongly progressive in the sense of benefiting mainly lower income households, either with universal or targeted programmes. However, some specific needs were poorly covered by social expenditure, chiefly among them unemployment insurance.

First, aggregated social spending, comprising both federal and local levels of government, was about or above 60 per cent of total public spending during most of the 1990s, increasing from the equivalent of 52 to 62 billion US$ (at 1997 prices) between 1993 and 1999 (Galiani 1999). This includes universal social programmes (mainly in education, health care, and social security) plus targeted social programmes for the poor. Besides social spending, about 20 per cent of total public expenditure was allocated to the operation of the government itself (public administration, security forces, national defense, justice, etc.), about 7 per cent to the provision of "economic" public services (such as road construction and maintenance, subsidies to producers, etc.) while an amount increasing from 5 per cent to 10 per cent in that period went to debt service.

Social spending was allocated in a "progressive" way income-wise (i.e. going mostly to the poorer sectors of society in spite of certain expenditures, like public universities, having a regressive bent). The figures for 1998 may serve as illustration since they are similar to those for other years (cf. Table 6). It is to be noted that universal programmes such as public education or public pensions reach all ranks of society, which explains that 10 per cent goes to the upper quintile of households, but even in that case about 36 per cent goes to the bottom 20 per cent of households, at an annual rate of about 911 US$ per household, the amount decreasing at the successive strata down to 530 US$ for the upper quintile. The subsidy received by the bottom quintile represented 58.7 per cent of their income, a proportion rapidly declining to only 2.8 per cent at the upper end.
Table 6: Allocation of social public expenditure (excluding Social Security) by quintiles of household income, 1998

<table>
<thead>
<tr>
<th></th>
<th>Quintiles of household income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public social expenditure(a) (million US$)</td>
<td>9,339</td>
<td>5,612</td>
</tr>
<tr>
<td>Distribution (%)</td>
<td>36.4</td>
<td>21.9</td>
</tr>
<tr>
<td>Per capita, annual (US$)</td>
<td>911</td>
<td>710</td>
</tr>
</tbody>
</table>

\(a\) Per cent relative to household income

| Total household annual income\(b\) (million US$) | 15,907 | 26,434 | 35,436 | 49,987 | 96,303 | 224,067 |

Notes:

(a) Spending in social sectors at all levels of government. Includes universal and targeted programmes. Does not include social security and certain social insurance expenditures. Specifically includes public expenditure on education, health care, water supply, sewage, other urban services (e.g. street lighting), social housing, workfare and welfare programmes. Current values in convertible pesos, equivalent to same amount in current US$ at market rates of exchange. Note that the PPP exchange rate for 1998 according to World Bank estimates was 1.137 US$ to the peso, and therefore the purchasing power of 100 pesos in Argentina was equivalent to the purchasing power of 113.70 US$ in the United States (see World Bank, World Development Report 1999-2000, Table 1 (the 1.137 ratio is implicit in the difference between current and PPP measures of GNP per capita).

(b) Computed from the first and fourth lines of this table. Reflects (approximately) the National Accounts category of Personal Disposable Income, estimated from National Accounts and income and expenditure surveys. Represents about 78 per cent of national-accounts GDP of 288,123 million US$. Personal Disposable Income excludes non-distributed corporate profits, government expenditure (excluding public salaries), and net foreign revenue. Quintile distribution based on the 1997 Household Income and Expenditure Survey and other sources.


Upper incomes generally pay more taxes, both of the "progressive" sort like income or wealth tax, and neutral or "regressive" taxes such as VAT or others. VAT at a uniform rate may be seen as neutral, but it applies mostly to consumption goods, and the expenditure patterns of the rich have a higher share of income destined to savings, to which no VAT applies, and to services which frequently fail to pay VAT, and therefore may be regressive in net terms. In general, besides, compliance with taxation is far from perfect, and there are reportedly high levels of evasion for taxes on income and wealth. The tax system may therefore reinforce, attenuate or even reverse the redistributive effect of social expenditure. The actual amount of taxes paid by households in each income quintile is not available, but two conservative hypotheses are shown below. The first implies a uniform rate of effective taxation, and the second a regressive taxation implying that the poor pay a higher tax rate than the rich. This regressive tax hypothesis is just one of the many possible regressive patterns but is difficult to conceive that the actual tax burden distribution may possibly be more regressive than this, in view of actual tax revenue structure, according to the Office for Public Social Spending. Therefore the assumed regressive taxation pattern reflects an extreme hypothesis about the fairness (or lack thereof) of the tax system.
<p>| Table 7: Effective net subsidy from public social expenditure (excluding Social Security) by household income quintile under uniform and regressive taxation hypotheses |
|-------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Quintiles of household income</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>10,251,372</td>
<td>7,904,225</td>
<td>6,745,253</td>
<td>6,061,688</td>
<td>5,160,377</td>
<td>36,122,363</td>
</tr>
<tr>
<td>Average household size</td>
<td>5.1</td>
<td>3.9</td>
<td>3.3</td>
<td>3.0</td>
<td>2.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Households</td>
<td>2,029,346</td>
<td>2,029,346</td>
<td>2,029,346</td>
<td>2,029,346</td>
<td>2,029,346</td>
<td>10,146,731</td>
</tr>
<tr>
<td>Public social spending (million US$)</td>
<td>9,339</td>
<td>5,612</td>
<td>4,263</td>
<td>3,734</td>
<td>2,735</td>
<td>25,683</td>
</tr>
<tr>
<td>Total household income (million US$)</td>
<td>15,907</td>
<td>26,434</td>
<td>35,436</td>
<td>49,987</td>
<td>98,303</td>
<td>224,067</td>
</tr>
<tr>
<td>Average income per household (US$)</td>
<td>7,838</td>
<td>13,026</td>
<td>17,462</td>
<td>24,632</td>
<td>47,455</td>
<td>22,083</td>
</tr>
<tr>
<td>Average per capita income (US$)</td>
<td>1,552</td>
<td>3,344</td>
<td>5,254</td>
<td>8,246</td>
<td>18,662</td>
<td>6,203</td>
</tr>
<tr>
<td>Proportionally uniform taxation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax rate relative to income (%)</td>
<td>11.5</td>
<td>11.5</td>
<td>11.5</td>
<td>11.5</td>
<td>11.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Tax burden (million US$)</td>
<td>1,824</td>
<td>3,031</td>
<td>4,062</td>
<td>5,730</td>
<td>11,036</td>
<td>25,683</td>
</tr>
<tr>
<td>Net subsidy (million US$)</td>
<td>7,515</td>
<td>2,581</td>
<td>201</td>
<td>-1,996</td>
<td>-8,301</td>
<td>0</td>
</tr>
<tr>
<td>Net subsidy per capita (US$)</td>
<td>430</td>
<td>69</td>
<td>4</td>
<td>-25</td>
<td>-46</td>
<td>0</td>
</tr>
<tr>
<td>Net subsidy as per cent of household income (%)</td>
<td>47.2</td>
<td>9.8</td>
<td>0.6</td>
<td>-4.0</td>
<td>-8.6</td>
<td>0</td>
</tr>
<tr>
<td>Regressive taxation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax rate relative to income (%)</td>
<td>15.3</td>
<td>13.5</td>
<td>13.0</td>
<td>10.8</td>
<td>10.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Tax burden (million US$)</td>
<td>2,440</td>
<td>3,570</td>
<td>4,623</td>
<td>5,419</td>
<td>9,631</td>
<td>25,683</td>
</tr>
<tr>
<td>Net subsidy (million US$)</td>
<td>6,899</td>
<td>2,042</td>
<td>-360</td>
<td>-1,685</td>
<td>-6,896</td>
<td>0</td>
</tr>
<tr>
<td>Net subsidy per capita (US$)</td>
<td>395</td>
<td>55</td>
<td>-6</td>
<td>-21</td>
<td>-38</td>
<td>0</td>
</tr>
<tr>
<td>Net subsidy as per cent of household income (%)</td>
<td>43.4</td>
<td>7.7</td>
<td>-1.0</td>
<td>-3.4</td>
<td>-7.2</td>
<td>0</td>
</tr>
</tbody>
</table>

(a) Total population per quintile implicit in the source. Computed as total subsidy divided per capita subsidy at each quintile.
(b) Global mean household size for 1998 estimated at 3.588 persons, interpolated from 1991 (3.653) and 2001 (3.561) Censuses. This global average household size was applied to compute total number of households, as per following note. Average household size per quintile computed from population and households at each quintile.
(c) Total number of households computed as total population divided average household size. Each quintile comprises 20 per cent of that total (i.e. 2,029,346 households per quintile).
(d) See previous table. Expenditure does not include Social Security and some social insurance programmes.

Source: Secretaría de Programación Económica y Regional, Ministerio de Economía, El impacto redistributivo del gasto público en los sectores sociales (1999). Taken (with modifications and additions) from Gallani, op cit., Table 13. Also population and household data from the 1991 and 2001 Censuses (INDEC).

Under the hypothesis of taxation at a uniform rate of 11.5 per cent of income, public social expenditure goes mainly to the lower strata of society, at the expense of the richer part. The lowest quintile receives a net subsidy equivalent to 47 per cent of its income if taxation were uniform, falling to 43 per cent if taxation is regressive. As the tax system is likely to be slightly progressive after all, it can be safely stated that public social expenditure represents approximately half the income of the poor. The second quintile gets between 7.7 and 9.8 per cent of its income under these two hypotheses. Most of the subsidy comes from the upper quintile, contributing 7.2 to 8.6 per cent of its income, while the second-highest quintile contributes about 3.4 to 4.0 per cent. The middle quintile is not significantly affected in net terms under either hypothesis. As the effective result of the tax system, as said before, is probably progressive after all, albeit not by very much, the above
hypotheses only show that even under pessimistic assumptions about taxation the redistributive nature of public social expenditure remains strong.

This progressiveness does not result from targeting, but mainly from self-selection in universal programmes. For instance, the poor use mainly public education and health care services, while the rich tend to use private schools and privately paid medical services and health care management programmes. It is worth noting that only about 20 per cent of the above total corresponds to targeted programmes such as unemployment insurance, assistance to low-income families, food aid, and other similar programmes (of which about 60 existed in the second half of the 1990s, only at the federal government level, with more in the provinces, and their targeting efficiency was not regarded as particularly good).

The coverage of targeted social programmes during the 1990s varied greatly. Some (e.g. unemployment insurance), were grossly inadequate, covering only a minority of the potential beneficiaries (chiefly those losing a stable job with a formal employer), but others, such as school lunches, had a good level of coverage. In 1997 existing school lunch programmes nationwide benefited 50 per cent of all school-age children and 56 per cent of children attending public schools. Coverage reached nearly 70 per cent for children in the bottom income quintile, where nearly 57 per cent of all beneficiaries belonged. Also, programmes covered 78 per cent of all children in households with unmet basic needs (NBI in the Spanish acronym).33

Table 8: Coverage of school-lunch programmes by several measures (%), 1997

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Quintile of per capita household income</th>
<th>NBI households</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>All children aged 6-13</td>
<td>50.1</td>
<td>69.7</td>
<td>49.8</td>
</tr>
<tr>
<td>All children attending public primary schools</td>
<td>56.6</td>
<td>65.9</td>
<td>53.0</td>
</tr>
<tr>
<td>All children attending primary school, public or private</td>
<td>43.9</td>
<td>59.1</td>
<td>43.2</td>
</tr>
<tr>
<td>Percent of beneficiaries</td>
<td>100.0</td>
<td>56.6</td>
<td>22.9</td>
</tr>
</tbody>
</table>

Source: Ministry of Social Affairs, SIEMPRO, Social Development Survey 1997. Notice that quintiles in this table (based on per capita household income) are not the same as in the previous one (based on total household income).

Programmes specifically aimed at the unemployed were developed especially after the 1995 crisis, including chiefly the Trabajar programme designed to provide workfare, as well as the Intensive Work Programme (Plan Intensivo de Trabajo, PIT) and other similar programmes. There were also several training programmes such as Plan Joven and other programmes concentrated on training young workers or “recycling” older ones. However, with little more than 100,000 beneficiaries reached at any given time, emergency employment programmes benefited only a small fraction of the 3 to 4 million unemployed.

33 Unmet Basic Needs or Necesidades Básicas Insatisfechas refers to households with one or more of the following conditions: inadequate dwelling materials, more than 3 people per room, school-age children not attending school, or inadequate sanitary services.
Table 9: Emergency employment programmes in the 1990s

<table>
<thead>
<tr>
<th></th>
<th>Gross unit cost (US$)</th>
<th>Average number of beneficiaries</th>
<th>Name of main programme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>All programmes</td>
<td>Only main programme</td>
</tr>
<tr>
<td>1993</td>
<td>321</td>
<td>24,978</td>
<td>24,963</td>
</tr>
<tr>
<td>1994</td>
<td>310</td>
<td>30,827</td>
<td>25,879</td>
</tr>
<tr>
<td>1995</td>
<td>207</td>
<td>45,889</td>
<td>32,085</td>
</tr>
<tr>
<td>1996</td>
<td>191</td>
<td>43,269</td>
<td>35,643</td>
</tr>
<tr>
<td>1997</td>
<td>199</td>
<td>106,791</td>
<td>86,780</td>
</tr>
<tr>
<td>1998</td>
<td>190</td>
<td>119,756</td>
<td>95,268</td>
</tr>
<tr>
<td>1999</td>
<td>189</td>
<td>105,284</td>
<td>76,537</td>
</tr>
<tr>
<td>2000</td>
<td>162</td>
<td>81,661</td>
<td>39,720</td>
</tr>
</tbody>
</table>

**Gross unit cost** = Total disbursements divided by number of monthly payments to beneficiaries. Includes direct payments plus operating costs.

**Average number of beneficiaries** = Total number of monthly payments to beneficiaries along the year, divided by 12. Some programmes operated only some months in certain years.

The most important of these programmes was the Trabajar programme, which started in 1996 when the unemployment rate reached 18 per cent, and was much higher at the bottom of the income distribution (40 per cent for the bottom decile of household income in the GBA area).\(^{34}\) The programme’s goal was to provide short-term employment for community projects in poor areas. The programme had financial support from the World Bank for phases II and III, and quite good targeting: 76 per cent of beneficiaries were in the bottom quintile of income, and 92 among the bottom 40 per cent. In 1998 Trabajar represented 40 per cent of the total expenditure in the Labour and Social Affairs Ministry.

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7. **Bouncing back: The economy in 2002-2005**

When the default on the public debt was declared in late December 2001, and the convertibility system dismantled in the ensuing months, the economy spiraled down, with a steep fall of 11 per cent in output during 2002 on top of the losses of the previous three and a half years of recession. The interim government of Eduardo Duhalde (who took office after the one-week administration of another interim president whose only deed was declaring a debt default) managed to exit convertibility in a rather disorganized manner. First, the government established a new and supposedly fixed exchange rate of 1.40 pesos to the US$, but soon the market found it insufficient since the Convertibility Law was repelled by Congress, and that new scenario did not include full foreign-reserve backing for the peso. The exchange rate exploded to nearly 4 pesos per US$, until reined upon and brought back to slightly below 3 pesos, where it remained afterwards up to the time of writing (though downward pressure is mounting as the economy grows and foreign currency flows again into the country, causing the Government to keep purchasing US$ to keep the currency from appreciating because it aims at keeping the peso at a low dollar value to favor exports).

![Figure 15: Exchange rate (pesos per US$), 2001 to 2005, monthly averages](image)

Inflation also rose significantly after the crisis. After a decade of stability (and in fact slight deflation during the three preceding years) the price level increased rapidly during the first months of 2002. The accumulated increase of the price level during 2002 was about 42 per cent, then it was nearly stable for several months but gradually started to climb again, reaching an accumulated rise of about 65 per cent by mid-2005.
The level of economic activity recovered quickly after the protracted 1998 to 2001 recession culminating with the 2002 precipitous drop in output.

GDP (measured as the average of the latest four quarters) fell up to late 2002, but started recovery in the last quarter. By mid-2005 GDP was still below but very close to the top level reached in 1998, either on a quarterly or yearly basis. The rate of growth has been fast in the bounce-back phase. Error! Reference source not found. 17 reflects the annual GDP growth rate, measured in two ways: each quarter compared to the same quarter one year before, and the moving average of the last four quarters compared to the same measure one year before.
The annual growth rate increased from -15 per cent to +11 per cent between late 2002 and the start of 2004, but then started to decelerate. By the first quarter of 2005 the annual rate has fallen to about 8 per cent, and all points to continued deceleration. The slowdown is probably due to two main causes. First, at some point the usual phase of decreasing returns after a quick recovery is reached; second, growth has been based mainly on putting existing idle capacity to work, and installed capacity seems to be fully used in many sectors even after the modest investment level, financed by domestic savings, that happened in 2003/2004, a period with an important net outflow of capital.

The Government has been successful in avoiding an hyperinflationary crisis in the wake of abolishing convertibility, increasing international reserves, initially 9 billion, to 25 billion US$ in 2005, sustaining a strong primary fiscal surplus (before paying debt service) of about 4 per cent of GDP. The Government also negotiated a substantial quit in principal plus reduced interest rate and longer terms on the defaulted public bonds, and is repaying its debt with the IMF and other international financial institutions. However, investor mistrust is still high, both at home and abroad. Among other indicators, a quarter of the defaulted debt is in the hands of creditors who have not agreed to the restructuring scheme and are taking their case to courts, also, some foreign firms that invested in the country during the 1990s, both in private ventures and in privatized public services, have been pulling out of the country (especially because governmental insistence in not increasing utilities rates since 2001, in spite of an accumulated 80 per cent domestic inflation and the currency depreciation).

Besides a prudent financial and monetary management, foreign trade has been mainly the source of the strong growth and monetary stability achieved in 2003 to 2005. First, the period since 2002 has witnessed an unprecedented surge in the price of international commodities (including oil and gas products, of which Argentina is an exporter). Second, devaluation has created an opportunity to increase exports and third, the government imposed a deep cut in export earnings by reinstating the export tax on natural-resource-related exports, which now pay about 20 per cent of revenue to the Treasury (with a market exchange rate about 2.90 pesos per dollar, exporters receive about 2.30 pesos per dollar of exports, but must pay 2.90 for imported inputs and equipment).

The export response to this scenario of devaluation, high international prices and export tax has been strong in nominal terms. Exports have increased from 26 to 28 billion from 1999 to 2001 to 34 billion US$ per year in 2004/2005. This was in part due to an exogenous improvement in the terms of trade. The latter were particularly unfavorable between 1998 and 2001, with a low point in the first quarter of 2002, but were particularly good afterwards as shown in Figure 19. However, the favorable terms of 2003 and early 2004 have consistently worsened along 2004 up to the first quarter of 2005, and are already back at 2000/2001 levels.
Under these external conditions, the added (though temporary) advantage of a devaluation fuelled exports and depressed imports, creating a huge trade surplus not seen since the hyperinflationary crisis of 1989/1990. However, the surplus is slowly closing because of the recovery in imports, now at 25 billion US$ after falling to a low of only 8 billion US$ in 2002 (Figure 20). The pattern of the last two decades in Argentina has been that growth periods (involving net capital inflows or a reduction in net capital outflows) show a trade deficit, while recessions and capital flight are accompanied by trade surpluses. Net capital flows were strongly negative in recent years, but the outflow has been declining steadily and is about zero by mid-2005. If Argentina returns to the status of capital-receiving country it is to be expected that the trade surplus disappears and turns into a deficit as imports grow faster than exports.
The growth of exports, under declining terms of trade, may start to be discouraged by the export tax as it was in past decades. Besides, the main export sectors such as grains or oilseeds are working at top capacity and with top level technology, and therefore can gain little from using idle capacity or catching-up with existing technology. Therefore it is not to be expected that the rate of increase in exports is maintained for long. Instead, imports may continue growing, in part due to the recovery itself, and in part due to the persisting increase in domestic prices which makes imports increasingly attractive. There is also pressure for the appreciation of the peso, against which the Government (Central Bank and Treasury) have been intervening with increasing intensity to keep the currency from appreciating. They may not succeed forever, as the sterilization of the monetary expansion originated in exchange interventions has an increasing cost and means enlarging both domestic debt and quasi-fiscal gap. If so, the currency will probably appreciate after all. These concurrent factors suggest the expansionary cycle may be already past its inflection point, or approaching it.
8. Employment during the crisis and recovery

The impact of the crisis on employment was quite severe, and the recovery quite impressive so far. To discuss these matters, however, a word is needed first about the measurement of unemployment.

A proper measure of unemployment as an indicator of the level of labour demanded by economic activity should not include among the employed those on welfare (e.g. those in workfare programmes), for various reasons. On the one hand, their income is well below normal wages; second, their jobs do not respond to genuine economic activity but are indeed an indication of unemployment and reduced activity; third, in the case of Argentina, before but especially after the crisis, it is widely suspected that a very high number of beneficiaries did not belong to the labour force before entering the programme, and may not be carrying out any work at all.

People on workfare programmes had been implicitly counted as employed during the 1990s, but they were too few to matter much. Even if the 100,000 or so beneficiaries of Trabajar were all taken from the ranks of the unemployed, not from the economically non-active as many are suspected to come from, and all were effectively working (and not avoiding work as also many are suspected to do) they would cause a rise of less than 1 per cent in employment, and a decrease of about 0.3 percentage points in the unemployment rate.

Starting 2001, as the number of beneficiaries of workfare plans grew steadily, INDEC started asking people whether their job was part of a workfare programme, and from 2003 onwards it started publishing two versions of the rates, either including or excluding people under workfare (i.e. first under the Trabajar programme and later under Jefes y Jefas de Hogar (JJH), the new programme for unemployed heads of household launched in 2002). The differences, previously small, became very significant as the new plan reached a large number of beneficiaries. Unfortunately, surveys up to 2000 did not provide workfare information, though some tentative estimations are done here in that regard.

![Figure 21: Unemployment and workfare coverage, 1997 to 2005](image)
Data from 2001 show that workfare (chiefly the Trabajar plan) covered at the time about 7 per cent of the unemployed, reducing open joblessness by about 1.3 percentage points. Their impact in 1995 to 2000 has been probably of similar magnitude. From 2002, as the new JJH programme was implemented, workfare coverage grew to represent about one-quarter of the unemployed, reducing the rate by about 6 percentage points in 2002/2003, then slowly decreasing its impact to about 4 points in 2004 and 2005.

From 2003 the national household survey (EPH) entered a new phase, covering the entire population living in towns above 5,000 inhabitant, with quarterly results, unlike the previous biannual survey covering only 31 urban centers (which represented about 78 per cent of the population in towns above 5,000 inhabitants). For this different geographical coverage, and also because of more accurate measurement in the new version, the unemployment rate was measured at higher levels than before. The rate for the second quarter, roughly coinciding with the last (May 2003) wave of the old survey, showed a rate of 23.0 per cent (if workfare beneficiaries are counted as unemployed), against 21.4 per cent (similarly defined) in the old survey's May 2003 wave. Both surveys are clearly not comparable but both show that unemployment peaked by late 2002 or early 2003, and then started a sustained decline. The high point of unemployment seems to have been the first quarter of 2003, when no wave of the old series was taken but the first quarterly results of new survey series reached 26.6 (considering workfare beneficiaries as unemployed) or 20.4 per cent (if they are regarded as employed). From that period onwards unemployment steadily declined. By mid-2005, however, the level of unemployment is still high, though declining, approaching the rates observed at the end of the 1996 to 1998 recovery, about 12 per cent of the labour force (with workfare beneficiaries counted as employed in both periods).

The main factor behind the decline in joblessness is not workfare but growth. Under the new conditions of the economy after the devaluation of 2002, many labour-intensive activities could again grow without being hindered by foreign competition. Also, money not paid to foreign creditors during the default as well as increased tax revenues from export duties were used to expand public expenditure thus fuelling aggregate domestic demand. As a consequence, employment grew strongly as output increased back to its former levels.
The series of growth rates for non-agricultural GDP and urban employment (workfare excluded) shows a clear pattern. Employment generally follows output with a one-quarter lag—although the lag seems to have vanished in 2005. Figure 24 shows the elasticity of urban employment to lagged non-agricultural output since mid-2001. It is easily perceived
that during the contraction of output in 2001/2002 employment followed suit with a somewhat slower contraction (elasticity of about 0.80). Later, as the economy started to recover, the employment elasticity climbed to about 1.60 by early and mid-2003, but along 2004 and 2005 it has steadily declined back to 0.80. However, it remains stronger than the values (about 0.53) estimated for the previous recovery (from 1996 to 1998).\(^{35}\)

![Figure 24: Elasticity of urban employment (workfare excluded) relative to lagged non-agricultural GDP](image)

In the process of recovering employment, labour productivity fell. In 2005 there is a slightly lower output than in 1998, but a higher employment level. The figures imply a fall of 20 per cent in the average productivity of labour. This fall in average labor productivity has not caused much harm in the short term, especially because devaluation and strong commodity prices fuelled exports. However, as these conditions are rapidly fading away, genuine growth could not be sustained unless productivity recovers and grows.

---

\(^{35}\) To compute these elasticities, growth in employment in one quarter was divided by GDP growth for the precedent quarter. GDP was measured at constant 1993 prices, by a centered three-quarter moving average, and its growth was calculated relative to the same quarter one year before. Regarding employment, the employment rate is available on a quarterly basis from 2003 onwards, and it was multiplied by the estimated urban population in the same quarter (obtained by interpolation from the series estimated by INDEC). For periods before 2003 surveys provide data for the second and fourth quarter; other quarters were interpolated. It was assumed that rates observed in the survey population were applicable to the entire urban population. People in workfare were not considered as employed. For years before 2001, data on workfare was not collected in surveys, workfare jobs were deducted by reducing employment rates by an estimated 1.2 percentage points.
9. Social policy response to the crisis

The wide social upheaval of 2001/2002, and the profound fall in output and employment, caused the government to display an array of policies targeted on vulnerable groups. The share of social spending on total public expenditure, and the share of targeted programmes within social spending, increased perceptibly after the crisis.

Table 10: Social spending and targeted programmes

<table>
<thead>
<tr>
<th>Year</th>
<th>Social spending as percentage of total expenditure</th>
<th>Targeted programmes as percentage of total social expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>64.3</td>
<td>16.2</td>
</tr>
<tr>
<td>1998</td>
<td>62.6</td>
<td>16.5</td>
</tr>
<tr>
<td>1999</td>
<td>59.3</td>
<td>13.7</td>
</tr>
<tr>
<td>2000</td>
<td>59.5</td>
<td>14.6</td>
</tr>
<tr>
<td>2001</td>
<td>58.8</td>
<td>14.0</td>
</tr>
<tr>
<td>2002</td>
<td>72.7</td>
<td>20.2</td>
</tr>
<tr>
<td>2003</td>
<td>66.4</td>
<td>26.3</td>
</tr>
<tr>
<td>2004</td>
<td>66.9</td>
<td>29.5</td>
</tr>
</tbody>
</table>

Beneficiaries of the JIH programme (designed for unemployed heads of household) are counted in the millions. However, some evidence suggests many of those beneficiaries, especially women, do not come from the ranks of the unemployed but from outside the labour force. In other words, they increase both the labour force and the (artificially) employed population. Allocation of benefits is less than transparent, as many are allocated to workers unions or the movement of the unemployed (“piqueros”), and other portions entrusted to local governments (some of which are known by their clientelistic practices) without firm guarantees of equitable distribution.

According to household surveys, about 13.5 per cent of the labour force was under some workfare programme in late 2002 and early 2003, much above the 2 to 3 per cent observed before the crisis and in the 1990s. After the initial rise, the incidence of workfare has been declining to about 8 per cent of the labour force by mid-2005. The unit dollar cost has been reduced by the devaluation of the currency, but is still about 60 US$ per month per beneficiary (about one-half of the legal minimum wage).
The quality of jobs usually deteriorates during crises. People tend to accept temporary jobs, or informal conditions (e.g. unregistered jobs for which no Social Security contributions are paid). However, this does not seem to be the case during the Argentinian crisis.

Table 11: Quality of wage employment (workfare excluded) (%), 2001 to 2003

<table>
<thead>
<tr>
<th></th>
<th>All wage workers</th>
<th>Wage workers, workfare excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td>All urban centers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No pension plan</td>
<td>37.8</td>
<td>39.4</td>
</tr>
<tr>
<td>Temporary job</td>
<td>19.5</td>
<td>15.3</td>
</tr>
<tr>
<td>GBA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No pension plan</td>
<td>37.6</td>
<td>38.7</td>
</tr>
<tr>
<td>Temporary job</td>
<td>18.7</td>
<td>13.0</td>
</tr>
</tbody>
</table>

Data from the May waves of the national Household Survey for 2001 to 2003 do not reveal any major change in the incidence of informal or temporary jobs. Variations observed are well within normal sample variability. The same happens when data is considered from the new continuous survey design, shown for 2004 and 2005, where the questions are not strictly comparable but are on the whole quite compatible with previous trends.

Moreover, the values observed from 2001 to 2003 agree with those observed in 1998, before the start of recession. Data for 1998 does not allow for excluding workfare, so the comparison is better done for all workers in May 2001. In 1998 the number of workfare beneficiaries was probably somewhat higher than at the turn of the new century, as shown earlier in Table 9, which may explain the fact that in 1998 more wage workers declare having a temporary job (19 per cent in 1998 as compared with 15 per cent in 2001). In general, about 40 per cent of wage workers do not contribute to Social Security, and about 15 per cent have a temporary job, and these rates are not much affected by the upswings of unemployment.
Given the somewhat higher number of informal and temporary jobs observed in 1998 and in 2004/2005 (i.e. in periods of job expansion, as compared with times of higher unemployment, 2001 to 2003), it may well be that informal and temporary jobs increase not as a response to the crisis, but as a response to increased demand, during booms, by employers reluctant to offer permanent formal employment. However, the effect, if any, is rather slight, and obscured by changes in survey methodology, so no conclusion can be drawn on this hypothesis.
10. Living with high unemployment

The old days of an Argentina with very low rates of joblessness may be gone, not to return in a long time. Even with rapid economic growth, falling back to the unemployment rates of the late 1980s or early 1990s will be difficult, especially in view of the requirement of improving productivity.

If further growth in output is accompanied by a reduction in the elasticity of employment, perhaps to values close to the level observed in 1996 to 1998 (i.e. about 0.53), productivity may rise again at the cost of a slower growth in employment. That this may happen is plausible given the concurrent action of several factors. On the one hand, the “easy” part of the recovery is probably over; many industries are near capacity, the domestic capacity for financing productive investment is limited, and there seems to be yet a reluctance of investors to provide external savings in the amounts necessary to make a difference. On the other hand, the very recovery of the economy has brought about an increase in imports, which are in 2005 near their level in the 1990s, and the domestic price level is increasing in spite of the invariable level of the exchange rate, immobile since mid-2003, thus making imports more affordable relative to domestic goods. As a result, growth will have to be more competitive, resulting in the use of better technology, which implies higher labour productivity.

How much annual growth is needed to bring unemployment back to its former levels, say to the 6 per cent rate of 1991, within a reasonable number of years? Or conversely, how long will it take to achieve that goal, at achievable rates of growth? A low unemployment level (in the range of 4 to 6 per cent of the labour force) could be of course temporarily reached on a transitory basis, but not as a permanent state of affairs, unless the economy grows fast enough to cover population and productivity growth.

The labour force is expected to grow at the pace of population, an annual 1.2 per cent in the coming decade. Average labour productivity has fallen about 20 per cent between 1998 and 2005 and needs not only to recover the previous level but to catch-up with improvements achieved by the world economy, especially trade partners, in the intervening years and those to be achieved in the coming years. Assuming an annual world productivity growth of about 2 per cent, (which remains a modest hypothesis), these two factors set a floor of 3.2 per cent per year for output growth, in order to keep things as they are relative to the rest of the world. Recovering lost productivity and shortening the distance with more advanced economies would require at least a further 2 per cent increase in productivity, not impossible in view of the record in Argentina during the 1990s and in other countries during the last two or three decades. Therefore, 5.2 per cent are needed to cover population growth, world productivity growth, and productivity recovery and catch up. Anything above that figure will reduce unemployment, in a measure depending on the elasticity of employment relative to output.

This elasticity has been high during the recent recovery but is already down at 0.8, and may fall further down to the levels observed in 1996 to 1998, (i.e. approximately 0.5). If we assume 0.5 to be a reasonable elasticity for the long run, then achieving a given increase in employment requires that output grows twice as much.

How much should employment grow to bring unemployment down from the current 15 per cent to a more reasonable 5 per cent? At the unemployment and employment rates prevailing in 2005, an increase of 1 per cent in employment for a labour force of given size and productivity means about 0.35 percentage points decrease in unemployment, (i.e. a 2.3 per cent reduction in an unemployment rate of 15 per cent). In turn, to achieve an additional 1 per cent growth in employment, an additional 2 per cent annual growth in
output would be required, in order to achieve a yearly 2.3 per cent reduction in the rate of unemployment. The goal is reducing the unemployment rate by two-thirds, from 15 to 5 per cent, in a sustainable manner (i.e. without sacrificing productivity, competitiveness, or macroeconomic stability). At a rate of 2.3 per cent per year, reducing the unemployment rate by two-thirds would take 17 years. In other words, returning to low unemployment at a competitive productivity level would take a long time, during which output should grow at an average rate above 6 per cent. Shortening the time by one half (i.e. achieving the goal in about 8.5 years), would require sustained growth at about 7.2 per cent per year during that period, and 5.2 per cent afterwards to maintain low unemployment and competitiveness.

These rates are higher than the present government aims to achieve. In several occasions the Minister of Finance has declared that growing too fast is dangerous, and the goal should be to grow at about 4 per cent per year. That would be satisfactory in a closed economy, but hardly in today's world. The aim should be raised to 6 to 7 per cent to achieve full recovery of both social and economic objectives in a reasonable time. Growing fast is admittedly more dangerous, but these are dangerous times.

Achieving such levels of growth for such a long time is not an easy task, and would undoubtedly require that the country overcomes its current status as a non-attractive destination for investment. Strengthening institutions and establishing reliable rules of the game, reducing inflation (which is steadily increasing), ensuring a sustained and sufficient level of primary budget surplus, and gradually re-opening the economy to foreign competition and capital flows, are among the key ingredients to achieve those results.
11. Early warning indicators and the crisis

Whatever the causes and interpretation of the crisis, it was a crisis foretold. The impact that followed was not caused by unawareness or lack of information, but failure to implement timely corrective measures. In particular, the interim administration that defaulted on debt service in December 2001 and abolished convertibility in early 2002 was not technically prepared to grasp the consequences of those policies, and the precedent administration that procrastinated from 1999 to 2001 without properly attacking the deficit was guilty not of lack of data, not even of ignoring their importance, but of insufficient decisiveness and resolve. As regards the last years of the Menem administration, in 1997 to 1999, it was too busy trying to arrange for their own survival in power, and would not be much worried about the widening budget deficit and increasing indebtedness that ultimately led to the crisis.

Argentina has a well-developed statistical system, with an abundance of timely indicators, and from 1999 onwards almost every analyst (in the country and abroad) agreed that a crisis was in the making. Among the indicators: daily and monthly reports on monetary and banking indicators; monthly report on tax revenue and government expenditure; daily reports on foreign reserves and monetary supply; monthly reports on industrial output and foreign trade; quarterly report on GDP, investment and balance of payments; daily report on country risk as reflected in the price and returns of government bonds, and many others. The social situation was monitored by a monthly report on formal employment; a survey every six months on labour force, employment, unemployment, wages and poverty; and several other surveys for special purposes (access to health care services, access to social welfare programmes, household incomes and expenditure, and others).

Table 12: Periodicity of some relevant indicators

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Type of indicators published</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>Monetary base and foreign reserves at the Central Bank</td>
</tr>
<tr>
<td></td>
<td>Deposits and loans at commercial banks, and rates of interest</td>
</tr>
<tr>
<td></td>
<td>Support of Central Bank to commercial banks with liquidity problems</td>
</tr>
<tr>
<td></td>
<td>Country risk in international financial markets</td>
</tr>
<tr>
<td></td>
<td>Price and rate of return of government bonds in local and international markets</td>
</tr>
<tr>
<td></td>
<td>Stock exchange and other financial markets (including futures)</td>
</tr>
<tr>
<td></td>
<td>Price and future price of main export commodities</td>
</tr>
<tr>
<td>Monthly</td>
<td>Index of industrial production</td>
</tr>
<tr>
<td></td>
<td>Index of formal employment</td>
</tr>
<tr>
<td></td>
<td>Index of consumption of public services (indicator of economic activity)</td>
</tr>
<tr>
<td></td>
<td>Consumer price index, construction cost index, and wholesale price index</td>
</tr>
<tr>
<td></td>
<td>Foreign trade (exports and imports)</td>
</tr>
<tr>
<td></td>
<td>Balance of payments</td>
</tr>
<tr>
<td></td>
<td>Budget expenditures and tax revenues</td>
</tr>
<tr>
<td>Quarterly</td>
<td>Gross Domestic Product and related national accounts information</td>
</tr>
<tr>
<td></td>
<td>Comprehensive economic report (Finance Ministry)</td>
</tr>
<tr>
<td></td>
<td>Public health statistics</td>
</tr>
<tr>
<td>Semester</td>
<td>Urban employment and unemployment (quarterly since 2003)</td>
</tr>
</tbody>
</table>
Labour market data for Argentina is obtained regularly and is on the whole quite satisfactory as regards quality, coverage and frequency. The main source are the EPH regular household surveys that were taken twice a year by INDEC, the national statistical agency, since 1974 to 2003, in major and medium-sized cities (covering initially just seven large cities and increasing to 31 urban centers along that period, representing about 70 per cent of total population). Starting in 2003 the survey was converted into a continuous one, with accumulated results published for each quarter, and covering now the entire urban sector as the new sample represents all towns and cities with population over 5,000 inhabitants, including all the 31 major cities previously covered and a sample of smaller towns. However, rural areas and towns below the inhabitant limit (comprising some 15 per cent of total population) are not yet covered by these surveys, though INDEC is committed to include them, budget resources permitting.

Some further relevant data come from household expenditure surveys taken once each decade (e.g. 1986, 1997 and 2005), monthly reports from formal employers, consumer price indexes, and other sources. The 1986 expenditure survey covered only the Greater Buenos Aires Metropolitan Area; the one in 1997 covered the entire urban population, and the one in 2005 reached the entire national population.

Of course in this case employment is an outcome of the economic situation, and therefore any early warning should consist of information about the underlying economic processes that could lead to an economic downturn, such as fiscal deficit and public indebtedness, increases in the perception of country risk in the international financial system, or (closer to the employment impact) any changes in the level of real economic activity. A common feature of this kind of processes is that the impact on production and employment is often quite quick, and comes at the end of a protracted deterioration in fiscal, monetary and financial indicators. Therefore any early warning system in this regard should be based on the aspects mentioned before, which indicate the status and expected evolution of the domestic economy in the context of the international economic system.

Some existing flows of information in Argentina should be improved in frequency, coverage or quality, but this does not detract from the fact that there are sufficient amounts of data to foresee any impending crisis and act consequently (even a crisis of the "sudden stop“ type, usually preceded by numerous indications of distress and danger).

One of the main improvements to EPH surveys was extending the coverage to all urban populations and distributing the sample along the year, thus enabling INDEC to report on the situation on a quarterly basis, rather than at two specific months of the year. Currently INDEC reports on the average by quarter, semester and year. These laudable improvements should be complemented with two more, that are already in the planning stage but have not yet been implemented:

36 The biannual EPH surveys were normally taken in May and October from 1974 to 2002. In 1998 and 1999 an extra wave was taken in August, and the May wave was occasionally moved to April. The sample by 2002 reached nearly 40,000 households. The new continuous EPH survey began in the first quarter of 2003, with a larger sample distributed over the entire year. Results are accumulated quarterly, representing the average situation of each quarter.

37 Practitioners centered on labour and social affairs are often wary of relying on monetary and financial indicators, and tend to prefer indexes of the "real economy", assuming apparently that the latter is what counts, while the former are supposed to be in some way illusory or superficial. This dichotomy rests on the ambiguity of the term "real": The distinction between the "monetary" and "real" sides of the economy, as used in Macroeconomics, uses the word "real" to refer to "things" (res in Latin) as opposed to money, in the same sense that the word is used in "real estate", but understanding that both sides of the economy have "reality" by themselves, and operate their own effects as essential components of an economic system. Every economic transaction involves exchanging some "real" goods or service for some form of money, but the money is as real as the good or service.
• extending EPH to rural areas and towns under 5,000 inhabitants;
• publishing moving three-month averages on a monthly basis.

Covering rural areas is costly, due to the logistical costs involved, and this matter (along with the absence of a proper sampling frame, recently completed) has so far prevented its implementation. Preparing monthly reports is already possible, and the cost is limited and affordable (it would mainly involve more work of INDEC staff to update the report every month instead of every quarter). These monthly reports should be done as 3-month averages, based on households interviewed along a 3-month period, and not based on information from each month only, to avoid the wider margins of error when working with the sample covered in just a month (1/12 of the total yearly sample).

Another necessary improvement, but one that is quite difficult to accomplish, is further improving income data in EPH. In a country with a large informal or near-informal sector, where many workers are not formally registered, where many firms and workers do not contribute for Social Security, where many people have a number of side jobs to make ends meet, obtaining accurate income data is enormously difficult. A cultural pattern of concealing part of the actual income when being interviewed seems to cause a large degree of income under-reporting, at all levels of income. For low-income groups the amount concealed is surely smaller, but its share of their total income may be as large as for their richer counterparts.

INDEC has introduced a number of adjustments in survey questionnaires and data-processing (such as imputing a probable income to employed people who fail to report any income from their job), and is concerned about obtaining better data in this regard, but finding a solution is not easy.

A rough indication of the extent of this problem is the ratio of survey-based estimates of total income to National Accounts estimates of total available personal income. In many developing countries, such as Chile or Brazil, this ratio is about two-thirds or more, but in Argentina it has oscillated between 20 and 25 per cent. This throws a shadow on the validity of income poverty estimates based on household surveys. Fortunately this paper has not used EPH income data or discussed income poverty, for this would require resolving the underreporting issue.
Precursos indígenas en el contexto de los sistemas de alerta temprana de Guatemala

Juan Carlos Villagrán De León

August 2005
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Abreviaturas

ACH  Acción Contra el Hambre
CEPAL  Comisión Económica para América Latina
CEPREDENAC  Centro de Prevención de Desastres Naturales de América Central
CIMDEN  Centro de Investigación y Mitigación de Desastres Naturales
CONE  Comité Nacional de Emergencia (predecesor a CONRED)
CONRED  Coordinadora Nacional para la Reducción de Desastres
SE-CONRED  Secretaría Ejecutiva de CONRED
CRG  Cruz Roja Guatemalteca
CRRH  Comité Regional de Recursos Hídricos
ECHO  Oficina de Ayuda Humanitaria de la Comunidad Europea
GTZ  Agencia de Cooperación Técnica Alemana
INE  Instituto Nacional de Estadística
INSIVUMEH  Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología
JICA  Agencia Japonesa de Cooperación Técnica
MAGA  Ministerio de Agricultura, Ganadería y Alimentación
NBI  Índice de Necesidades Básicas Insatisfechas
NOAA  Agencia Nacional Oceanográfica y del Aire de los EEUU
OIT  Organización Internacional de Trabajo
OMM  Organización Meteorológica Mundial
ONG  Organización No Gubernamental
PED-MAGA  Programa de Emergencia por Desastres, MAGA
PIB  Producto Interno Bruto
PNUD  Programa de Naciones Unidas para el Desarrollo
SAT  Sistemas de Alerta Temprana
SEGEPLAN  Secretaría de Planificación y Programación de la Presidencia
UNU-EHS  Universidad de Naciones Unidas, Instituto de Medio Ambiente y Seguridad Humana
USGS  Servicio Geológico de los Estados Unidos
1. Introducción

A lo largo de su evolución, la humanidad ha tenido que afrontar los embates de los diversos fenómenos naturales que se manifiestan en los cinco continentes del planeta. Desde tiempos históricos los terremotos, los ciclones y las inundaciones han causado fatalidades y cuantiosas pérdidas deteniendo así temporalmente el desarrollo de comunidades y sociedades en diversas regiones del mundo. En Guatemala, uno de los países del istmo centroamericano, la cultura maya ancestral reconoció en su libro Popol Vuh la capacidad de tales fenómenos naturales de destruir totalmente las diversas manifestaciones de la vida humana. Desafortunadamente, el proceso de conquista en Guatemala borró una gran parte del conocimiento que acapararon a lo largo de varios siglos la cultura maya y las diferentes etnias indígenas que ahora coexisten en Guatemala con la etnia ladina producto del mismo proceso de conquista. Interesantemente, por varios siglos la cultura ladina emergente de tal proceso de colonización también asoció a Dios los eventos catastróficos como castigo por los pecados cometidos por las sociedades. Los terremotos de Santa Marta que en 1773 destruyeron la ciudad de Santiago de los Caballeros, antigua ciudad capital del país, son un ejemplo de esta creencia sobre los fenómenos naturales como actos de Dios, creencia que sigue hasta la actualidad en algunas comunidades rurales de Guatemala.

En un afán por minimizar los impactos de los eventos catastróficos, la ciencia y la ingeniería han unido esfuerzos para promover un desarrollo más sostenible. Las diversas ramas de las ciencias de la tierra han volcado sus esfuerzos en comprender, modelar y explicar el origen de los diversos fenómenos naturales que se manifiestan en todo el planeta. La ingeniería civil a su vez ha desarrollado normas de construcción que han reducido la vulnerabilidad de diversas estructuras tales como viviendas, edificios y vías de comunicación, haciéndolas menos propensas a ser afectadas por tales fenómenos naturales. En las últimas décadas estos conocimientos han sido fortalecidos con una nueva visión del desarrollo sostenible mediante la cual se reconoce el papel del Estado y de sus estructuras en implementar diversas medidas tendientes a reducir los desastres naturales. A nivel mundial la Declaración de Hyogo que emanó de la Conferencia Mundial de Reducción de Desastres realizada en enero del año 2005 en Kobe, Japón, es el eslabón más novedoso en materia de marcos para la reducción de desastres. En tal declaración se reconoce el papel de la prevención, de la preparación y de la alerta temprana como estrategias para minimizar el impacto de los desastres naturales y se reconoce la responsabilidad de los estados en la implementación de tales estrategias para fomentar un desarrollo que sea menos vulnerable a los diversos fenómenos naturales. En este contexto de reducción de desastres la alerta temprana juega un papel crucial al minimizar las fatalidades y las pérdidas mediante sistemas que integran conocimientos sobre los fenómenos con respuestas anticipadas a tales fenómenos inducidas por alertas emitidas por autoridades e instituciones. En tal sentido, la Declaración de Hyogo hace énfasis en fomentar sistemas de alerta temprana centrados en la gente, donde las alertas son emitidas con suficiente antelación para permitir una respuesta anticipada y entendidas por aquellos que tienen que llevar a cabo tal respuesta. Adicionalmente se propone que los sistemas tomen en consideración aspectos demográficos, de género, características culturales y que incluyan lineamientos sobre cómo se debe responder en caso de tales alertas. De manera similar es importante reconocer el papel de la participación comunitaria en estos sistemas de alerta temprana. La participación comunitaria va desde la participación activa en los diversos componentes de tales sistemas hasta la organización de comités locales que fomenten la preparación para una respuesta eficiente y oportuna en caso que se manifieste un evento capaz de desencadenar un desastre.
En el caso particular de Guatemala la ubicación de muchas comunidades indígenas de diversas etnias en zonas de alta amenaza con respecto a diversos fenómenos naturales y la situación de pobreza y de escasez de recursos que existe en la actualidad hacen necesario que se considere la alerta temprana como una estrategia de reducción de desastres y por lo tanto se debe promover un acercamiento entre tales comunidades y las entidades nacionales que implementan tales sistemas de alerta temprana como lo son el Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología (INSIVUMEH) y la Coordinadora Nacional para la Reducción de Desastres (CONRED). Una alianza estratégica entre tales instituciones y las comunidades indígenas en riesgo que considere la participación comunitaria en tales sistemas puede ser la base para propiciar la aceptación de sistemas que conlleve a la respuesta eficiente y oportuna por parte de la población en tales comunidades en caso de una alerta y el sostenimiento de tales sistemas a largo plazo. Un punto de partida en esta alianza estratégica lo puede constituir el diálogo y el reconocimiento de precursores asociados a diversos fenómenos, tanto los precursores identificados a lo largo de siglos por las comunidades indígenas, así como los precursores que ha desarrollado la ciencia moderna sobre todo a lo largo de este siglo.

La Organización Internacional del Trabajo (OIT), en conjunto con el Instituto de Medio Ambiente y Seguridad Humana de la Universidad de las Naciones Unidas – UNU/EHS– han unido esfuerzos para fortalecer las capacidades en el ámbito de la alerta temprana en Guatemala. El estudio que acá se presenta se centra en el concepto de precursores a eventos catastróficos como un elemento esencial en el proceso de alerta temprana. De manera adicional, el estudio pretende hacer conciencia en las instituciones internacionales, nacionales y locales en torno a esta temática de la reducción de desastres debido al papel que juega en el desarrollo sostenible de las sociedades y sus modos de vida.

El interés en el tema de alerta temprana por parte de la OIT nace del reconocimiento del impacto que tienen los desastres naturales en las diversas sociedades, en particular en las más vulnerables, sobre todo en los aspectos socio-económicos. Además, la relación por parte de la OIT con el “Convenio 169 sobre pueblos indígenas y tribales en países independientes” de 1989, que establece el derecho de los pueblos indígenas a decidir sus propias prioridades y de controlar, en la medida de lo posible, su propio desarrollo económico, social y cultural.

Reconociendo la necesidad de integrar la alerta temprana en el marco más general del desarrollo socio-económico de Guatemala, este estudio se inicia con un análisis de la situación actual en materia de demografía, aspectos sociales y económicos, haciendo énfasis en mostrar la dinámica de los diversos procesos a lo largo de las últimas décadas. Posteriormente muestra el estado de conocimiento en relación a riesgos naturales, haciendo hincapié en las amenazas y vulnerabilidades, para pasar al análisis del estado actual en el cual se encuentra Guatemala en materia de alerta temprana. En un afán por mejorar los sistemas de alerta temprana ya en operación en Guatemala se contrastan los precursores identificados por los institutos técnico-científicos del país con precursores que han sido identificados y trasladados históricamente de generación en generación en una comunidad de la etnia indígena Maya Kaqchikel de Guatemala. El esfuerzo tiene como meta identificar e integrar segmentos de la cultura indígena en los esfuerzos en materia de reducción de desastres que lleva a cabo CONRED, entidad que en la actualidad opera varios sistemas comunitarios de alerta temprana en el país, con la meta de fomentar el diálogo entre esta y otras instituciones gubernamentales dedicadas al tema y los grupos indígenas como una estrategia para mejorar tales sistemas de alerta temprana en sus aspectos operativos. El estudio concluye con una serie de recomendaciones para iniciar este proceso.
2. **El contexto socio-económico actual de Guatemala**

**Aspectos generales**

Guatemala es un país de innumerables contrastes. Cuna de la civilización maya, Guatemala se ha convertido en un polo de desarrollo para toda la región Centroamericana. Como resultado del proceso de colonización que se inició con la conquista española, las culturas indígenas y la ladina coexisten entre dos mares, a lo largo de cadenas volcánicas, valles y altiplanos; luchando contra los vestigios de este proceso de conquista, los retos del subdesarrollo y adaptándose a la globalización que imponen los países desarrollados. Con una extension territorial que abarca 108 889 kilómetros cuadrados, cuenta con una división política de 22 Departamentos y 331 Municipios. El país colinda al oeste y al norte con México y al este con Honduras y con El Salvador. Como un país situado en el trópico húmedo, tiene una vocación agrícola. Los productos de mayor exportación en este ramo son azúcar, café, hule, frutas y verduras de diversos tipos. Adicionalmente cuenta con recursos petroleros explotados por empresas privadas. La población para el año 2005 se estima que es del orden de 12 millones de habitantes y se manifiesta una multietnicidad raramente vista en otros países del continente. La capital, Guatemala, es el polo de desarrollo más dinámico del país y es ahí donde se está manifestando el mayor crecimiento urbano del país resultado de las migraciones desde el interior del país y la alta tasa de crecimiento poblacional a nivel nacional.

Guatemala avanza por un proceso de re-encuentro con el desarrollo sostenible. Tras tres décadas de guerra civil se consolidó la firma de los acuerdos de paz en 1996 y se inició un nuevo capítulo en diversos aspectos políticos, sociales y económicos en el ámbito nacional. Como se indica en el informe presidencial al congreso correspondiente al año 2004, el país avanza en los procesos de descentralización, desmilitarización, democratización y modernización del Estado. Sin embargo, en aspectos económicos el país no logra recuperar el nivel que existía en la década de los setenta.

Este capítulo comprende una breve discusión sobre la situación socio-económica actual de Guatemala, abarcando aspectos demográficos y su evolución a lo largo de las últimas décadas, aspectos educativos y económicos y se complementa con una discusión sobre el tema de la pobreza en Guatemala.

**Aspectos demográficos**

Dos aspectos sociales que caracterizan a Guatemala son su extraordinaria juventud y su crecimiento poblacional vertiginoso. Los censos realizados por el Instituto Nacional de Estadística de Guatemala (INE) a lo largo de varias décadas muestran cómo la población ha crecido a nivel urbano y rural, en particular en la ciudad de Guatemala. De acuerdo al censo más reciente del año 2002, la población de Guatemala para diciembre de ese año fue

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39 Los datos presentados en esta sección han sido obtenidos del documento: Censos 2002: VI de Población y VI de Habitación. (Guatemala, INE, 2003).
de 11 237 196 habitantes. Como típico país latinoamericano, la población de Guatemala ha aumentado exponencialmente en las últimas décadas como se muestra en la gráfica 1.

![Gráfica 1: Crecimiento poblacional histórico de Guatemala](image)

1 distrito metropolitano que conforma la capital del país abarca ya siete municipios y alberga prácticamente una quinta parte de la población. Siguiendo el patrón latinoamericano de países en vías de desarrollo, la capital ha sido a lo largo de la historia el mayor polo de atracción con relación a migraciones internas.  

Con relación a la composición de la población en términos urbanos y rurales, en la última década se ha visto un crecimiento poblacional en ambos segmentos y además un aumento en la proporción de la población urbana con relación a la población rural. La tabla 1 muestra el comportamiento de la población urbana y rural en el ámbito nacional para las últimas décadas de acuerdo a los censos de los años 1981, 1994 y 2002.

<table>
<thead>
<tr>
<th>Área</th>
<th>Censo 1981</th>
<th>%</th>
<th>Censo 1994</th>
<th>%</th>
<th>Censo 2002</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>Total</td>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Urbana</td>
<td>1 980 533</td>
<td>32,7</td>
<td>2 914 687</td>
<td>35,0</td>
<td>5 184 835</td>
<td>46,1</td>
</tr>
<tr>
<td>Rural</td>
<td>4 073 694</td>
<td>67,3</td>
<td>5 417 187</td>
<td>65</td>
<td>6 052 361</td>
<td>53,9</td>
</tr>
<tr>
<td>Total</td>
<td>6 054 227</td>
<td>100</td>
<td>8 331 874</td>
<td>100</td>
<td>11 237 196</td>
<td>100</td>
</tr>
</tbody>
</table>

Como se observa, desde 1981 hasta el año 2002 la proporción de población en zonas urbanas aumento del 32,7 al 46,1 por ciento. En contraste, la población rural se redujo del 67,3 al 53,9 por ciento. Esto sin duda se explica mediante la migración de la población rural a zonas urbanas en busca de mejores condiciones de vida. La gráfica 2 muestra las proporciones de población urbana y rural por departamento.

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41 Censos 2002: XI de Población y VI de Hábitación. (Guatemala, INE, 2003).
El Departamento de Guatemala, donde está situada la capital, tiene la mayor proporción de población urbana, mientras que muchos de los departamentos más pobres como Alta Verapaz, Baja Verapaz, Huehuetenango y Quiché, donde esta situada mucha de la población indígena, cuentan con una mayor población rural. Sacatepéquez y Sololá, donde están situadas ciudades turísticas como Antigua, San Lucas Sacatepéquez, Panajachel y Sololá, también poseen un fuerte componente de población urbana.

En relación a la distribución de población con respecto a sexo se observa que a lo largo de las dos últimas décadas prácticamente no ha variado la proporción entre hombres y mujeres en el país. La tabla 2 presenta como ha evolucionado el crecimiento poblacional por sexo a lo largo de las tres últimas décadas.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>%</td>
<td>Total</td>
</tr>
<tr>
<td>Mujeres</td>
<td>3 038 401</td>
<td>50,2</td>
<td>4 228 305</td>
</tr>
<tr>
<td>Hombres</td>
<td>3 015 826</td>
<td>49,8</td>
<td>4 103 569</td>
</tr>
</tbody>
</table>

Con respecto a la distribución de población por grupos de edad, el censo del año 2002 indica que prácticamente la mitad de la población es menor de edad (menor de 18 años). Además, la población en el rango de 65 años o mayor es bastante reducida en comparación a los otros rangos. Este también ha sido un comportamiento prácticamente constante a lo largo de las dos últimas décadas. La gráfica 3 muestra la distribución de población mediante porcentajes con relación a la población total del país.
Sin embargo, la pirámide de población derivada del censo del 2002 difiere de las pirámides asociadas a otros censos anteriores con respecto a una disminución en su base en lo que comprende el rango de 0 a 4 años, y un aumento en la proporción de población de 15 años y más.

Con relación a la población indígena, en el censo de población del año 2002 se identifican 21 distintas etnias, siendo la K’iche’, la Kaqchikel, la Q’eqchi’ y la Mam las que poseen mayor cantidad de población. La población indígena según el censo del año 2002 asciende a 4 411 964 habitantes, de los cuales 2 245 556 son mujeres y 2 166 408 son hombres. La tabla 3 presenta la población para cada etnia de acuerdo a este censo.

<table>
<thead>
<tr>
<th>Etnia</th>
<th>Hombres</th>
<th>Mujeres</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achi</td>
<td>51 863</td>
<td>54 129</td>
<td>105 992</td>
</tr>
<tr>
<td>Akateko</td>
<td>18 455</td>
<td>20 915</td>
<td>39 370</td>
</tr>
<tr>
<td>Awakateko</td>
<td>5 207</td>
<td>5 861</td>
<td>11 068</td>
</tr>
<tr>
<td>Ch’ortí</td>
<td>23 468</td>
<td>23 365</td>
<td>46 833</td>
</tr>
<tr>
<td>Chuj</td>
<td>31 667</td>
<td>32 771</td>
<td>64 438</td>
</tr>
<tr>
<td>Itza</td>
<td>969</td>
<td>1 014</td>
<td>1 983</td>
</tr>
<tr>
<td>Ixil</td>
<td>46 690</td>
<td>48 625</td>
<td>95 315</td>
</tr>
<tr>
<td>Jakalteco</td>
<td>22 706</td>
<td>24 318</td>
<td>47 024</td>
</tr>
<tr>
<td>Kaqchikel</td>
<td>411 878</td>
<td>421 090</td>
<td>832 968</td>
</tr>
<tr>
<td>K’iche’</td>
<td>614 027</td>
<td>656 926</td>
<td>1 270 953</td>
</tr>
<tr>
<td>Mam</td>
<td>299 805</td>
<td>317 366</td>
<td>617 171</td>
</tr>
<tr>
<td>Mopan</td>
<td>1 481</td>
<td>1 410</td>
<td>2 891</td>
</tr>
<tr>
<td>Poqomam</td>
<td>20 679</td>
<td>21 330</td>
<td>42 009</td>
</tr>
<tr>
<td>Poqomchi’</td>
<td>56 916</td>
<td>57 507</td>
<td>114 423</td>
</tr>
<tr>
<td>Q’anjob’al</td>
<td>78 392</td>
<td>80 638</td>
<td>159 030</td>
</tr>
<tr>
<td>Q’eqchi’</td>
<td>428 410</td>
<td>423 602</td>
<td>852 012</td>
</tr>
<tr>
<td>Sakalpuliteko</td>
<td>4 593</td>
<td>5 170</td>
<td>9 763</td>
</tr>
<tr>
<td>Sipakapense</td>
<td>5 312</td>
<td>5 340</td>
<td>10 652</td>
</tr>
<tr>
<td>Tekiteko</td>
<td>1 008</td>
<td>1 069</td>
<td>2 077</td>
</tr>
<tr>
<td>Tz’utujil</td>
<td>39 157</td>
<td>39 341</td>
<td>78 498</td>
</tr>
<tr>
<td>Uspanteko</td>
<td>3 725</td>
<td>3 769</td>
<td>7 494</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2 166 408</strong></td>
<td><strong>2 245 556</strong></td>
<td><strong>4 411 964</strong></td>
</tr>
</tbody>
</table>

Con respecto a la distribución de población indígena en zonas urbanas y rurales, se observa que un gran número de etnias se asientan en zonas rurales, siendo solamente las etnias Mopan, Jakalteco, Itza y Ts’utujil aquellas donde la población urbana está por encima del 60 por ciento.

En relación a aspectos de alfabetismo, Guatemala ha dado pasos considerables en el último medio siglo. Según el censo del año 2002, el alfabetismo en la población mayor de 7 años de edad aumentó de 57,2 en 1981 a 64,6 por ciento en 1994 y a 71,2 por ciento en el año 2002. Tomando como referencia que el índice de alfabetismo en 1950 era del 29 por ciento, se puede concluir que el país ha logrado avances sustanciales en este ramo.
Aspectos socio-económicos

Guatemala viene emergiendo de un sangriento conflicto en el cual perdieron la vida cientos de miles habitantes resultado de una guerra civil no declarada entre la guerrilla y el Estado. A la mitad del conflicto, el 4 de febrero de 1976 un gran segmento del país fue sacudido por un fuerte terremoto que mató instantáneamente a más de 23 000 habitantes, destruyó poblados enteros de viviendas de paredes de adobe y techo de teja y puso de manifiesto la vulnerabilidad de estos tradicionales tipos de materiales y técnicas de construcción.

Sin duda alguna, tanto el conflicto armado, como este y otros desastres de menor envergadura durante este periodo, desvían recursos nacionales destinados a sentar las bases para continuar el proceso de desarrollo que caracterizó a Guatemala hasta inicios de tal conflicto. De manera similar, la corrupción y la década perdida Latinoamericana de los años ochenta tuvieron un impacto similar en interrumpir el proceso de desarrollo.

Como se menciona en el Informe Presidencial al Congreso correspondiente al año 2004, la tasa de crecimiento del Producto Interno Bruto (PIB) para Guatemala en años recientes ha sido errática y viene decreciendo desde el año 1998, reduciéndose de 5.0 en 1998 a 2.1 en el año 2003. La gráfica 4 presenta la evolución temporal de esta tasa.

Al analizar la gráfica 4 se observa un período crítico entre 1980 y 1986 donde dicha tasa tuvo un descenso considerable, coincidente con los peores episodios del conflicto armado. Posteriormente, con el inicio de una nueva etapa democrática civil se inicia un periodo de crecimiento sostenido del orden de 4 a 5 por ciento, pero que decae en años recientes.

Es interesante notar que en las últimas tres décadas los valores mas altos del PIB se reflejaron en los años 1976 y 1977, casi coincidentes con el terremoto de 1976. Aunque no se puede descartar el impacto que tienen la reconstrucción y la ayuda humanitaria después del desastre como un factor que impacta el PIB, no se observó un fenómeno similar para el huracán Mitch en 1998. De hecho, desde 1999 la tasa de crecimiento ha decrecido de manera continua.

43 ibid p. 16
Un aspecto que caracteriza a la Guatemala actual es su pobreza en relación a otros países en vías de desarrollo. Recientemente, el Programa de Naciones Unidas para el Desarrollo (PNUD) realizó un estudio sobre la pobreza en Guatemala. En el documento se sistematiza la pobreza mediante una serie de proposiciones encadenadas que se reproducen a continuación:

“A menor ingreso, mayor pobreza. A mayor pobreza, mayor número de necesidades básicas insatisfechas. A mayor número de necesidades básicas insatisfechas, menor calidad de vida, menos educación e información sobre salud reproductiva y mayor número de embarazos. A menor calidad de vida, menos posibilidades de ejercer derechos y menos posibilidades de acceder a una ciudadanía plena. A menor ciudadanía, menos democracia efectiva.”

Para caracterizar la pobreza en Guatemala, la Secretaría de Planificación y Programación de la Presidencia (SEGEPLAN) realizó un estudio sistemático a nivel municipal que culminó con una serie de mapas donde se representan los diversos aspectos que caracterizan la pobreza en Guatemala. Los mapas 1 y 2 representan la incidencia de pobreza por Municipio y el porcentaje del valor de la brecha de pobreza por Municipio. Analizando dichos mapas se concluye que mucha de la pobreza se manifiesta en aquellos municipios con alta proporción de población indígena, como los son los municipios en los departamentos Alta y Baja Verapaz, Totonicapán, Quiché, Huehuetenango y San Marcos.

Mapas 1 y 2: Incidencia de pobreza y valor de brecha de pobreza por municipio.

Sin duda alguna, la pobreza es un componente generador de vulnerabilidades que, aunado a los fenómenos naturales, es capaz de conllevar a situaciones de desastre cuando se manifiestan eventos de diversas magnitudes. Este es el tema de discusión del siguiente capítulo.

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44 PNU, Drma de la Pobreza en Guatemala, Un informe sobre los rasgos de esta privación y sus efectos sobre la sociedad (Guatemala, PNU, 2001).
45 SEGEPLAN, Mapas de pobreza de Guatemala. Un auxiliar para entender el flagelo de la pobreza en el país. (Guatemala, SEGEPLAN, 2001).
3. Guatemala, una radiografía reciente de su situación en torno a los desastres naturales

Guatemala, como los otros países de América Central, se encuentra situada en una zona geográfica proclive a la manifestación de múltiples tipos de fenómenos naturales tales como los terremotos, los huracanes, las inundaciones, los deslizamientos, las erupciones volcánicas y otros fenómenos conexas.

A lo largo de varios siglos los fenómenos naturales han sido constante fuente de desastres dada la poca adaptabilidad de las poblaciones a tales fenómenos. El primer desastre natural registrado por los anales de la historia desde la conquista se provoca por el desmoronamiento de un lago cráter en el volcán de Agua, que destruye la primera capital de la Capitanía General de Guatemala en 1541. Subsecuentemente se han manifestado terremotos como el de 1773 que forzó a las autoridades a trasladar la ciudad capital de lo que es la Antigua, hacia lo que es hoy la capital; así como terremotos similares con capacidad destructiva en los años 1917, 1918 y 1976 que destruyeron pueblos enteros causando enorme número de fatalidades y cuantiosas pérdidas materiales. De manera similar, la actividad volcánica y la hidrometeorológica han tenido fuertes impactos, sobre todo en 1902 cuando hizo erupción el volcán Santiaguito destruyendo comunidades y cultivos agrícolas en esa región; así como en 1949, 1969 y 1998 cuando se manifestaron huracanes y “temporales”46 que provocaron enormes daños a infraestructura y los sectores de la vida, agricultura y líneas vitales. Debido a su frecuente exposición con respecto a diversos fenómenos naturales como los terremotos, los huracanes y las erupciones volcánicas, la sociedad guatemalteca está avanzando gradualmente en su adaptación con respecto a dichos fenómenos.

En el contexto de las causas que dan origen a los desastres naturales, en Guatemala se manifiestan dos vertientes: la indígena y la ladina. La cultura maya que acapara a las comunidades indígenas propone que los desastres naturales surgen de la ruptura del equilibrio y de la armonía que debe existir entre el hombre, la naturaleza y el universo.47 En contraste, la población ladina, ligada con la ciencia desarrollada por el mundo occidental, está mas identificada con la noción que los desastres son desencadenados por fenómenos naturales asociados a la dinámica del planeta y desconoce el equilibrio y la armonía propuesta por la cultura maya. La dominancia de la cultura ladina que nace del proceso de conquista y de colonización conlleva gradualmente a la pérdida de valores mayas o a la discriminación de sus creencias e instrumentos, como lo son el calendario maya y el sistema numérico maya.

Es importante reconocer que esta visión occidental de los desastres ha nacido de los conocimientos deducidos por la ciencia occidental. Aunque la cultura maya plantea los desastres como consecuencia de la ruptura del equilibrio y la armonía entre la humanidad, la naturaleza y el universo, es difícil comprender como esta concepción maya puede utilizarse para explicar porque suceden terremotos, tsunamis y erupciones volcánicas, donde la acción humana no tiene ninguna interacción con tales procesos como se conocen en la actualidad. Por ejemplo, si se acepta que las erupciones en la cadena volcánica del cinturón de Fuego en todo el Pacífico son producto de la interacción entre placas tectónicas mediante el proceso de subducción, se debe reconocer que tales procesos se llevan a cabo...

46 Antes de contarse con una sensibilización con respecto a los huracanes, la población guatemalteca denominó a estos fenómenos de precipitaciones muy prolongadas y de alta intensidad “temporales”.
47 R. Batzin, Fortalecimiento de sistemas de alerta temprana para reducir la vulnerabilidad ante los desastres naturales. Estudio de caso en Guatemala: Precursors de Alerta Temprana en el Pueblo Maya Kaqchikel de Yepocapa (Guatemala, Asociación Sotzil, 2005).

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desde decenas hasta cientos de kilómetros de profundidad en la corteza de la tierra y por lo tanto, es imposible que la acción humana tenga algún impacto a estas profundidades para desencadenar erupciones y terremotos. Sin embargo, el modelo maya podría tener alguna aplicación en el deterioro ambiental, donde efectivamente la acción humana si tiene un fuerte impacto en la atmósfera, en la desestabilización de laderas y en los procesos de escorrentía y flujos en los ríos debido al cambio de los cauces, todos los cuales pueden conllevar a situaciones de desastres.

Tomando en consideración los diversos fenómenos que se han manifestado en Guatemala y la concepción de tales fenómenos desde la visión del mundo occidental, es posible hacer una clasificación de tales fenómenos en cuatro categorías, las cuales se presentan en la tabla 4.

**Tabla 4: Clasificación de fenómenos naturales que se manifiestan en Guatemala**

<table>
<thead>
<tr>
<th>Geológicos</th>
<th>Hidrometeorológicos</th>
<th>Subordinados</th>
<th>Biológicos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terremotos</td>
<td>Huracanes</td>
<td>Deslizamientos</td>
<td>Malaria</td>
</tr>
<tr>
<td>Eruptions</td>
<td>Inundaciones</td>
<td></td>
<td>Dengue</td>
</tr>
<tr>
<td>Lahares calientes</td>
<td>Vientos huracanados</td>
<td>Tsunamis</td>
<td>Marea roja</td>
</tr>
<tr>
<td></td>
<td>Tormentas de granizo</td>
<td>Lahares fríos</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sequías</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Los terremotos, las erupciones y los lahares calientes asociados a erupciones se explican como resultado de la dinámica de las placas tectónicas. Los fenómenos hidrometeorológicos nacen de la interacción dinámica entre la atmósfera, el océano y las masas terrestres. Los fenómenos subordinados son aquellos que surgen de condiciones preexistentes o predisposiciones de las masas terrestres, los océanos y ríos y que son disparados por un evento específico. Por ejemplo, los tsunamis requieren de océanos capaces de transmitir ondas marinas que son provocadas por terremotos o deslizamientos marinos. Los deslizamientos, de manera similar, requieren de suelos inestables y deslizables, pero que deben ser disparados por lluvias o terremotos para que se lleven a cabo. Finalmente, los fenómenos biológicos están asociados a la presencia de seres vivos micro y macroscópicos que cuando se multiplican ocasionan desastres de diversa índole.

Esta breve clasificación de los fenómenos naturales y aspectos sociales tiene como meta sentar la base para la discusión del contexto de los desastres naturales, para lo cual se debe partir de la siguiente premisa: “los desastres que ha experimentado la sociedad guatemalteca resultan de la combinación de fenómenos de intensidades destructivas y procesos sociales de desarrollo no adaptados a la manifestación de tales fenómenos, en los cuales se han construido vulnerabilidades a lo largo de muchas décadas por diversos motivos o deficiencias de varios tipos”. De esta manera los desastres se entienden como resultados de procesos de generación de riesgos a lo largo de las décadas y para promover un desarrollo más sostenible es entonces necesario realizar acciones tendientes a reducir los desastres mediante su manejo integral, lo que incluye la gestión para la reducción de riesgos.

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La gestión (para la reducción) del riesgo

Desde la década pasada las instituciones gubernamentales encargadas del manejo de desastres han dado un giro total en su enfoque, reconociendo la temática de gestión de riesgo como el nuevo paradigma y dinamizando los esfuerzos mediante la actualización de las políticas, normas y la re-estructuración de instituciones como la CONRED, entidad que en la actualidad lidera los esfuerzos en materia de prevención, mitigación, preparación y respuesta en caso de desastres de diversas índoles en Guatemala. Este giro sin duda alguna estuvo relacionado a los esfuerzos internacionales promovidos vía la Década Internacional para la Reducción de Desastres Naturales (DIRDN) y en años recientes a los procesos que han fomentado la Estrategia Internacional para la Reducción de Desastres (EIRD) y el PNUD en este tema no solo en Guatemala, sino en toda la América Latina.

Es interesante notar que los últimos desastres tales como el terremoto de 1976 y el huracán Mitch en 1998, han servido de base para la consolidación de procesos de cambio a nivel de la población y a nivel institucional. Por ejemplo, después del terremoto de 1976 que literalmente destruyó todas las viviendas de adobe con techo de teja en muchos poblados del altiplano causando más de 23,000 fatales, la población sobreviviente adoptó de manera personal una nueva técnica de construcción, sustituyendo paredes de adobe por paredes de concreto y sustituyendo techos de teja de barro cocido por techos de lámina. Aunque no se ha manifestado un terremoto de la intensidad del de 1976, sismos menores han demostrado que este cambio en las técnicas de construcción ha tenido resultados exitosos en comunidades donde las viviendas de block con techo de teja casi no experimentan daños estructurales mientras que las viviendas de adobe con techos de teja han seguido experimentando daños estructurales considerables.

La gestión para la reducción del riesgo se debe iniciar mediante un diagnóstico, una evaluación de los riesgos existentes, así como de los factores que los propician. De acuerdo al modelo planteado por el autor,⁴⁹ el riesgo se integra en base a 3 componentes: amenazas, vulnerabilidades y deficiencias en las medidas de preparación. Las amenazas naturales y socio-naturales representan la posibilidad de que se manifiesten estos tipos de fenómenos y se caracterizan mediante su dinámica espacial y temporal. En particular, las amenazas socio-naturales describen aquellas que son magnificadas como resultado de acciones sociales, por ejemplo los deslizamientos e inundaciones que se pueden propiciar como resultado de manejos inadecuados de los suelos y bosques en cuencas y laderas, así como la modificación de cauces de ríos.

En contraste a las amenazas, las vulnerabilidades reflejan la propensión de la infraestructura y líneas vitales, de procesos y de la prestación de servicios en las comunidades a ser afectados por fenómenos naturales de diversas magnitudes y tipos.

Finalmente, las deficiencias en las medidas de preparación son indicativas de incapacidades y problemas existentes que impiden que la sociedad y sus instituciones encargadas de este tipo de actividades respondan de manera eficiente y coordinada cuando se manifiesta en sí un fenómeno.

Además es necesario reconocer la existencia de factores que propician la generación o aumento de tales riesgos, en particular la pobreza, la falta de experiencia por parte de la población y sus autoridades, las migraciones hacia zonas de alta amenaza, las deficiencias o limitaciones institucionales para el manejo de los riesgos, la falta de normas y de voluntad política y la cultura social reinante con todas sus limitaciones. Gráficamente se muestra un concepto del riesgo y sus factores generadores en la figura 1.⁵⁰

⁴⁹ idem.
⁵⁰ J.C. Villagrán de León. Inundaciones, lineamientos generales para su manejo. (Panamá, JICA, 2004).
En Guatemala el tema de riesgos y su gestión es muy novedoso, por lo cual recién se inician los estudios en esta temática. Cabe mencionar que no existen metodologías institucionalmente aceptadas o reconocida con respecto a la evaluación de riesgos y sus componentes y a la fecha los esfuerzos se concentran más en casos piloto donde se desarrollan y ponen a prueba diversas metodologías.

Figura 1: Componentes de riesgo y factores que los aumentan

Amenazas

*Inundaciones*

En el campo de las amenazas se ha avanzado sobre todo con aportes de científicos estadounidenses de varias instituciones, sobre todo del Servicio Geológico de los Estados Unidos, (USGS). Tomando como base datos generados por el INSIVUMEH se han elaborado varios mapas de amenaza. Entre los más recientes figuran los mapas creados por el Programa de Emergencia del Ministerio de Agricultura, Ganadería y Alimentación (MAGA), que abarcan amenazas hidrometeorológicas tales como las inundaciones, los deslizamientos, heladas y las sequías. El mapa 3 presenta la amenaza por inundación.

51 PED-MAGA, INSIVUMEH, *Estimación de amenazas inducidas por fenómenos hidrometeorológicos en la República de Guatemala* (Guatemala, MAGA 2002).
El mapa ha sido elaborado a una escala municipal y como es de esperarse, resaltan las planicies de inundación en zonas costeras. Para la elaboración de dicho mapa se han tomado en consideración aspectos hidrológicos (lechos de los ríos y zonas de impacto), porcentaje del área del Municipio en la zona de influencia de inundaciones y datos históricos (repetición de eventos) para conformar el índice de amenaza a nivel municipal.
Sismos

En el caso de sismos, se ha elaborado un mapa basado en las fuentes generadoras de sismos presentes en el país (zona de subducción, complejos de fallas Motagua y Polochic, así como fallas menores), relaciones de atenuación y propagación de ondas sísmicas. Combinando estos factores es posible generar un mapa representado en términos de aceleraciones pico que puede experimentar el suelo, un parámetro que es comúnmente empleado por la comunidad de ingenieros civiles y estructurales.

Erupciones

En el caso de las erupciones volcánicas se han llevado a cabo estudios detallados por investigadores norteamericanos y guatemaltecos que ha culminado en la elaboración de mapas para diversos tipos de amenazas asociadas a la actividad eruptiva.

Entre estos fenómenos conexos a las erupciones se mencionan: caída de ceniza, flujos de lava, flujos piroclásicos, sismicidad local, lahares, emanación de gases y colapsos de domos. El polígono de color azul representa el lago de Amatitlán y al norte en gris se presentan zonas del distrito metropolitano de la ciudad de Guatemala.

Deslizamientos

En contraste a los sismos, las erupciones, las inundaciones y las sequías, en la actualidad no se cuenta con información suficientemente detallada a nivel nacional para realizar mapas adecuados de amenaza por deslizamiento dada la escasez de estudios geológicos e hidrogeológicos sobre esta temática en particular con cobertura nacional. Sin embargo, a nivel municipal se han elaborado estudios e investigaciones de carácter piloto, como en el caso de los deslizamientos en el valle de la ciudad capital, amenazas de varios
tipos en dos municipios de oriente\textsuperscript{52} y la agencia de cooperación técnica Japonesa, JICA-
ha financiado una caracterización de amenazas involucrando al INSIVUMEH y el IGN
para la región central y sur del país que ya se encuentra en formato digital en dichas
instituciones.\textsuperscript{53}

Vulnerabilidades

En contraste a las amenazas, el estudio de vulnerabilidades está prácticamente en la
infancia en el país, sobre todo porque no se cuenta con metodologías para su estimación o
evaluación. Por una parte se debe reconocer que existen varios tipos de vulnerabilidades
entre las cuales se mencionan: física-estructural, funcional, social, cultural, económica,
institucional y otras. Como es de esperarse, una caracterización precisa de todas estas
vulnerabilidades requiere de censos específicos, así como de investigaciones en torno a las
instituciones, lo cual aun no se ha llevado a cabo, salvo en casos muy especiales. En
particular, el autor ha llevado a cabo dos tipos de estudios sobre vulnerabilidad, uno a nivel
comunitario o local mediante censos específicos a nivel de viviendas que enfocan aspectos
asociados 4 vulnerabilidades:\textsuperscript{54} estructural, funcional, de ingresos económicos y de
exposición humana. La misma metodología se ha aplicado en el caso de deslizamientos
para una muestra de asentamientos del distrito metropolitano.

El mapa 6 muestra la vulnerabilidad que se ha obtenido para uno de estos
asentamientos, donde se realizaron censos y evaluaciones a nivel de cada vivienda.\textsuperscript{55}

La integración de las diversas vulnerabilidades se llevó a cabo mediante un proceso
de normalización de las mismas, de tal manera que se crearon rangos
bajos, medios y altos y de esa manera se caracterizó la vulnerabilidad de cada vivienda.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{mapa_vulnerabilidad}
\caption{Mapa 6: vulnerabilidades en asentamiento El Cerrito, Ciudad Guatemala\textsuperscript{57}}
\end{figure}

\textsuperscript{52} R. Machorro y J. Requena. Evaluación de susceptibilidad y amenaza por deslizamiento en municipios de
Camotán y San Juan Ermita (Guatemala, VILLATEK-ACH, 2003).
\textsuperscript{53} Eddie Sánchez H. Director General de INSIVUMEH, comunicación privada.
\textsuperscript{54} J. C. Villagrán de León. Quantitative vulnerability and risk assessment in communities in the foothills of Pacaya
\textsuperscript{55} I. Pérez. Determinación de vulnerabilidades en asentamientos del distrito metropolitano de Guatemala:
(Guatemala, CONRED, 2002).
En un enfoque distinto para deducir vulnerabilidades y riesgos a nivel de comunidades en varios departamentos del país, el autor ha diseñado una metodología distinta en la cual se usa información proveniente de los censos nacionales que ha realizado el INE para la deducción de dos tipos de vulnerabilidades: física-estructural y habitacional en torno a población. Entre las dificultades encontradas para la realización de estos estudios de riesgos, la mayor radica en la falta de información detallada y específica que permita identificar las vulnerabilidades con mayor precisión. Para la deducción de riesgos es necesario integrar amenazas y vulnerabilidades. Técnicamente se ha tomado información técnico-científica sobre las amenazas y se ha unido con vulnerabilidades deducidas mediante el uso de sistemas de información geográfica. Un ejemplo típico es el caso de comunidades del Departamento de Escuintla en la costa sur y la amenaza de inundación. Para este caso el autor ha elaborado el mapa 7 que se muestra a continuación:

![Mapa #7: Comunidades en riesgo por inundación en el Departamento de Escuintla](image)

Los colores de fondo asociados a las distintas comunidades indican el nivel de riesgo al cual están sometidas las diversas poblaciones en dicho departamento.

En contraste, algunas Organizaciones No Gubernamentales (ONGs) y entidades de ayuda humanitaria utilizan una metodología participativa para la elaboración de mapas de riesgo donde se indica a nivel local como se percibe la amenaza por la población y se identifican viviendas, escuelas, iglesias y otras estructuras que pueden ser afectadas. Por lo general, estos croquis abarcan la localidad o comunidad en cuestión y se utilizan como elemento básico en la generación de los planes de emergencia que se usan en caso que se manifiesten los fenómenos en cuestión. Sin embargo, muchas de estas metodologías parecen confundir el concepto de amenaza con el de riesgo y la vulnerabilidad no queda claramente definida, o bien se asume que todos los elementos de la comunidad que se incluyen en dichos croquis son totalmente vulnerables.

56 J.C. Villagrán de León. *Reconocimiento preliminar de riesgos asociados a varias amenazas en poblados de Guatemala.* (Guatemala, SEGEPLAN, 2003).
4. La preparación y el manejo de desastres en Guatemala: CONRED

En Guatemala dos huracanes han tenido un amplio impacto a nivel institucional en materia de preparación y respuesta en caso de desastres. El huracán Francelia en 1969 afectó mucha de la costa sur del país, lo que propició la creación del Comité Nacional de Emergencia (CONE). Dicho comité, coordinado y operado prácticamente en su totalidad por el Ministerio de la Defensa, realizó diversas actividades de respuesta en eventos de gran trascendencia como el terremoto de 1976, así como en eventos menores, típicamente erupciones e inundaciones en diversas cuencas del país hasta 1998. El otro huracán que propició cambios institucionales drásticos en Guatemala fue el huracán Mitch en 1998, que sirvió de catalizador para consolidar la transición del CONE como entidad militar destinada a la respuesta en caso de desastres a la CONRED como una entidad civil que además de la respuesta en caso de desastres abarca las acciones de prevención, mitigación y preparación en caso de desastres.  

En materia de preparación, dos de los avances más interesantes donde Guatemala ha jugado un papel notable en este ámbito a nivel de América Latina han sido la implementación pionera de sistemas comunitarios de alerta temprana y el centro computarizado para la coordinación de operaciones de emergencia y desastre. Desde el año 1996 el autor diseñó para CONRED una estrategia para la implementación de los sistemas comunitarios de alerta temprana inicialmente enfocando los ríos que provocan inundaciones anuales y posteriormente en volcanes activos e incendios forestales. De manera paralela, desde el año 2000 se inició el fortalecimiento de las capacidades nacionales en el contexto del diseño y montaje de un sistema para el manejo integrado de desastres de cualquier índole. Aunque son avances notables en la historia del manejo de los desastres naturales en Guatemala, aún queda camino por recorrer y el presente estudio es una de las avenidas por las cuales debe transitar el país si desea forjar una cultura de reducción de desastres que abarque a toda la población, en particular la indígena.

Desde 1999, CONRED ha estado asentándose en su nuevo rol de ente coordinador interinstitucional orientando los esfuerzos para establecer estrategias y acciones que conlleven a una reducción de desastres, al igual que a la respuesta en caso de manifestarse estos.

En forma paralela y acompañando el proceso de respuesta, en la XX Cumbre de Presidentes acuñada en Guatemala en 1999, el país se adhiere a la denominada “Declaración de Guatemala II” misma que contiene el Marco Estratégico para la Reducción de Vulnerabilidad y los Desastres en Centro América. A su vez, el tema de Gestión de Riesgo aparece en algunas políticas públicas en forma secuencial hasta que finalmente la institución rectora de la planificación nacional, SEGEPLAN, ha impulsado decididamente la Política de Desarrollo Social y Población que brinda un marco legal al tema. A continuación se describe el proceso en forma más detallada.

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57 Decreto Ley 109-96. Ley de Creación de CONRED (Guatemala, Diario Oficial, Diciembre 1996).
Proceso de cambio en la institución coordinadora –CONRED

La Ley de creación de CONRED\(^{59}\) (Decreto Ley 109-96) promueve todos los aspectos relacionados a la atención a emergencias que contemplaba el CONE; pero además fomenta la inserción de medidas de gestión para la reducción del riesgo y propone la generación de una estructura operativa a nivel regional, departamental, municipal y local. Sin embargo la transición CONE – CONRED aun se encuentra en la fase de consolidación. No obstante, los logros a la fecha son un indicador de este progreso de cambio:

- CONRED ha establecido 8 sistemas comunitarios de alerta temprana para inundaciones en diferentes cuencas mayores con apoyo de diversas organizaciones gubernamentales y no gubernamentales y su sostenimiento está siendo acaparado por la institución en todo sentido. Además ha establecido dos sistemas comunitarios en caso de erupciones en los volcanes Fuego y Pacaya y uno para incendios forestales en el departamento de El Petén. En la actualidad la Gerencia de Operaciones está encargada del manejo y sostenimiento técnico de tales sistemas;
- desde el año 2000 se estableció la Gerencia de Gestión de Riesgo que lleva a cabo actividades asociadas a la determinación de riesgos, gestiones pertinentes a nivel interinstitucional, incluyendo el decreto oficial de zonas de alto riesgo ya sea por fenómenos temporales como la marea roja, en cuencas problemáticas para inhibir la generación de nuevos riesgos a nivel urbano y rural y más recientemente en el caso de sequías;
- en el año 2001 CONRED ha establecido el Centro de Operaciones de Emergencia más moderno y sofisticado de la región, en el cual se consolida la participación de todos los sectores e instituciones del Estado para la coordinación y el manejo de las emergencias y desastres de diversa índole;
- desde el año 2004 CONRED ha fortalecido los nexos institucionales con SEGEPLAN, con la Secretaría de Coordinación Ejecutiva de la Presidencia (SECP) y con otras instituciones para fortalecer los procesos de gestión de riesgo, incluyendo la declaración de zonas de alto riesgo y la gestión ante las instancias del Estado para el traslado de comunidades declaradas como de alto riesgo. En el marco del proceso de descentralización impulsado por los gobiernos recientes, CONRED ha estado amoldando su sistema de coordinadoras al sistema de comités de desarrollo que impulsa SEGEPLAN como estrategia para consolidar dicho proceso de descentralización.

CONRED en la actualidad

En la actualidad CONRED cuenta con recursos fijados anualmente para operaciones normales y para responder en caso de desastres. Esto le ha permitido responder a eventos de pequeña magnitud que abarcan hasta varios municipios en un solo departamento.

En lo que respecta a actividades asociadas a la prevención, la mitigación y la preparación, CONRED ha establecido una estructura operativa a nivel nacional en base a 4 gerencias operativas: la gerencia de operaciones, la gerencia de organización, la gerencia de gestión para la reducción del riesgo y la gerencia de educación y divulgación.

Como parte de las actividades llevadas a cabo a nivel departamental, municipal y local se ha priorizado el establecimiento del sistema de coordinadoras como lo establece el

\(^{59}\) Como se menciona en el texto, aunque el decreto ley se estableció en diciembre de 1996, no fue sino hasta 1999 que verdaderamente se inició el proceso de transformación de CONE a CONRED.
artículo 9 de la ley de CONRED. Las coordinadoras a cada nivel están presididas por la autoridad política de mayor jerarquía en dicho nivel. A nivel municipal la coordinadora municipal de reducción de desastres es presidida por el alcalde, mientras que a nivel departamental es presidida por el gobernador. Las coordinadoras son de tipo interinstitucional y cuentan con la presencia de representantes institucionales al nivel de la administración que la preside. Sin embargo, se respeta la autonomía municipal cuando el alcalde conforma la coordinadora de su Municipio.

En el caso de una respuesta frente a un desastre, las coordinadoras del nivel local son las que primero se activan para responder con los recursos a su disposición. La respuesta inicial abarca un análisis de daños y necesidades, así como la coordinación de la ayuda que se hace necesaria para las víctimas. De ser necesario, se elevan solicitudes al nivel municipal, departamental o nacional en Guatemala para solicitar y canalizar asistencia adicional cuando los recursos no son suficientes.

**CONRED y el contexto indígena**

Como es de esperarse, CONRED centra sus actividades en aquellas zonas consideradas como de mayor riesgo, así como las zonas en las cuales han ocurrido desastres producto de eventos naturales que los provocan. Entre los eventos recientes de mayor envergadura se mencionan:

- el huracán Mitch en 1998 que impactó prácticamente todo el país, provocando daños severos en las cuencas bajas de los ríos del Pacífico y del Caribe. En el contexto de comunidades indígenas, dicho huracán impactó de sobremanera en la zona de la cuenca del río Polochic, donde se localizan comunidades indígenas de escasos recursos;
- los deslizamientos ocurridos en años recientes en diversas zonas montañosas propensas a tales fenómenos en los departamentos de Alta Verapaz, Quiché, Huehuetenango, San Marcos, Sololá y Guatemala. Es importante mencionar que a excepción de los deslizamientos en el Departamento de Guatemala, la mayoría de los deslizamientos afectan a poblaciones indígenas, que están situadas en zonas propensas a tales deslizamientos;
- la sequía que en el año 2001 ha tenido un mayor impacto en la zona oriental del país, en los departamentos Chiquimulá, Santa Rosa, Zacapa, Jalapa y Jutiapa. En lo que respecta a comunidades indígenas, en esta zona habita la etnia Chortí que fuera severamente afectada por tal sequía, así como por la globalización en el contexto de la crisis del café;
- los incendios forestales, en particular los del año 1998 y en menor grado los de años recientes, sobre todo en la zona del bosque tropical del Petén.

En aquellas zonas donde los fenómenos son recurrentes y es técnicamente factible, CONRED ha implementado sistemas comunitarios de alerta temprana, tal es el caso de las cuencas de los ríos Polochic, Sayaxché y Samalá; así como en el volcán de Fuego y en municipios del Departamento de Petén que tienen presencia indígena donde se manifiestan incendios forestales. En todos estos sistemas de alerta temprana se conforman coordinadoras locales con la participación de líderes comunitarios y se operan con el apoyo de voluntarios que viven en las comunidades. Un componente importante de estos sistemas en la instalación de redes de radiocomunicación en comunidades en alto riesgo que tienen contacto directo con la Secretaría Ejecutiva de CONRED en ciudad Guatemala para la gestión de diversas necesidades que se manifiestan durante los desastres.
Desafortunadamente, la escasez de recursos de diversa índole impide a CONRED tener una mayor presencia en todas las comunidades indígenas. Otro problema que enfrenta CONRED es el de la baja participación indígena en el sistema de coordinadoras, sobre todo en aquellas coordinadoras que son presididas por ladinos a nivel municipal, departamental y a nivel de la Secretaría Ejecutiva.

En tal sentido, este estudio ha tenido como meta identificar mecanismos para la incorporación de nociones, experiencias y conocimientos indígenas en el contexto de los sistemas de alerta temprana que puedan fomentar un mayor acercamiento entre CONRED y las comunidades indígenas. En particular mediante la exploración inicial de conocimientos y experiencias indígenas en el contexto de precursores con respecto a eventos potencialmente catastróficos para fortalecer los sistemas de alerta temprana actualmente operados por CONRED así como para la implementación de otros sistemas de alerta temprana en otras zonas afectadas por diversos desastres. En los siguientes capítulos se presenta información más detallada sobre la alerta temprana en general y sobre los sistemas de alerta temprana que funcionan en Guatemala.
5. Alerta temprana: Nociones generales

En el contexto de los desastres naturales los sistemas de alerta temprana (SAT) están jugando un papel importante al minimizar fatalidades y pérdidas en la medida de lo posible y por lo tanto se están diseñando e implementando en todo el mundo. Por lo general, los SAT se integran en base a tres componentes: instituciones, instrumentación y la sociedad civil.

Las instituciones técnico-científicas evalúan normalmente los fenómenos naturales utilizando instrumentación y emiten una alerta con respecto a un posible evento cuando es necesario. Las instituciones de defensa civil, protección civil o los comités nacionales de emergencia reaccionan entonces alertando a la población, la cual a su vez responde vía la evacuación hacia refugios seguros e implementando medidas para minimizar las pérdidas.

Desde un punto de vista técnico, el establecimiento de un SAT requiere del conocimiento suficiente con respecto a los fenómenos que provocan tales desastres y los riesgos respectivos que afrontan las sociedades. Esto implica conocer el comportamiento temporal y espacial de tales fenómenos vía el análisis de parámetros físicos y el desarrollo de procedimientos para realizar los pronósticos que se aplican como parte de tales sistemas. En este contexto se buscan las señales precursoras que puedan indicar la magnitud más probable para el evento que se pronostica y el intervalo de tiempo en el cual se manifestará. Por ejemplo, en el caso de inundaciones los precursores básicos son la intensidad y la acumulación de precipitación a lo largo de un intervalo de tiempo y el caudal en los ríos. Su medición permanente brinda información con respecto a la posible manifestación de una inundación una vez que se ha desarrollado modelos hidrológicos que caracterizan la cuenca y las planicies de inundación respectivas. La precipitación se mide con pluviómetros convencionales o sofisticados, y el caudal o nivel de río se mide con aparatos similares en zonas estratégicas del cauce. La información medida con tales instrumentos se transmite a un centro de pronóstico donde es analizada para identificar la posibilidad de una inundación. En tal caso, dicho centro inicia una alerta a las instituciones que tienen que responder a diversos niveles (nacional, provincial, municipal, local) con respecto a dicha inundación y se activan los comités de evacuación, búsqueda y rescate, manejo de albergues o refugios temporales, etc. La población es alertada y entonces toma las medidas pertinentes para minimizar las pérdidas mediante la evacuación a zonas previamente identificadas como seguras.
Marcos operativos para los Sistemas de Alerta Temprana

El marco operativo tradicional para los SAT que emplean instituciones técnico-científicas se compone de tres fases.\(^{60}\)

- medición de precursores;
- pronóstico de eventos;
- emisión de alerta en caso que se manifieste un evento.

Muchos institutos nacionales de meteorología e hidrología operan de esta manera. Mediante el uso de instrumentación simple y sofisticada realizan la medición de precursores. Una vez recopilada la información se procede a realizar el pronóstico en dichas instituciones y de ser necesario se emite la alerta a las instituciones y a la población afectada por medio de los medios masivos de comunicación.

El marco más novedoso de SAT que está siendo promovido por las entidades nacionales de manejo de desastres y de gestión de riesgo incluye una cuarta fase que contempla el inicio de las actividades de respuesta anticipada una vez que se ha declarado la alerta. El propósito al añadir esta cuarta fase es el de reconocer que se requiere de una respuesta a la alerta, donde la responsabilidad inicial recae sobre las entidades de respuesta y cuerpos de socorro y posteriormente en la población que debe reconocer la alerta e iniciar la respuesta anticipada mediante la evacuación a un sitio seguro previamente establecido. Esta cuarta fase involucra entonces el establecimiento de estructuras de respuesta anticipada (comités de emergencia), planes de emergencia que especifican zonas seguras para la evacuación de la población y protocolos de respuesta en caso de emisión de dicha alerta. En ambos marcos se pueden contemplar distintos tipos de alertas (verde, amarilla, roja), dependiendo de la evolución temporal del fenómeno y el intervalo temporal hasta su arribo en una comunidad que será afectada.

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\(^{60}\) J.C. Villagrán de León. Sistemas de Alerta Temprana (Panamá, UNICEF-CEPREDENAC, 2003).
Los precursores en el contexto de la alerta temprana

Reconociendo el papel crucial que juegan los precursores en la funcionalidad de los SAT, el primer paso para el diseño de un SAT consiste en identificar y sistematizar los precursores asociados al fenómeno que puede desencadenar un desastre. La sistematización consiste en recopilar datos históricos sobre los eventos que se correlacionan con la manifestación de los precursores para determinar aspectos tales como el tiempo de antelación entre la manifestación del precursor y el evento en sí; la dimensión o magnitud del precursor en relación a la magnitud o intensidad del evento y la certidumbre o incertidumbre con respecto a la manifestación del precursor para todos los eventos que se han manifestado. De manera similar se recopila información sobre las formas mediante las cuales se detecta los precursores. En la figura 4 se presentan algunas de las preguntas necesarias para completar la sistematización de observaciones visuales de precursores.

Una vez completada la sistematización de precursores se procede a desarrollar técnicas e instrumentos para su medición. Mientras los países desarrollados aumentan la lista de precursores o bien nuevas técnicas e instrumentos para medirlos, los países en vías de desarrollo están encontrando precursores más básicos que se amoldan a sus capacidades y limitaciones. Siguiendo el ejemplo de las inundaciones, los países desarrollados y algunos países en vías de desarrollo están implementando radares tipo Doppler para estimar las posibles intensidades de la precipitación y la extensión geográfica de tormentas. En contraste, en América Central algunas comunidades están implementando técnicas simples para medir la precipitación acumulada usando pluviómetros simples y escalas de nivel de río para confirmar posibles inundaciones. Sin embargo, es importante reconocer que las técnicas avanzadas brindan pronósticos más amplios y precisos que las técnicas simples, pero obviamente a un costo más elevado. En este caso se torna crítico el aspecto del sostenimiento cuando se debe decidir que sistema de precursores se usarán para el monitoreo como parte del sistema de pronóstico. La figura 5 ilustra el procedimiento tradicional para desarrollar e implementar los mecanismos de pronóstico que son una parte integral de cualquier SAT.
Una vez completado este proceso se puede iniciar el establecimiento del SAT, para lo cual se debe complementar el proceso con aspectos relacionados a la organización de comités de emergencia de todo nivel, la implementación de las redes de monitoreo, la elaboración de protocolos de operación del sistema y de alerta, así como la capacitación de todas las estructuras a nivel local, municipal y departamental para fomentar una respuesta anticipada eficiente y oportuna en caso de emitirse una alerta.

**Figura 5: Diagrama de flujo para deducir procedimientos para el pronóstico de eventos en base a precursores**

- **Se han identificado los precursores asociados a los fenómenos que causan desastres.**
- **Se han sistematizado precursores?**
- **Investigación aplicada para sistematizar los precursores y desarrollar técnicas e instrumentos para su medición.**
- **Instrumentación para Medición de Precursores.**
- **Desarrollo de procedimientos para pronóstico combinando precursores, modelos y datos históricos.**
- **Implementación de procedimientos para pronósticos.**
La alerta temprana en Guatemala

En Guatemala se han implementado diversos tipos de SAT. Las instituciones involucradas en la implementación y operación de estos sistemas son:

- INSIVUMEH
- CONRED
- Organizaciones Gubernamentales (OGs) y ONGs
- ONU-PNUD

Como se ha mencionado, en años recientes y sobre todo en la época post-Mitch, CONRED ha estado implementado diversos sistemas comunitarios de alerta temprana para inundaciones, erupciones e incendios forestales. Dichos sistemas son de bajo costo, bajo nivel técnico e involucran a la población local en su operación rutinaria. De hecho, tales sistemas se pueden considerar como descentralizados desde el punto de vista que no es necesaria la intervención de una entidad del nivel nacional para su operación rutinaria, sino que todas las operaciones se llevan a cabo en el sitio donde se opera el sistema.

En contraste, el INSIVUMEH ha establecido sistemas de tipo centralizado. En este caso la institución ha establecido redes de monitoreo instrumental en diversas zonas de la República y mediante telemetría en tiempo real es capaz de centralizar los datos en sus instalaciones en ciudad Guatemala, donde lleva a cabo pronósticos y emite las alertas respectivas a CONRED y a los medios de prensa de ser necesario.

La siguiente tabla presenta un listado de los SAT en operación en Guatemala.

**Tabla 6: Los SAT en operación en Guatemala, año 2004**

<table>
<thead>
<tr>
<th>Cuenca/volcan /zona</th>
<th>Fenómeno</th>
<th>Tipos de SAT</th>
<th>Institución</th>
<th>Año de implementación</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zonas costeras</td>
<td>Huracanes</td>
<td>centralizado</td>
<td>INSIVUMEH</td>
<td></td>
</tr>
<tr>
<td>Madre Vieja</td>
<td>inundación</td>
<td>comunitario</td>
<td>CONRED-PNUD</td>
<td>2002-2003</td>
</tr>
<tr>
<td>Polochic</td>
<td>inundación</td>
<td>comunitario</td>
<td>CONRED/INSIVUMEH/MAGA</td>
<td>2000-2001</td>
</tr>
<tr>
<td>Polochic</td>
<td>inundación</td>
<td>centralizado</td>
<td>INSIVUMEH</td>
<td>2000-2004</td>
</tr>
<tr>
<td>Motagua</td>
<td>inundación</td>
<td>centralizado</td>
<td>CONRED/INSIVUMEH/MAGA</td>
<td>2000-2001</td>
</tr>
<tr>
<td>María Linda</td>
<td>inundación</td>
<td>centralizado</td>
<td>CONRED/INSIVUMEH/MAGA</td>
<td>2000-2001</td>
</tr>
<tr>
<td>Achiguate</td>
<td>inundación</td>
<td>centralizado</td>
<td>CONRED/INSIVUMEH/MAGA</td>
<td>2000-2001</td>
</tr>
<tr>
<td>Coyolte</td>
<td>inundación</td>
<td>comunitario</td>
<td>CONRED-ASDI</td>
<td>1997-1999</td>
</tr>
<tr>
<td>Samalá</td>
<td>inundación</td>
<td>comunitario</td>
<td>CONRED-GTZ-ECHO</td>
<td>1999</td>
</tr>
<tr>
<td>Alto Chixoy</td>
<td>inundación</td>
<td>comunitario</td>
<td>CONRED-CHF</td>
<td>2001-2002</td>
</tr>
<tr>
<td>Fuego</td>
<td>erupción</td>
<td>centralizado</td>
<td>INSIVUMEH</td>
<td></td>
</tr>
<tr>
<td>Fuego</td>
<td>erupción</td>
<td>comunitario</td>
<td>CONRED-GTZ</td>
<td>2001</td>
</tr>
<tr>
<td>Pacaya</td>
<td>erupción</td>
<td>centralizado</td>
<td>INSIVUMEH</td>
<td></td>
</tr>
<tr>
<td>Pacaya</td>
<td>erupción</td>
<td>comunitario</td>
<td>CONRED-GTZ</td>
<td>2001</td>
</tr>
<tr>
<td>Santiaguito</td>
<td>erupción</td>
<td>centralizado</td>
<td>INSIVUMEH</td>
<td></td>
</tr>
<tr>
<td>San Benito, Petén</td>
<td>incendios</td>
<td>comunitario</td>
<td>CONRED-GTZ</td>
<td></td>
</tr>
</tbody>
</table>


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En materia de alerta temprana la ciencia occidental ha permeado al INSIVUMEH y a CONRED con conocimientos y técnicas del mundo moderno dejando a un lado los conocimientos ancestrales de los mayas con respecto a diversos tipos de fenómenos. Esto se debe a que tales instituciones se benefician del contacto permanente con investigadores de instituciones y centros de investigación dispersos por todo el mundo, así como con entidades internacionales como la Organización Meteorológica Mundial (OMM) que promueve la sistematización y el uso de tales técnicas científicas. Pero una justificación aun mayor radica en la confiabilidad que tienen muchas de las técnicas occidentales para varios tipos de fenómenos, en particular las asociadas a los fenómenos hidrometeorológicos. Solo en escasas ocasiones se utilizan observaciones reportadas por observadores y en tales casos se utilizan como complemento a los resultados que arrojan los instrumentos.

Otra estrategia que INSIVUMEH y CONRED han adquirido de las entidades provenientes de países desarrollados y de la ciencia occidental es el enfoque prácticamente exclusivo en parámetros físicos como precursores a eventos y el monitoreo de tales parámetros utilizando instrumentación y excluyendo la observación del comportamiento de seres vivos de cualquier tipo en los SAT. La confiabilidad en tales parámetros físicos recae en la confiabilidad que se asume dado que tales parámetros físicos han sido demostrados como válidos y funcionales en muchos países del mundo, mientras que las observaciones del comportamiento anómalo de seres vivos se excluye de igual manera en tales países avanzados y en los centros internacionales de investigación porque no poseen el mismo grado de validez o no se han sistematizado al mismo grado al cual se han sistematizado los precursores físicos.

Si CONRED e INSIVUMEH van a considerar el uso de precursores identificados por comunidades indígenas en los SAT, es necesario que tales precursores sean sistematizados tan rigurosamente como se hace con los precursores físicos.

En el siguiente capítulo se presenta una discusión sobre los precursores identificados por comunidades indígenas, así como los que se emplean comúnmente en los SAT operados en Guatemala.
6. **Precursores identificados por el pueblo Maya Kaqchikel**

Tomando en consideración la meta de la OIT en recuperar tradiciones indígenas en el ámbito Guatemalteco en lo que respecta a alerta temprana, se ha procedido a realizar una investigación sobre precursores en una comunidad situada en las faldas del volcán de Fuego denominada San Pedro Yecopaca.62 Dicha comunidad sufrió los impactos de una fuerte erupción en 1974, así como de otras menores en años recientes y ha sido también afectada por diversos terremotos, incluyendo el más reciente del 4 de febrero de 1976. Perteneciente al Departamento de Escuintla, San Pedro Yecopaca tiene una población de 24 652 habitantes según el censo del año 2002, de los cuales 12 243 son hombres y 12 409 son mujeres. En la comunidad cohabitan ladinos, Kaqchikes, Mames, Kʼiches, siendo los Kaqchikes el grupo mayoritario con 90 por ciento de la población total. La selección de dicha comunidad está relacionada con la operación de los SAT por parte de CONRED e INSIVUMEH en dicho volcán considerado como uno de los cuatro volcanes activos de Guatemala, que en años recientes ha intensificado su actividad.

Mediante una serie de entrevistas, R. Batzin y la asociación Sotz’il identificaron varios precursores asociados a diversos tipos de fenómenos en esta comunidad. La investigación de campo se realizó mediante entrevistas dirigidas a siete líderes comunitarios, cinco ancianos, dos Ajq’ij o guías espirituales, cuatro académicos mayas y cincuenta personas de la comunidad seleccionadas al azar. Los guías espirituales o Ajq’ij brindaron información sobre el contexto de los desastres y precursores dentro de la cosmovisión maya. Los ancianos y líderes comunitarios brindaron información sobre la presencia institucional de CONRED y sus limitaciones, así como sobre los diversos fenómenos y sus impactos en la comunidad. Finalmente, las entrevistas con las personas de la comunidad sirvieron para corroborar la observación de los precursores previamente identificados por los Ajq’ij y los ancianos.

Entre los precursores identificados por R. Batzin se mencionan el comportamiento anómalo de animales salvajes que viven en zonas no pobladas de dicho volcán y de aves de corral (gallinas), los sueños, fases y señales particulares de la luna, así como eclipses. Desafortunadamente, varios de estos precursores no son específicos para un fenómeno natural específico y por lo tanto, no es recomendable incluirlos en los SAT. Por ejemplo, se menciona el canto del pájaro Pich’ como un precursor, pero este canto puede estar relacionado con cualquier tipo de desastre y por lo tanto no queda claro si se puede tratar de una erupción, un terremoto, un accidente, una explosión, o cualquier otro tipo de evento capaz de generar un desastre. Esta ambigüedad no permite a las personas ni a las instituciones que deben iniciar la respuesta anticipada saber de qué manera deben responder. Similarmente, el paso de los azacuanes puede ayudar a pronosticar el inicio el fin de la época lluviosa, pero no necesariamente de los huracanes ni las inundaciones. A continuación se resume la información recopilada por el Sr. Batzin con respecto a los precursores identificados.

**Los ciclos de la luna /Jalajoj rub’anikil ri Ik’/**

De acuerdo a las creencias de la gente de la comunidad, la luna juega un papel importante en la agricultura y por lo tanto, se deben seguir sus ciclos al realizar diversas actividades agrícolas. Por ejemplo, solo se puede sembrar y cosechar en “luna llena” para obtener un buen producto, de lo contrario se dañará o no abundará.

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62 R. Batzin, ibid.
En la encuesta realizada a los pobladores, el 100 por ciento de los entrevistados conoce la relación entre la luna el ser humano y la madre tierra. Entre los comentarios que plantean las personas entrevistadas se mencionan:

- el maíz se debe sembrar y cosechar en el ciclo de la luna sazón (llena), keri’ k’o ruk’u’x (para que tenga vida y abunde), de lo contrario no se tendrá buena cosecha y se picará en poco tiempo el maíz que se coseche;
- las frutas no se deben cortar en luna tierra (nueva) ya que si se realiza esto las frutas se dañan mas rápido, esto está comprobado por los exportadores de frutas, ya sea que se transporte en seco o en frío;
- la madera, si se corta en luna tierra no dura mucho tiempo y se pica rápido;
- las personas o animales que han sufrido una fractura les molesta (duele) en luna tierra.

Además, la posición de la luna y su colorido se utilizan como precursores con relación a lluvias y vientos. Si la luna tiene un color amarillento y esta inclinada levemente hacia arriba es por que el periodo será lluvioso. Si esta inclinada levemente hacia abajo y tiene un color blanco pálido en su interior como neblina especialmente en la parte inferior es porque el periodo traerá vientos. La figura 6 muestra la luna como reconocer de acuerdo a la posición y color de la luna si habrá lluvia o fuertes vientos.

**Figura 6: La luna, sus posiciones y colores como precursores a lluvias y vientos.**

<table>
<thead>
<tr>
<th>Posición de la Luna que trae lluvia</th>
<th>Posición de la Luna que trae viento</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Luna Llena con color amarillo]</td>
<td>![Luna Nueva con color blanco]</td>
</tr>
</tbody>
</table>

**Comentario:** Como es sabido, la luna tiene una influencia sobre los mares con respecto a las mareas y se ha podido detectar que tiene también una menor influencia con respecto a las placas tectónicas en un fenómeno similar a las mareas. Sin embargo, la posición o inclinación aparente de la luna es un aspecto asociado a la posición relativa de la luna, el sol y la tierra en un momento dado. En tal sentido, se debe sistematizar la orientación o posición de la luna para determinar la validez como precursor. En el caso del color aparente de la luna, se debe reconocer que la apariencia que muestra la luna al ojo es producto de la luz emitida por la luna y el paso de dicha luz por la atmósfera. En tal sentido, el color aparente de la luna conlleva de manera implícita información sobre la condición de la atmósfera y es posible que exista una correlación entre tal color y la posible aparición de vientos o lluvia. Como en el caso de la posición, es necesario sistematizar este color aparente con el fenómeno que se trata de predecir.

**Las señales de los coyotes /Rutzijol ri taq Utiw/**

En las comunidades de Comalapa, Yepocapa, Tecpán y en la cabecera de Chimaltenango los ancianos y las personas comentan que el comportamiento inusual de los coyotes se puede utilizar para pronosticar erupciones o terremotos. En tales casos los coyotes han bajado de las montañas y aullan a orillas de las comunidades hasta un año antes de tales eventos. Este precursor se observó cuatro meses antes de la erupción del volcán de Fuego de 1971, un año antes del terremoto de 1976 y también antes del terremoto de Pochuta de 1991.
Lo que se narra es que después de ocurrido los fenómenos, los coyotes dejan de bajar, el horario en el que aullan es de las 6 de la tarde a las 11 de la noche, en su visita no dañan a los animales caseros no se pelean con los perros, sino que es una visita pacífica, sus aullidos son diferentes a lo que realizan comúnmente.

Como menciona el Sr. Batzín, de la encuesta realizada a 50 personas de la comunidad Sampedrana, 45 de ellas conocen y aseguran haber escuchado a los coyotes previo a los terremotos o temblores fuertes, dos lo desconocen y tres plantean que esto no es real.

**Comentario:** los animales poseen sentidos del olfato, del tacto, del oído y de la vista con capacidades distintas a las humanas tanto en su espectro, como en su sensitividad y es posible que capten señales precursoras que los humanos no puedan. Sin embargo, dos aspectos que impiden el uso de este precursor son la incapacidad de diferenciar si el comportamiento anómalo implica un terremoto o una erupción. Esto debido a que la respuesta anticipada es muy distinta si se trata de una erupción en contraste a un terremoto. El otro aspecto radica en que el precursor como se ha descrito se manifiesta desde varios meses hasta un año antes del evento y no hay certeza si el evento se manifestará de un día para otro, una vez que ya han pasado varios meses. Por lo tanto, se recomienda sistematizar este precursor y solo usarse en conjunto con otros precursores de otro tipo.

**Los sonidos y movimientos de la Madre Tierra /Reta ri Ruwachulew/**

Dos precursores que han sido identificados por la población de Yepocapa para predecir erupciones del volcán de Fuego son el trueno o temblor de la tierra uno o dos días antes de la erupción y la presencia de una nube blanca y fuerte neblina en la punta del volcán.

De las personas encuestadas 37 afirman que la tierra truena antes de que el volcán haga erupción, algunos plantean que el ruido es como un retumbo de una ola o como el ruido de una olla con agua hirviendo, 10 de las personas entrevistadas desconocen esto y tres no saben si es cierto.

**Comentario:** El trueno o temblor de tierra es un precursor que también se detecta con instrumentos y se conoce técnicamente como tremor. Tal tremor se asocia al proceso de ascenso de magma hasta el cráter a través de la roca. Aunque el tremor se puede detectar con semanas de anticipación a una erupción debido a la sensitividad de los sismómetros, la detección de tales temblores o truenos por las personas sin duda alguna es una manifestación de que el magma ya está cerca de la superficie, algo indicativo de una posible erupción. Con respecto a la presencia de nubes o neblina en el cono, aunque este precursor se observa en volcanes activos, también se manifiesta en volcanes inactivos. Se recomienda sistematizar este precursor.

**Los mensajes en los sueños /Rirutjíol taq Achik/**

Los sueños juegan un papel importante en la cosmovisión Maya y conllevan mensajes sobre todo tipo de posibles eventos que pueden pasarle a las personas o a las comunidades. Los ancianos comentan que la socialización y la manifestación del mismo sueño con distintas personas de la comunidad de manera simultánea puede ayudar a su interpretación y confiabilidad.

**Comentario:** la interpretación de los sueños es compleja e incierta y por lo tanto puede conllevar a falsas alarmas o al pronóstico de eventos equivocados. Hasta que no se concreten estudios científicos en la materia, será difícil para las autoridades utilizar este precursor para emitir una alerta por la poca confiabilidad que brinda en la actualidad. Se recomienda documentar las experiencias en todo caso.
El mensaje de los pájaros /Ri rutzijol nkiya’ ri Chikopi’/

Las señales del Pich’ / Ri retal nuya’ pe ri Pich’/

El Pich’ es un pájaro que convive junto a una especie de pájaro carpintero de la región, tiene un plumaje amarillento y de fondo negro, vuelta similar al pájaro carpintero común y por lo tanto se considera que es un especie de carpintero. En el caso de precursores, cuando el Pich’ canta dos veces anuncia lluvia y al hacerlo una sola vez anuncia alguna desgracia o desastre ya sea familiar o comunitaria. Además, en cuanto a sus señales si solo una persona lo escucha es señal de desgracia individual; si lo escuchan varias personas en una casa se trata de una desgracia a nivel familiar; si lo escuchan varias familias por un periodo de varios días se debe asociar a un evento que afectará a la comunidad.

En la encuesta realizada 42 conocen sobre los anuncios del Pich’, cinco consideran que esto no es real y tres lo desconoce.

Comentario: como se observa, el pájaro tiene al menos dos tipos distintos de canto. Cuando canta dos veces anuncia lluvia, pero no indica si habrá inundación o no, por lo tanto su uso para predecir inundaciones es muy incierto. En el caso que canta una sola vez, desafortunadamente se puede referir a cualquier desgracia o desastre y por lo tanto, es prácticamente imposible utilizarlo como precursor porque de nuevo no se sabe que tipo de respuesta anticipada tomar. El otro aspecto crítico radica en el planteamiento con respecto al número de personas que lo escuchan, porque el que sea escuchado por una o por varias personas depende de cuantas personas están en la cercanía cuando canta.

Las señales de las gallinas /Ri retal nkiya’ pe ri äk’/

También las mujeres de la comunidad han identificado que las gallinas muestran un comportamiento extraño asociado a cantos y giros al mediodía como precursor a un desastre.

Comentario: como se ha mencionado anteriormente, es posible que las gallinas, así como los coyotes y los pájaros, tengan la suficiente sensibilidad para percibir ruidos o vibraciones que preceden a eventos naturales que no perciben los humanos y que por lo tanto respondan a dichos estímulos mediante comportamientos extraños. Sin embargo, debido a que no se asocia a un fenómeno en particular, es difícil que se utilice este precursor como parte de un sistema de alerta temprana porque no hay una indicación de a que fenómeno está reaccionando la gallina.

Los mensajes de los azacuanes / Rutzijol nkiya’ ri taq Ai/

Otras aves que dan señales precursores son los azacuanes. Cuando vuelan de oriente a poniente anuncian las lluvias que pronto llegarán, mientras que cuando vuelan de poniente a oriente las lluvias están por terminarse. En tal sentido el paso de los azacuanes permite a los agricultores saber sobre el comportamiento de las lluvias y les permite planificar su cultivo.

A nivel general se comenta que cuando los pájaros construyen su nido a una altura más bajo de lo común en los árboles es porque será una temporada de vientos.

Comentario: como en el caso del Pich’, el precursor no identifica la presencia de inundaciones específicamente, aunque es posible que sea utilizado de mejor manera para fines agrícolas.
Los efectos de los eclipses /Ruxajnil taq Rech’eroj/

Como un ejemplo para ilustrar señales que se cree que son precursoras, pero en realidad no lo son se menciona el caso de los eclipses. Por lo general, la población maya cree que los eclipses afectan a las mujeres embarazadas, quienes corren el riesgo de que su niño pueda nacer con defectos físicos o bien que el parto se adelante en aquellas que llevan de siete a nueve meses de embarazo. Por tal motivo, cuando se manifiesta un eclipse las mujeres embarazadas no deben salir de la casa.

Interesantemente, del total de personas encuestadas 49 comparten que los eclipses afectan a las embarazadas, este conocimiento es general en toda la población maya. Solo una persona comparte que los científicos plantean que esto no afecta, lo que lo hace no creer en esto.

Comentario: por una parte, esto no es en realidad un precursor sino una creencia dado que los eclipses solares y lunares se manifiestan en todo el mundo frecuentemente y de haber una correlación entre eclipses y nacimientos de bebes con defectos físicos de nacimiento, ya se hubiera detectado en los centros hospitalarios de todo el mundo. Además, no se puede justificar que los eclipses solo tengan impacto en las mujeres indígenas y no en las ladinas o en las mujeres de otros países.

La ciencia occidental en contraste a la cultura maya

Como narra el Sr. Ramiro Batzin, las comunidades mayas en Guatemala han trasladado a lo largo de generaciones conocimientos sobre precursores a eventos tales como terremotos, fuertes vientos, lluvia o sequía. Sin embargo, uno de los resultados más negativos del proceso de conquista y colonización española en Guatemala y en América fue el reemplazo de la cultura local por una española en todo sentido, lo que significó la destrucción de conocimientos adquiridos durante siglos por los mayas y otras civilizaciones del continente. La quema de múltiples documentos mayas durante la conquista en el siglo XV redujo significativamente los conocimientos recopilados y poco es lo que se transmite de generación en generación en la actualidad. En la época moderna el proceso de negación de tales conocimientos autóctonos continúa a nivel social e institucional mediante procesos de discriminación.

Un aspecto importante a mencionar con respecto a los precursores es la precisión que le brindan a los pronósticos que se emiten por parte de un SAT. Como es de esperarse, si los precursores son imprecisos, esto conlleva a falsas alarmas, lo que deteriora la credibilidad del SAT por parte de los usuarios y por ende su negación a confiarle lo suficiente para iniciar una respuesta anticipada en caso de una alerta. Es por este motivo que en el capítulo anterior se hizo énfasis en el proceso de sistematización de los precursores, que debe enfocar precisamente estos aspectos para beneficio del SAT.

Adicionalmente, para instituciones como CONRED e INSIVUMEH es importante reconocer que por ser instituciones técnicas, basan sus modelos y estrategias en otras instituciones técnicas y científicas internacionales y de alto prestigio, con la meta de elevar su propia calidad. En el caso de INSIVUMEH, su relación con la OMM y con entidades similares de países desarrollados le permite adquirir asistencia técnica que brindan tales países en materia de técnicas, conocimientos, e instrumentación que utiliza diariamente en el monitoreo de fenómenos que se manifiestan en todo el país. De esta manera se transforma en una institución del sistema occidental que contribuye a la sistematización de modelos internacionales.
Recomendaciones emergentes de la investigación en San Pedro Yepocapa

Un aspecto adicional a considerarse en este tema de precursors es el conjunto de recomendaciones que el Sr. Batzín plantea como resultado de las entrevistas realizadas con los Ajq’íj, líderes comunitarios, ancianos y miembros de la comunidad. A continuación se presentan tales recomendaciones:

- es fundamental recuperar los precursors propiamente indígenas y los precursors comunitarios, los que sumados presentan una alternativa accesible, sencilla y ágil para la comunidad;
- es importante promover la constitución de Comités Interculturales, en los niveles nacional, departamental, municipal y local, los que tomen en cuenta ambas visiones y modelos;
- se recomienda el establecimiento de un observatorio indígena, el que este ligado a una red indígena o comunitaria sobre gestión de riesgos. Dicho observatorio debe estar integrado con científicos mayas (conocedores y/o expertos en el tema), un Líder, un Ajq’íj, un aciano, un vulcanólogo, un sociólogo, antropólogo, un epigrafista un comunicador y un educador y un representante de las comité local y municipal, este observatorio debe estar anexo a CONRED;
- que CONRED, reactive la Coordinadora Municipal de Reducción de Desastres y consulte a las organizaciones interesadas en participar y fortalecer el proceso.

Comentarios por parte de CONRED e INSIVUMEH con respecto a los precursors identificados y los planteamientos del Sr. Batzín

- Con la meta de recopilar los comentarios de personal de CONRED e INSIVUMEH, así como de otras ONGs en relación a los precursors indígenas identificados por R. Batzin, así como las recomendaciones que plantea en su estudio, se realizó una sesión de discusión en la sede de CONRED en agosto del 2005.

En tal reunión se contó con la presencia de directivos de tales instituciones, quienes presentaron los puntos de vista que a continuación se presentan.

INSIVUMEH

- era importante reconocer el alto valor y confiabilidad que tienen los precursors científicos que emplea el INSIVUMEH y por lo tanto, CONRED y otras entidades y organizaciones deben sensibilizar a las comunidades indígenas y a toda la población en torno a tales precursors. Además, no se debe sustituir los precursors científicos por los precursors indígenas que aun no están debidamente sistematizados;
- las experiencias emanadas de la China con respecto a precursors asociados al comportamiento de animales, así como aquellos deducidos mediante simples observaciones de diversos fenómenos han concluido sin demostrar la confiabilidad en el uso de tales precursors para el pronóstico de terremotos. Aunque en un caso se manifestaron precursors y se utilizaron para alertar a la comunidad y se evitaron fatalidades en un terremoto, en otro terremoto en 1976 no se manifestaran tales precursors y más de 100 000 personas perdieron la vida en dicho terremoto. Ante tal situación, la comunidad científica parece haber abandonado el interés por tales tipos de precursors y se ha volcado en la búsqueda de precursors basados en teorías físicas. Sin embargo, se recomienda realizar una revisión bibliográfica sobre el tema en diversos países del mundo, incluyendo China, países de Asia, México y otros para complementar la investigación;
• si se reconoce que los seres vivos como los animales pueden manifestar un comportamiento anómaulo en caso de probables eventos, es muy probable que sea porque tienen la capacidad para detectar señales precursoras que aun no han sido detectadas con instrumentos convencionales. En tal situación, se recomienda que los expertos de zoología ayuden a sistematizar tales experiencias para ver si pueden ser empleadas para complementar los SAT. En tal sentido, se sugiere que se investigue por qué los animales pueden detectar tales señales que los hace reaccionar de manera anómaulo cuando se manifiestan y que se establezca la relación entre el fenómeno natural y sus diversas manifestaciones y el sentido empleado por el animal para detectarlo. Se sugiere que la academia tome la iniciativa también en el análisis y la sistematización de tales precursores.

**CONRED**

• la identificación preliminar de tales precursores abre las puertas para futuras investigaciones. Dado que la investigación realizada por el Sr. Batzin cubre solamente una comunidad de la etnia Kaqchikel, se recomienda extender la investigación en tres direcciones paralelas:
  ▪ validar la información recopilada mediante investigaciones en otras comunidades de la etnia Kaqchikel;
  ▪ ampliar la investigación para cubrir otras etnias, en particular la K’iche, la Q’eqchi’ y la Mam, que acaparan la mayor proporción de población indígena de todo Guatemala;
  ▪ Investigar los precursores conocidos por los ladinos;
• la sistematización se debe realizar mediante metodologías técnicas claramente establecidas y reconocidas por la comunidad científica. La implementación de un proceso de sistematización con instrumentos para tal fin y el apoyo de la comunidad puede ser un punto de partida;
• el tema de precursores ha sido ya investigado de manera indirecta por antropólogos nacionales e internacionales. En tal sentido, se recomienda realizar una revisión bibliográfica para complementar esta investigación. Se puede concebir estudios e investigaciones adicionales, para lo cual se puede solicitar el apoyo de las universidades del país;
• la implementación de un observatorio se debe considerar solamente después de una investigación más detallada y se debe considerar un equipo de trabajo multidisciplinario de menor envergadura, el planteado es demasiado amplio;
• la participación de CONRED en tales esfuerzos de identificación y sistematización de precursores requiere de una voluntad política de alto nivel. Sin embargo, existe un interés por parte de los técnicos en contribuir a este esfuerzo dado su potencial de aplicación en el contexto de la alerta temprana;
• se hace necesario documentar de manera más sistemática los eventos que conllevan a desastres para incluir el aspecto de los precursores;
• en lo que respecta a la implementación de comités interculturales a todo nivel, CONRED ya contempla un sistema de coordinadoras abarcando los niveles propuestos y en la actualidad se está adaptando al sistema de consejos de desarrollo que también abarca todos los niveles propuestos. Por lo tanto, no se considera como oportuna la creación de una estructura paralela de comités como la plantea el Sr. Batzin;
• con respecto a la reactivación de la Coordinadora Municipal de Reducción de Desastres, la Secretaría Ejecutiva de CONRED puede promover tal acción, pero respeta en todo caso la autonomía del Alcalde producto de la Ley de Descentralización y el Código Municipal y en tal sentido, no puede forzar a ningún alcalde a accionar de una cierta manera particular.
**Agencia de cooperación técnica alemana, GTZ**
- el comportamiento de los azacuanes y su relación con las lluvias es algo conocido a nivel de varios países del área. Sin embargo, es necesario identificar como se percibe en la cultura maya. Un tema de investigación interesante puede ser el análisis de estos comportamientos de animales en el contexto del cambio climático;
- la sistematización de experiencias con respecto a los precursores debe incluir además las percepciones de la gente con respecto a eventos y fenómenos naturales para comprender como responden a tales eventos y así diseñar estrategias de sensibilización con respecto a la reducción de desastres y la alerta temprana;
- se recomienda utilizar el método científico para la sistematización de precursores. En tal sentido se propone contactar a las universidades para que realicen investigaciones con equipos multidisciplinarios sobre este tema de precursores.

**Cruz Roja Guatemalteca, (CRG)**
- el tema debe ser abordado por diversas instituciones. Se recomienda la sistematización de tales experiencias.

**Resumen de precursores identificados en Guatemala para diversos tipos de eventos**

Para concluir este capítulo se presenta una clasificación de precursores para diversos tipos de fenómenos naturales, incluyendo tres que han sido identificados por la Asociación Sotzil.
<table>
<thead>
<tr>
<th>Fenómeno</th>
<th>Precursor</th>
<th>Estado de sistematización</th>
<th>Comentarios</th>
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<tr>
<td>Terremoto</td>
<td>Zona de silencio o quietud sísmica</td>
<td>En proceso</td>
<td>INSIVUMEH mantiene y ayuda a mantener catálogos sísmicos y se realizan investigaciones a nivel científico en universidades nacionales y de otros países con respecto a este precursor.</td>
</tr>
<tr>
<td></td>
<td>Presencia inusual de lobos en límites de comunidades</td>
<td>Aun no sistematizado</td>
<td>Identificado para este estudio por Asociación Sotzil, aunque puede también aplicarse a erupciones volcánicas.</td>
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<tr>
<td>Erupción</td>
<td>Aumento en el tremor sísmico</td>
<td>En proceso</td>
<td>INSIVUMEH maneja una red de sismómetros para este fin en los volcanes activos de Guatemala. Se realizan investigaciones en universidades nacionales y de otros países.</td>
</tr>
<tr>
<td></td>
<td>Aumento en emisión de gases</td>
<td>En proceso</td>
<td>INSIVUMEH y CIMDEN mantienen una vigilancia mediante instrumentos para este fin. Se realizan investigaciones por científicos nacionales.</td>
</tr>
<tr>
<td></td>
<td>Presencia ruidos y temblores antes de una erupción.</td>
<td>Aun no sistematizado</td>
<td>Identificado para este estudio por Asociación Sotzil, aunque ya se tiene conocimiento de este precursor en CONRED.</td>
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<tr>
<td>Lahar frío</td>
<td>Presencia de lluvias torrenciales en conos activos</td>
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<td>Tremor en vertientes que provienen de conos volcánicos</td>
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<td>Se aplica en dos sistemas comunitarios de alerta temprana que opera CONRED en los volcanes Santiago y Fuego.</td>
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<td>Huracán</td>
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<td></td>
<td>Reducción barométrica, vientos huracanados</td>
<td>Sistematizado</td>
<td>La escala Safir-Simpson cataloga huracanes en base a magnitud de vientos. La combinación de precursores permite una alerta temprana confiable.</td>
</tr>
<tr>
<td>Inundación</td>
<td>Presencia de huracán en zonas costeras</td>
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<td>La presencia de huracanes en zonas costeras ha siempre generado inundaciones en zonas propensas a inundación en zonas costeras.</td>
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<tr>
<td></td>
<td>Acumulación de precipitación más allá de un nivel crítico</td>
<td>En proceso de sistematización</td>
<td>La sistematización se está llevando a cabo en CONRED con relación a los diversos sistemas de alerta temprana que opera en diversas cuencas del país.</td>
</tr>
<tr>
<td></td>
<td>Aumento del nivel de río más allá de un nivel crítico</td>
<td>En proceso de sistematización</td>
<td>Ver comentario anterior</td>
</tr>
<tr>
<td></td>
<td>Olor peculiar en la cuenca alta y media</td>
<td>En proceso de sistematización</td>
<td>Ver comentario anterior</td>
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</tbody>
</table>

CIMDEN, el Centro de Investigación y Mitigación de Desastres Naturales, mantiene un monitoreo permanente de gas radón en el volcán Pacaya y se encuentra en el proceso de acopio de datos para su sistematización.
<table>
<thead>
<tr>
<th><strong>Vientos huracanados</strong></th>
<th><strong>Deslizamientos</strong></th>
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<tr>
<td><strong>Pájaros específicos construyendo nidos más arriba en los tallos de árboles</strong></td>
<td>Magnitud del huracán</td>
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<td>Aun no sistematizado</td>
<td>Sistematizado</td>
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</tr>
<tr>
<td><strong>Identificado para este estudio por Asociación Sotzil</strong></td>
<td>Ver huracanes</td>
<td>INSIVUMEH cuenta ya con un catálogo de datos sobre tsunamis. Se cuenta con el apoyo del SAT del Pacífico para el caso de tsunamis lejanos.</td>
</tr>
<tr>
<td><strong>Sequías</strong></td>
<td><strong>Afloramiento de agua en la base de un talud o cerro</strong></td>
<td><strong>Modificación en el comportamiento del mar en la costa</strong></td>
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<td>Cambio en patrones climáticos regionales</td>
<td>En proceso de sistematización</td>
<td>En proceso de sistematización</td>
</tr>
<tr>
<td>La sistematización está siendo realizada por el INSIVUMEH y el CRRH en base a análisis de datos climáticos regionales.</td>
<td>Este precursor ha sido identificado por geólogos como un característico para este tipo de eventos.</td>
<td></td>
</tr>
<tr>
<td><strong>Presencia de lluvias de alta intensidad y por varios días, en zonas propensas a deslizamientos</strong></td>
<td>No sistematizado</td>
<td>Presentado por personal de CONRED, identificado por miembros de comunidades que han experimentado deslizamientos</td>
</tr>
<tr>
<td>Este precursor ha sido identificado en otros países de Asia y del Caribe.</td>
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<tr>
<td><strong>Afloramiento de grietas en cerros o taludes</strong></td>
<td>En proceso de sistematización</td>
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</table>
7. Conclusiones y recomendaciones

Guatemala avanza por un proceso de integración social después de una guerra civil que duró más de tres décadas. Aunque los avances en distintos aspectos como el educativo son alentadores, los legados de un proceso de conquista y posterior colonización aún ponen freno al proceso de integración social entre la comunidad ladina y las distintas etnias que coexisten en el país, sin embargo se realizan esfuerzos en este campo. De manera similar, los males que han afectado a América Latina en décadas recientes como la década perdida en los años ochenta, la corrupción y las incertidumbres políticas hacen que el desarrollo en Guatemala sea un camino cuesta arriba para muchos de sus ciudadanos, en particular los pobres y los indígenas. Con una población rural indígena que depende del Estado para su desarrollo, se hace necesario encontrar avenidas que propicien este proceso de integración social. Reconociendo esta necesidad, desde hace varios años se han establecido fondos sociales como el Fondo para la Paz y el Fondo de Inversión Social impulsando así el desarrollo en comunidades indígenas.

De manera paralela, los desastres naturales también han impuesto un deterioro en los avances con respecto al desarrollo sostenible al destruir comunidades, modos de vida y al desviar fondos destinados al desarrollo para reconstruir comunidades expuestas y no adaptadas al entorno de tales fenómenos naturales. Como un primer proceso de adaptación en este contexto de los desastres naturales, diversas instituciones han propiciado la transformación institucional de CONE como entidad militar dedicada a la respuesta en caso de desastres a una institución civil que promueva la gestión de riesgo y la preparación en conjunto con la respuesta como herramientas para propiciar el desarrollo sostenible. Aunque el avance ha sido notable en los años recientes, la sociedad guatemalteca ha tenido que soportar décadas de desastres antes que los encargados del desarrollo a nivel nacional e internacional se convencieran de la necesidad de re-pensar el impacto de los desastres en el famoso “desarrollo sostenible”, sobre todo en países como Guatemala que atravesan por terremotos prácticamente cada medio siglo. Por ejemplo, el PNUD inició apenas en el año 2001 su Despacho de Prevención de Crisis y Recuperación como respuesta a desastres que año tras año aumentan las pérdidas a nivel mundial.

Guatemala ha dado pasos novedosos en materia de la reducción de desastres, particularmente en la temática de alerta temprana mediante la implementación de múltiples sistemas comunitarios de alerta temprana, que aunados a los sistemas nacionales y centralizados, están ayudando a la población en alto riesgo a minimizar la pérdida de vidas humanas. En este contexto, un siguiente paso puede ser el de integrar los conocimientos y experiencias autóctonas en la operación rutinaria de los SAT que ya opera CONRED en diversas zonas del país. En este sentido la identificación inicial de precursores realizada por la Asociación Sotzil contribuye precursores que una vez debidamente sistematizados pueden ser incorporados a los SAT activos en los volcanes de Guatemala por ejemplo. Desafortunadamente, otros precursores son demasiado vagos para ser utilizados, o son ambiguos abarcando diversos fenómenos distintos sin capacidad para hacer una diferenciación sobre el fenómeno en cuestión.

En tal sentido se propone abrir el diálogo entre CONRED y las comunidades indígenas para corroborar estos precursores identificados por la Asociación Sotzil, así como otros precursores conocidos por diversas etnias del país para su posterior sistematización. Una estrategia para la identificación, análisis y sistematización de tales precursores puede ser la incorporación de la academia en estos procesos. Posteriormente y dependiendo de los resultados de la sistematización, será posible incorporar en la estructura operativa de sistemas comunitarios de alerta temprana de CONRED los precursores que se determinen como viables. Sin embargo, la sistematización se debe
realizar siguiendo procedimientos científicos reconocidos a nivel nacional e internacional para lograr la confiabilidad que requieren CONRED e INSIVUMEH.

Por una parte, la sistematización debe resolver si el precursor se manifiesta exclusivamente cuando habrá un evento, o si se puede manifestar aun cuando no se manifieste tal evento. Por otra parte, la sistematización debe resolver si el precursor es exclusivo para uno o varios tipos de eventos. Finalmente la sistematización debe identificar las condiciones necesarias o propias para la detección del precursor. Por ejemplo, en el caso del estudio de los coyotes, es necesario realizar la sistematización solamente en las zonas donde se presentan dichos animales, algo que rara vez sucede en un entorno urbano como una ciudad grande.

Sin embargo, para que CONRED pueda actuar en este sentido se recomienda contar con el visto bueno de INSIVUMEH, en vista que de acuerdo a la legislación vigente que ha dado origen a CONRED se menciona explícitamente al INSIVUMEH como el ente científico de CONRED. Este punto es crucial en la medida en la cual se le está solicitando a CONRED que sistematice de una manera científica precursores asociados a fenómenos naturales, algo que es la función de INSIVUMEH por mandato.

Para que la sistematización se realice de manera efectiva, se recomienda iniciar un programa de sensibilización y de acopio de experiencias en las comunidades situadas en las faldas del volcán de Fuego. En tal sentido se sugiere utilizar el siguiente procedimiento:

- establecer el contacto con las universidades del país para iniciar el proceso de análisis y sistematización de precursores. En tal sentido se debe promover la creación de equipos multidisciplinarios que abarquen las ciencias de la tierra, zoología, sociología y antropología para realizar estos procesos de análisis y sistematización;
- en conjunto con las universidades y otras organizaciones, establecer los procedimientos a utilizarse para la sistematización que deben abarcar las comunidades y grupos meta, los precursores a ser analizados, las técnicas estadísticas de muestreo y análisis y la sistematización de resultados. Se sugiere seguir la recomendación del personal de CONRED con respecto a la identificación de precursores en otras comunidades de la etnia Kaqchikel, así como de las etnias K’iche, Q’eqchi’ y Mam, que acaparan la mayor proporción de población indígena de todo el país;
- contactar un grupo de personas en las comunidades, quienes tendrán la responsabilidad de mantener una vigilancia permanente de los acontecimientos y del comportamiento de los animales, para lo cual se les debe adiestrar en como llevar un registro sistemático de observaciones. Este contacto puede ser realizado por la Asociación Sotzil y SE-CONRED con el apoyo de estudiantes e investigadores de las universidades que participen en el proceso;
- SE-CONRED y el personal de la sede regional de CONRED en los distintos departamentos donde se realizará las investigaciones visitarán la coordinadora municipal, así como las coordinadoras locales respectivas, para informar sobre este proceso que se realizará en la zona, para que las coordinadoras municipales y locales brinden el apoyo respectivo e integren dicha actividad como una dentro del plan anual de actividades a realizarse en la zona;
- de manera periódica, personal de CONRED o de las universidades visitará la zona para recopilar los datos y mantener una comunicación fluida con el grupo meta. Similarmente, el personal encargado de la sección de alerta temprana analizará los datos recopilados e iniciará la sistematización respectiva, con asistencia técnica del personal de INSIVUMEH;
- además, se promoverá la participación de grupos indígenas y líderes comunitarios en las coordinadoras locales y municipales.
En lo que respecta a esta investigación, se recomienda complementarla con una revisión bibliográfica en el tema, como lo han sugerido representantes de INSIVUMEH y de CONRED.

Aunque el proceso de sistematización de precursores es una tarea de varias décadas, su ejecución permitirá el rescate de algunas prácticas indígenas y su puesta nuevamente en vigencia para beneficio de comunidades rurales y urbanas en diversas regiones del país.

Más allá de la alerta temprana es necesario reconocer que en la actualidad no se cuenta con SATs para fenómenos capaces de provocar fatalidades y pérdidas, como es el caso de los deslizamientos y los terremotos. En tales casos es necesario encontrar mecanismos de cooperación que permitan inicialmente una sensibilización de poblaciones indígenas sobre tales fenómenos y las medidas que deben adoptar para estar mejor preparados para afrontarlos. Esta acción debe ser coordinada por CONRED, que es la institución en la cual ha recaído la responsabilidad para realizar este tipo de actividades. Las experiencias exitosas realizadas por diversas OGs y ONGs en comunidades urbanas y rurales, en particular la Oficina de Ayuda Humanitaria de la Comunidad Europea (ECHO), Médicos sin Fronteras, Acción Contra el Hambre, CARE, Catholic Relief Services y otras ponen de manifiesto la necesidad imperante de realizar este tipo de actividades, pero a su vez una alternativa para lograr dicha meta.

Adicionalmente, más allá de la alerta temprana es necesario iniciar un estudio sistemático de las vulnerabilidades a las cuales están expuestas las comunidades indígenas para completar un diagnóstico de los riesgos que afrontan dichas comunidades y de las causas que conllevan a la generación de tales vulnerabilidades. Aunque se ha identificado la pobreza como una de esas causas, se debe también analizar el papel que juegan las tradiciones y hábitos en propiciar la generación de vulnerabilidades. La caracterización de vulnerabilidades y riesgos debe tener como meta el planteamiento de proyectos que enfoquen su reducción de manera sistemática y consistente.

Otro aspecto importante a reconocer es la sensibilización que se hace necesaria en comunidades indígenas con respecto a la naturaleza y fenómenos que pueden ser dañinos o no. Por ejemplo, en el estudio de la Asociación Sotz'il se manifiesta que los eclipses pueden tener un impacto en los embarazos. Sin embargo, se ha demostrado que los eclipses no causan trastornos prenatales en mujeres embarazadas. En tal sentido, es necesario también abrir las culturas indígenas al conocimiento que se ha adquirido de manera científica por todo el mundo y no solamente cerrarse a aceptar dogmáticamente los conocimientos heredados de los antepasados. La comunidad científica ha hecho avances en esta materia que son desconocidos en estas comunidades y por lo tanto, se recomienda a la OIT propiciar también una sensibilización de tales conocimientos a las comunidades rurales.

En conclusión, la reducción de riesgos en Guatemala ha empezado desde hace varias décadas, inicialmente enfocando la respuesta en caso de desastres y más recientemente mediante la alerta temprana como una estrategia para la transición temática hacia gestión para la reducción de riesgos. Aunque los pasos que ha dado Guatemala en este campo son sustanciales, quedan aun metas que lograr, incluyendo la incorporación de conocimientos ancestrales mayas en esta cultura de gestión de riesgo y alerta temprana. Este estudio ha dado en tal sentido algunas pautas con la meta de despertar en las instituciones y en las comunidades para caminar por este novedoso sendero de la integración cultural que Guatemala tanto necesita.
Anexo

1. **Precursores identificados por Asociación Sotzil**

   En la siguiente tabla se presentan los precursores identificados por la Asociación Sotzil. Como se observa, los precursores abarcan una serie de desastres naturales, así como fenómenos naturales convencionales, como el inicio o la terminación de la época lluviosa.
## Cuadro sobre Precursores de Alerta Temprana Maya-Kaqchikel en Yepocapa

<table>
<thead>
<tr>
<th>Fenómeno</th>
<th>Precursor</th>
<th>Tiempo de antelación</th>
<th>Comentario</th>
<th>Aplicabilidad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terremotos</td>
<td>Las señales de los coyotes.</td>
<td>En un periodo de cuatro meses de antelación al fenómeno</td>
<td>De la encuesta realizada a 50 personas de la comunidad Sampedrana, 45 de ellas conocen y aseguran haber escuchado a los coyotes previo a los terremotos o temblores fuertes, dos lo desconocen y tres plantean que esto no es real</td>
<td>Se recomienda sistematizar este precursor para aplicarlo en los sistemas de alerta temprana de volcanes activos de Guatemala.</td>
</tr>
<tr>
<td>Kab’raqan</td>
<td>Rutzijol ri taq Utw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erupciones Volcánicas</td>
<td>Los sonidos y movimientos de la Madre Tierra.</td>
<td>El Periodo de uno a cuatro días.</td>
<td>37 personas respondieron que es verídico, que la tierra truena antes de que el volcán haga erupción, algunos plantean que el ruido es como un retumbo de una ola o como el ruido de una olla con agua hirviendo, 10 de las personas desconocen esto y tres no saben si es cierto.</td>
<td>Este precursor ya se toma en cuenta en CONRED, sin embargo aun no está sistematizado adecuadamente. Los observadores en las faldas de los volcanes continuamente envían este tipo de comentarios cuando el volcán está cercano a hacer erupción.</td>
</tr>
<tr>
<td>Pulín Xkanul</td>
<td>Retal ri Ruwachulew</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desastres naturales</td>
<td>Canto del pich’</td>
<td>Periodo de 3 días</td>
<td>42 personas conocen sobre los anuncios del Pich’, 5 consideran que esto no es real y tres lo desconoce.</td>
<td>Este precursor es difícil de aplicar, porque puede referirse a muchos tipos de fenómenos naturales o sociales y no uno solo.</td>
</tr>
<tr>
<td>Ruk’ayewal ri Ulew</td>
<td>Ri retal nuya’ pe ri Pich’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seguridad Alimentaria</td>
<td>Los ciclos de la luna</td>
<td>El día de Luna llena, nueva, cuarto menguante y cuarto creciente.</td>
<td>El 100 % de los entrevistados conoce la relación entre la luna el ser humano y la madre tierra. Entre los comentarios que se escuchan y plantean que los efectos de la luna también tienen implicaciones directas en la siembra y cosecha de los cultivos, asimismo en el aprovechamiento de los recursos naturales, se puede observar si en ese periodo existirán lluvias y vientos fuertes.</td>
<td>Al igual que en el caso anterior, este precursor no es específico para un solo tipo de fenómenos, sino para varios, lo que dificulta su posible aplicación.</td>
</tr>
<tr>
<td>Vientos Fuertes Luviás.</td>
<td>Jalaq’oj rub’aníkit ri ik’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desastres Naturales Ruk’ayewal ri Ulew</td>
<td>Los mensajes en los sueños</td>
<td>Periodo de ocho días.</td>
<td>Existen personas que tienen el don de predecir las cosas a través de sus sueños esto se debe interpretar en conjunto, los sueños son diferentes porque se siente por la mañana al amanecer una inquietud diferente a los sueños normales.</td>
<td>La interpretación de los sueños es aun compleja y no permite identificar un marco temporal asociado a los fenómenos.</td>
</tr>
<tr>
<td>Ruk’ayewal ri Ulew</td>
<td>Rirutzijol taq Achik’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terremotos o erupciones</td>
<td>La señal de las gallinas</td>
<td>Uno o dos días del fenómeno</td>
<td>Las gallinas danzan en círculos, y cantan algo insolus de ellas.</td>
<td>Al igual que en el caso anterior, es difícil utilizar este precursor dado que puede relacionarse con dos eventos totalmente distintos.</td>
</tr>
<tr>
<td>volcanicas fuertes</td>
<td>Ri retal nkiya’ pe ri ik’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lluvias</td>
<td>El paso de los azacuanes</td>
<td>Periodo de 15 días.</td>
<td>Cuando vuelan de oriente a poniente anuncian las lluvias que pronto caerán, cuando vuelan de poniente a oriente las lluvias están por terminarse</td>
<td>Las lluvias no se consideran necesariamente como desastres.</td>
</tr>
<tr>
<td>Lluvias</td>
<td>Rutzijol nkiya’ ri taq Al</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daños a los Humanos</td>
<td>Los eclipses</td>
<td>El día en que sucede el eclipse.</td>
<td>48 personas comparten que los eclipses afectan a las señorías embarazadas, este conocimiento es general en toda la población maya. Solo una persona comparte que los científicos plantean que esto no afecta, lo que no hace creer en esto.</td>
<td>Las estadísticas de partos en todo el mundo no indican una correlación entre los eclipses y los defectos de nacimiento.</td>
</tr>
<tr>
<td>Daños a los Humanos</td>
<td>Ruxajaniil taq Recher’o’</td>
<td></td>
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</tbody>
</table>
Conflict early warning modelling: a Case study of Sierra Leone with a focus on relevant socio-economic indicators and potential entry points for the ILO

Takwa Zebulon Suifon

March 2005
Acknowledgements

This study was conducted with assistance from the Network for Collaborative Peacebuilding-Sierra Leone (NCP-SL), West Africa Network for Peace-building’s (WANEPE) network partner organization in Sierra Leone. We acknowledge the contribution of all organizations in Sierra Leone, especially those contacted during the NCP-SL Annual General Assembly (see appendix for list of member organizations of the NCP-SL). Their valuable and insightful contributions gave a sense of direction to this research. We are also extremely grateful to the peace and development practitioners on the field for their enthusiasm demonstrated during our research period.

Our profound gratitude goes to the staff of the United Nations Development Program (UNDP), especially the Arms for Development section in Freetown and the United Nations Mission in Sierra Leone (UNAMSIL) staff for their valuable orientation and suggestions. We are particularly indebted in this regard to Wahab Lara Shaw, Zoe Dugal, and Mohamed Kamara. We are also grateful to Nelson Mbu of the Human Rights Department of UNAMSIL for his valuable assistance.

Despite the agony of a deadly and destructive war, Sierra Leoneans are committed to turn a new page in history as they engage in the path to reconciliation and the quest for a decent and meaningful life. Our appreciation goes to the youths who made their voices heard in this document and are relentlessly mobilizing within several associations.

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<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ACRM</td>
<td>Anti Corruption Revolutionary Council</td>
</tr>
<tr>
<td>ACC</td>
<td>Anti-Corruption Commission</td>
</tr>
<tr>
<td>ADB</td>
<td>African Development Bank</td>
</tr>
<tr>
<td>AFRC</td>
<td>Armed Forces Revolutionary Council</td>
</tr>
<tr>
<td>APC</td>
<td>All Peoples’ Congress</td>
</tr>
<tr>
<td>AU</td>
<td>African Union</td>
</tr>
<tr>
<td>CBO</td>
<td>Community Based Organization</td>
</tr>
<tr>
<td>CDF</td>
<td>Civil Defence Forces</td>
</tr>
<tr>
<td>CPDTF</td>
<td>Commonwealth Police Development Task Force</td>
</tr>
<tr>
<td>CSO</td>
<td>Civil Society Organization</td>
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<td>Diamond Area Community Development Fund</td>
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<td>ECOWAS</td>
<td>Economic Community of West African States</td>
</tr>
<tr>
<td>ECOMOG</td>
<td>ECOWAS (Ceasefire) Monitoring Group</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<td>Gross Domestic Product</td>
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<td>HDI</td>
<td>Human Development Index</td>
</tr>
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<td>International Development Association</td>
</tr>
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<td>IDP</td>
<td>Internally Displaced Persons</td>
</tr>
<tr>
<td>IGO</td>
<td>Inter-Governmental Organization</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IMATT</td>
<td>International Military Advisory and Training Team</td>
</tr>
<tr>
<td>INGO</td>
<td>International Non-Governmental Organization</td>
</tr>
<tr>
<td>IRIN</td>
<td>Integrated Regional Information Networks</td>
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<tr>
<td>IO</td>
<td>International Organization</td>
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<td>KILM</td>
<td>Key Indicators of the Labour Market (ILO)</td>
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<td>Full Form</td>
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<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>MRU</td>
<td>Mano River Union</td>
</tr>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>NPRC</td>
<td>National Provincial Ruling Council</td>
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<tr>
<td>NRC</td>
<td>National Reformation Council</td>
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<tr>
<td>OAU</td>
<td>Organization for African Union</td>
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<tr>
<td>OCHA</td>
<td>Office for the Coordination of Humanitarian Affairs (UN)</td>
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<tr>
<td>RSLAF</td>
<td>Sierra Leone Armed Forces</td>
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<tr>
<td>RUF</td>
<td>Revolutionary United Front</td>
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<tr>
<td>SLP</td>
<td>Sierra Leone Police</td>
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<tr>
<td>SLPP</td>
<td>Sierra Leone People’s Party</td>
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<tr>
<td>TRC</td>
<td>Truth and Reconciliation Commission</td>
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<tr>
<td>UNAMSIL</td>
<td>United Nations Mission in Sierra Leone</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<tr>
<td>UNHCR</td>
<td>United Nations High Commissioner for Refugees</td>
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<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
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<td>UNOWA</td>
<td>United Nations Office for West Africa</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WACSOF</td>
<td>West Africa Civil Society Forum</td>
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<tr>
<td>WANEP</td>
<td>West Africa Network for Peace-building</td>
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<td>WARN</td>
<td>West Africa Early Warning and Early Response Network</td>
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Executive summary

Sierra Leone has now come to a fragile peace. Relatively peaceful elections were held in May 2002. The country is embarking on its post-conflict reconstruction process, yet the task is daunting in a country where the people, infrastructures and institutions have been ravaged by a decade of horrendous destruction, violence and crimes against humanity. Sierra Leone has become the poorest country on earth according to the UNDP’s Human Development Index (HDI).

In light of the decade-long conflict in the country, and in consideration of the threats to peace and recovery that the country is still facing today, this study attempts a multi-disciplinary assessment of the key root, aggravating and proximate causalities of the conflict, to militate for a widened focus of early warning and early response. It is crucial for these still nascent mechanisms for conflict prevention and early action not to limit their radar screens to “primary stakeholders” and strictly political and security-related indicators.

The study finds that the conflict in Sierra Leone as well as future prospects for the country can be traced back to the following conflict factors, in a complex web of interactions where distinctions between root, aggravating and proximate factors often become blurred:

- dependence on the extractive industry, at the detriment of agriculture, and especially on the diamond economy, which attractiveness for smugglers, organized criminals and war barons, coupled with an inability of public authorities to administer the sector and widespread corruption;
- endemic corruption is a plague that has deeply affected the whole fabric of society;
- a daunting youth unemployment crisis, with thousands of former fighters and graduates roaming the streets, amenable to manipulation and recruitment for destabilization purposes;
- years of impunity and a perception of denied justice are a powerful propellant for people to resort to “other means” to satisfy their grievances; peace agreements have tended to aggravate the sense of injustice as victims feel neglected while perpetrators often top the priorities of international assistance programmes;
- effects of regional conflicts in Côte d’Ivoire, the uncertainties of the situation in Liberia and the latent crisis in Guinea and now Togo may undermine peace efforts in Sierra Leone;
- a flourishing mercenary enterprise in the Mano River Basin, directly representing a threat to peace in Sierra Leone;
- effects on the local economy of soaring oil and rice prices and the anticipated dollar shocks when UNAMSIL pulls out of the country;
- other threats such as international terrorism with links to Sierra Leone also constitute a menace.

International efforts at establishing a permanent early warning capacity in West Africa have resulted in a major collaborative approach coordinated by the Economic Community of West African States (ECOWAS) to gain ground. With reference to this particular effort, but also in the larger perspective of influencing the axiom of early warning, the authors derive from their analysis of the war in Sierra Leone a number of indications for Early Warning Systems (EWS) to being able to harness the different dimensions and complex articulations of conflicts.

An EWS should operationalise indicators that may sense the different levels (local/national/regional/international) of peace and conflict and monitor political as well as
socio-economic indicators. Four selected socio-economic key indicators are proposed to widen the traditional politico-security oriented set of indicators of conflict-related EWS, in connection with standard ILO-produced socio-economic indicators: youth unemployment, employment by sector, primary and secondary education enrolment rates and informal sector employment.

Entry points are outlined for the ILO to collaborate and contribute its knowledge and data sources on the socio-economic dimensions of internal conflicts within broader early warning and response mechanisms, so that a more comprehensive monitoring of mounting threats, internal conflicts and post-conflict peace consolidation and recovery processes may be achieved.

The role of civil society as essential parties to such comprehensive and continuous efforts is finally stressed by the author as a powerful and most necessary dimension of EWS, to ensure that the local-level realities are properly harnessed, and for a culture of peace and conflict prevention to diffuse within conflict-prone societies.
1. Introduction

The civil war in Sierra Leone went into history as one of the most brutal wars in contemporary history, a war in which targets were mostly non-combatants. Psychological warfare tactics, such as amputating limbs, was prevalent and mostly used by the rebel Revolutionary United Front (RUF). In January 2002, President Tejan Kabbah declared the war over. By December 2003, the Disarmament, Demobilization and Re-Integration (DDR) process was proclaimed a success.

Given the history of conflicts in the sub-region, however, relapse into violence is still a likelihood, given that enabling factors and driving forces of the conflict are still very much present.

The aim of the study is to identify and bring critical emphasis and thought on employment related indicators vis-à-vis other indicators and their relevance for early warning and early response mechanisms. This study focuses on the post-conflict challenges and the key indicators Sierra Leone must pay attention to in order to prevent relapse to violence.

The overall objective of the study is to establish a framework for an early warning and early response system for Sierra Leone that emphasizes not only the politico-security indicators, but also the socio-economic indicators militating against peace and stability within efforts at building a coherent framework and comprehensive capacity to respond in a timely and effective manner to internal strife and armed conflict. Strengthening the monitoring capacity of international, regional and national organisations in volatile and conflict-prone areas, such as Sierra Leone has proved to be in the last 15 years, is a related objective of this initiative. Improving the monitoring of conflict-affected areas allows International Organizations (IOs), ECOWAS, Sierra Leonean authorities and the rest of the international community to acquire a clearer picture of the situation in the country, in order to make appropriate and timely responses and interventions.

More specifically, this initiative is looking at building upon efforts at establishing functional EWS in West Africa, such as the ECOWAS EWS and the civil society-led West Africa Early Warning and Early Response Network (WARN) coordinated by WANEP.

Taking into consideration the cumulative structural factors for conflict and/or peace, the research explores the socio-economic indicators for peace and conflict, political indicators, as well as regional and international factors conditioning peace and stability in Sierra Leone and the Mano River Basin as a whole (a form of risk assessment that justifies the establishment of a continuous warning system). In the context of the planned withdrawal of UNAMSIL, the study looks at the current and potential accelerators (and decelerators) of conflict in Sierra Leone. An analysis of existing conflict prevention capacities and potentials for collaboration, the potential role of the ILO in collaboration
with other IOs, and International Non-Governmental Organizations (INGOs) in addressing key conflict threats in Sierra Leone in the aftermath of UNAMSIL’s departure are analyzed, and recommendations proposed.

**Methodological aspects**

The knowledge and data used in this study has been collected from both primary and secondary sources. Field research has involved a nine-day mission to Sierra Leone by the team leader, that operated with the support of the NCP-SL.\(^{64}\) The NCP-SL ensured the coordination, networking, logistical support and preparatory information gathering as required for the conduction of interviews in the different regions selected for field work.

Analyses of the causalties of the civil war in Sierra Leone have envisaged threats from a macro-perspective, considering primarily the regional or national dimensions. This study has focused, on the other hand, on the local, grassroots realities of Sierra Leone.

The study considers with particular attention key, sensitive areas that served as recruitment pools for RUF recruitment in the Sierra Leonean civil war, that play host to the greatest number of former fighters. Furthermore, Freetown has also been a focus of the field research, for the capital city has been flooded with hundreds of thousands of youths from rural areas in quest for jobs, posing a daunting youth unemployment challenge that remains a huge issue to post-conflict reconstruction in Sierra Leone. The views of local Non-Governmental Organizations (NGOs) and youth associations have been sought to seize the implications of such a phenomenon and seek their perspective and potential avenues to address this challenge.

Three types of respondents within the field research were targeted: policy-making national bodies - such as the Ministry of Youth and Sports, Ministry of Labour and Ministry of Agriculture; international organizations such as the UNDP Country representation, INGOs such as Catholic Relief Services (CRS) or Care International-Sierra Leone; and field based organizations including community based organizations (CBOs), NGOs such as the Network for Collaborative Peace-building members, the National Human Rights Coalition, etc. NGOs having a stake in peace and security as well as development and employment-related matters were particularly key to this research endeavour as they are in touch with grassroots realities. Intellectuals and moral authorities - researchers, academics, journalists, student leaders, women leaders and traditional authorities (chiefs) - have also been consulted. Gender sensitivity was a cross-cutting principle that guided the overall research.

Short questionnaires were sent to field organizations, and individual interviews were conducted with the other targets. Overall, twenty-six organizations provided their views and suggestions (either responding to the questionnaires or through individual interviews, please cf. to Annex 3: Organizations/Institutions interviewed).

\(^{64}\) NCP-SL is a network of more than forty five registered non-governmental organizations with a national representation, see appendix for full list.
2. Contextual analysis

Sierra Leone is currently enjoying relative peace and stability following a decade of destruction and horrendous violence and crimes against humanity. According to recent UNDP Human Development Reports (2001-2004), the country remains top on the list of the poorest of the world’s poor. Poverty, illiteracy, weak state institutions, corruption, ethnic politics and general malaise made Sierra Leone vulnerable to the flames of armed conflict that had engulfed its eastern neighbour, Liberia. War in Sierra Leone began on 23 March, 1991 at Bomaru and Sienga in the eastern district of Kailahun. A rebellion (purportedly trained and backed by the National Patriotic Front of Liberia headed by Charles Taylor) led by Foday Sankoh crossed into Sierra Leone and marked the beginning of a brutal civil war, probably one of the bloodiest and senseless in contemporary history. The Sierra Leonean civil war targeted mostly civilians, particularly women and children. It is estimated that 27,000 youths and child soldiers were recruited as combatants in the dreadful and senseless war of terror; 70,000 people were killed and 20,000 maimed and amputated.

Box 1: Sierra Leone: A geographic and demographic profile

- Total Surface area: 71,740 Km²
- Land Area: 71,620 Km²
- Water: 120 Km²
- Age Structure: 0-14 years: 44.8% per cent (male 1,291,621; female 1,343,827)
  15-64 years: 52% per cent (male 1,458,610; female 1,599,109)
  65 years and over: 3.2% per cent (male 91,232; female 99,490) (2004 est.)
- Population Growth rate (2004 estimates): 2.27 per cent
- Birth Rate (2004 estimates): 43.34 births/1,000 population
- Death Rate (2004 estimates): 20.62 deaths/1,000 population
- HIV Prevalence Rate (2003): 6 per cent

2.1. Geography and ethnic groups

A small country of 27,925 square miles and a population of about 4.5 million people, Sierra Leone shares borders with Liberia and Guinea.65 The coastline stretches some 300 miles from the Guinea frontier to the estuary of the Great Scaricis and Mano Rivers. The topography of the country is as diversified as its climate. Three main relief regions can be distinguished. From the low lying swamps (lowlands), the land mass rises to a height of 4,000 to 6,000 feet in the eastern frontier which also coincides with the forest region. West of the country is the third feature – the Sierra Leone Peninsula (Freetown Peninsula), which consists of small islands such as Sherbro, Tasso, Plantain, Banana, Turtle, and York. Seven main river systems water the Sierra Leone land mass in a somewhat even distribution. These rivers flow from the north-east to the south-west direction and empty their waters into the Atlantic Ocean.66

65 The border with Guinea was agreed with the French government in 1885 while the border with Liberia was agreed in 1882, revisited after and finally resettled in 1911.
The first known inhabitants of Sierra Leone lived in small fishing and farming communities along the Atlantic coast and in scattered settlements in the interior. Sierra Leone has about 16 ethnic groups with the two largest – the Mende and Temne – tracing their descent from the Mane of the ancient Mali Empire. The Mende slowly and peacefully settled in present-day Sierra Leone in the 18th century from neighbouring Liberia. They are predominantly in the South and Southeast. The Mendes and the Temnes each account for about 30 per cent of the population. The Temnes largely occupy the North and North-West of the country. The third largest ethnic group are the Limba who claim to be the indigenes of Sierra Leone. Others ethnic groups (which collectively account for the remaining 40 per cent of the country) are the Susu in the North-West extending into neighbouring Guinea, Mandingos who are dispersed over the entire country, the Fullah (also found in Guinea, Senegal, Côte d’Ivoire, Liberia, and Nigeria); the Koranko, Yalunka, Knon, Kissi, Vai, Krim, Creoles (mostly re-captives) and Kru.67

2.2 Education

In the field of education, Sierra Leone made tremendous achievements shortly after gaining its independence in the early 1960s. With technical and material assistance from the UNDP, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Development Association (IDA), the whole educational sector received a major bolster. Technical institutes, vocational centres and general education as a whole underwent a thorough transformation. By the late 1960s, nine teacher-training colleges were restructured into six training colleges for convenience and economic expediency. Five of them trained the primary sector teaching corps in Freetown, Port Loko, Makeni, Bo and Banjuma. The Milton Margai College trained junior secondary school teachers while Fourah Bay College and Njala University College trained the senior secondary teachers.

The Institute of Education came to reinforce the sector by providing coordination to these institutions and at the same time created opportunities for the recycling of teachers already in service. Njala University College and Fourah Bay became constituent colleges of the University of Sierra Leone in 1972. A College of Medicine was established in 1988 as the third constituent part of the University of Sierra Leone.68 Schools for the physically handicapped as well as the informal educational facilities such as adult literacy training centres have been created.

During the Sierra Leonean war, the school system almost ground to a halt. Children abandoned schools and fled in search of safety and refuge along with their parents. Some were forcefully recruited as combatants by the various warring factions.

After the war and as part of the rehabilitation and re-insertion processes, attempts have been made to re-boost the school system. Primary school enrolment, for instance, has increased by 70 per cent over the past two years, and complementary rapid education programs for youths have expanded significantly. Moreover, the government has set aside considerable financial resources to bolster the enrolment of girls in secondary schools, especially in the war-affected northern and eastern parts of the country. The greatest challenge remains the inadequacy of schools, qualified teachers and teaching material.69 The 2004 Human Development Report credits Sierra Leone for making great strides in the educational sector despite the daunting problems that the country faces.

67 ibid., p.9.
68 ibid., pp. 259 to 260.
2.3 Health sector and social services

After the country gained independence, the Sierra Leone National Health Plan was established. The plan envisaged a rapid expansion of the medical services and training of ancillary staff. While main hospitals in Freetown and Bo were to be improved, there was a plan to set up a hospital in each district headquarters. Each chiefdom\textsuperscript{70} was to be provided with a medical centre. The Endemic Disease Control Unit was to intensify its campaign against the challenging diseases of the time – sleeping sickness, yaws and leprosy. Greater efforts were deployed to control communicable disease such as malaria, as well as the immunization of pregnant women and children. Sanitation schemes were intensified to fight against dysentery and cholera through adequate pipe-borne water projects. While a paramedical school was set up in Bo in 1982, the Department of Community Health was created in 1984 to train community health staff.

Health service delivery in Sierra Leone has improved from a capacity level of 5 to 10 per cent during the war to 40 to 50 per cent today. Nevertheless, although each district now has a functional referral hospital, there are large populated areas in the country that do not have access to adequate health services. Capacity constraints such as lack of qualified personnel, lack of basic equipment still constitute a serious impediment.

Today, the scourge of AIDS is posing a major challenge to the health sector. The (official) HIV prevalence rate is about 6 per cent. International and national NGOs, particularly religious organizations, have embarked on the health sector, working closely with the Ministries of Health, and Rural Development, Social Services and Youth. The campaign against the propagation of HIV-AIDS has expanded significantly. More progress has been made in the area of child protection and rehabilitation of the country’s war victims. Infant mortality rates have remained high and higher than in years immediately after independence. Access to basic medicine has eluded the ordinary Sierra Leonean due to acute poverty.

The provision of vital social amenities has been a priority of the post-war Sierra Leonean governments despite the turbulent political atmosphere. Many ambitious schemes were designed and despite attempts to address the numerous social demands by the government and the NGOs, but much remains to be done. Before the war, electricity supply was promising with the construction of power stations like the Bumbuna hydroelectric power station, in addition to the Kingtom power station and the Dodo plants that supplied Kenema and Bo. Prominent among the recreational facilities is the Chinese-built Brookfields stadium, a youth sporting arena.

\textsuperscript{70}Sierra Leone is calved into administrative units called chiefdoms, an administrative structure tracing back to the British colonial rule.
2.4 The economy

The economic dimension will be further developed in the successive stages of this study. A brief profile is included here in order to complement the contextual analysis (cf. to section 3.1).

The economy of Sierra Leone is largely dependent on the the extractive industry, with further activities in the agriculture and commerce sectors. Sierra Leone’s leading extractive activities in the 1960s and 70s included bauxite and rutile. It is believed Sierra Leone has the largest known rutile deposits in the world. Initially, gold mining activities were at minimal scale (a study in the mid-1980s revealed that the country’s gold resources amounted to over 2 billion US$). However, the nation’s greatest wealth came from the discovery of diamonds, which also became the source of Sierra Leone’s demise in the 1990s.

Today the economy is growing, with Gross Domestic Product (GDP) growth estimated at 6.5 per cent (2003). Momentum for growth came largely from diamond mining, agriculture and the construction sector. Rice production, for instance, reached 78 per cent of the pre-war output, still however covering only 50 per cent of actual needs. There was a 47 per cent increase in the total planted area and 144,000 farmers benefited from a seed distribution programme of 5,772 tons of rice. Cultivation of cash crops such as coffee and cocoa that was abandoned during the war is being revived. The official mining output of diamonds doubled, to 251,300 carats, between the first half of 2002 and 2003.\(^{71}\)

Unemployment is a major issue affecting Sierra Leone today. There are no official statistics on the level of unemployment at present but different NGOs and international relief organizations estimate that there are not less than a million\(^{72}\) idle hands and minds in the country in search of employment. Most of them are uneducated and have been exposed to socially-excluding activities such as drug peddling and prostitution. The streets of Freetown continue to be swelled by a stream of restless youths.

The national budget depends heavily on donor funding. High security related expenditures, strong demand for imported goods and increase in oil prices have resulted in depreciation of the local currency with an inflation rate of 10 per cent in 2003, compared to 2 per cent in 2002.

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\(^{71}\) 21\(^{st}\) report of the Secretary General on the UN Mission in Sierra Leone (19 March, 2004), S/2004/228.

\(^{72}\) Out of a predominantly youthful population of about 4.5 million.
2.5 **Historical perspective**

Sierra Leone as we know it today came into existence in 1896. Until then, it was a mountainous peninsula named by the Portuguese in 1462 as the “Lion Range” (*Serra Lyoa*) where a British philanthropist founded a settlement for freed slaves in 1787. In 1808, the territory became a British crown colony before being declared a protectorate in 1896; subsequently its inhabitants gained the status of British subjects. Independence was obtained in 1961, with Sir Milton Margai as the country’s first Prime Minister. The conservative, yet charismatic leadership of Margai achieved a peaceful transition to independence under the banner of the Sierra Leone Peoples Party (SLPP).

Sir Milton Margai died in 1964 and his stepbrother, Sir Albert Margai was appointed as his successor. This transition was accompanied by a major political power struggle between the Temnes and Mendes ethnic groups. Albert, unlike his brother Milton, displayed rashness in dealing with non-Mende SLPP adherents. Most northerners defected to join the newly formed All Peoples’ Congress (APC) led by Trade Union activist Siaka Probyn Steven.

Force Commander Brigadier General Lansana (with close affinity to the Mendes) supported Albert Margai and the SLPP while his deputy Colonel John Bangura (a northerner) was sympathetic to the cause of the socialist-oriented APC. In order to consolidate his control over the military before the 1967 elections, Albert Margai implicated Colonel John Bangura and some other anti-SLPP officers (of Krio and Mende origin) in a coup plot. The arrest and incarceration of Krio and northern officers gave the APC an effective propaganda tool. Consequently, Albert Margai’s SLPP did not gain many seats in the 1967 elections. “Politics of the tribe” greeted Sierra Leone only to become the single most crippling factor in its state and nation-building effort.

The Governor General, Sir Henry Lightfoot-Boston, having sensed the dangerous path that Sierra Leone’s new breed of leaders had carved out for the young state, appointed the opposition Siaka Stevens of the APC as Prime Minister and suggested that leaders of the APC and SLPP form a government of national unity incorporating all shades of political opinion in the country. At the swearing-in ceremony, army chief David Lansana staged the first successful military *coup* in the country’s post-independence era. Before General Lansana could assume leadership of the country he was overthrown by junior army officers. The *coup* plotters arrested the Head of State, Albert Margai, and formed the National Reformation Council (NRC) led by a Krio army officer, Major Juxon Smith.

This regime was short-lived. In 1968 northern army officers staged yet another *coup* ousting Juxon Smith from power, and formed the Armed Forces Revolutionary Council (AFRC). This group of army officers recalled Siaka Steven (at the time living in exile in neighbouring Republic of Guinea) and had Governor General Lightfoot-Boston swear him in as Prime Minister for the second time. Immediately after inauguration as Sierra Leone’s third Prime Minister, Siaka Stevens heavily clamped down on opponents in the SLPP arresting, torturing, incarcerating, and forcing others into exile. Stevens in fact deepened...
the politics of exclusion and violent suppression of dissent,\textsuperscript{79} abandoning APC's previous (1961–1967) commitment to participatory democracy. He vigorously pursued a single-party dictatorship.\textsuperscript{80}

On 19 March 1971, due to pressure from Prime Minister Stevens, Parliament passed a bill declaring Sierra Leone a Republic and Stevens became its first President. On 23 March of the same year, military chief, Force Commander John Bangura and others were arrested and charged with treason. A relative of John Bangura, Foday Sankoh, a corporal and photographer in the Sierra Leone Army, was implicated in the coup, arrested, and incarcerated at the Pademba Road prison.\textsuperscript{81}

In 1973 President Stevens was re-elected as President of the Second Republic following controversial elections held under a state of emergency. Stevens's legacy was showcased as 'Politics of the belly' through rampant corruption and break down of social and moral values in his seventeen years of tenancy in the Presidential hill. To give but one example, President Stevens made use of international grants to fund an OAU summit in Freetown only for him to be offered the honour to serve as its Chairman.

After hurriedly organised national elections J.S. Momoh, as the only, candidate won 99 per cent of the votes cast and was subsequently inaugurated as President of Sierra Leone on 25 November 1985. President J.S. Momoh’s ‘New Order’ policy of financial, administrative and political reform failed to tackle the institutionalised corruption in both the public and private sector. It is said that Momoh once said in Krio 'Usai den tai Kaw nar dae i dae eat',\textsuperscript{82}

It was against this background, therefore, that the rebellion found justification and a following that culminated in the infamous civil war.

\textit{From endemic corruption to civil war}

The war started in March 1991 with the attack of the RUF, purportedly supported by the Liberian president Charles Taylor. As the RUF moved from the south-eastern parts of the country towards Freetown, President Momoh was ousted by his own cadres. They created the National Provisional Ruling Council (NPRC) as the new government but were incapable of stopping the RUF. Both the army and the police have been accused of collaborating with the RUF in search of their own plunder opportunities. As the NPRC was pushed back to the outskirts of Freetown, they hired South African mercenaries (from a company named Executive Outcomes).

With the help of Executive Outcomes, the NPRC succeeded in pushing back the RUF. Elections were held in May 1997 and Ahmed Tejan Kabbah of the SLPP was elected President. He strived to consolidate his power with the setting-up of the Civil Defense Forces (CDF), a militia group organized by the Mendes to defend their territory. Kabbah signed a peace agreement with the RUF in Abidjan (Côte d'Ivoire). He terminated the contract with Executive Outcomes, but paid a high price. His leading army officials turned against him and took control of the country under the name of the Armed Forces Revolutionary Council (AFRC). While Kabbah fled to neighbouring Guinea, the AFRC engaged in a surprising alliance of convenience with the RUF. In the period to follow, power abuse and large-scale human rights violations occurred frequently. The democratic reforms promised in the Conakry accord in 1997 turned out to be a farce.

\textsuperscript{79} Koroma, \textit{The Agony of a Nation}, p.24.
\textsuperscript{80} Most scholars believe that Stevens exiled life in neighbouring Guinea where Ahmed Sekou Toure had succeeded to establish a police state and crushed all dissent inspired his new political tactics.
\textsuperscript{81} It is this same Foday Sankoh who reappeared exactly 20 years later as leader of an annihilating rebel war.
\textsuperscript{82} Meaning 'a cow grazes where it is tethered'.
The ECOMOG regional peacekeeping force, stationed near Freetown, intervened and took the capital from the AFRC and the RUF. During this campaign, militias like the Kamajor were supported to fight the RUF-AFRC coalition. Due to the safe haven the RUF found in neighbouring Liberia, the militia was never fully disbanded. With the support of Charles Taylor, they launched an attack to retake Freetown in January 1999. This resulted in a stalemate that neither ECOMOG nor the RUF could surmount. At the national level, Tejan Kabbah’s government invited the CDF of Hinga Norman to assist the government with the RUF war when Sierra Leone’s soldiers rebelled against the authorities, otherwise labelled “Sobels”. A second peace agreement was signed in Lomé (Togo). To keep the RUF aboard, serious concessions were made: cabinet positions were awarded to the RUF and its leader, Foday Sankoh, became Minister in charge of Minerals with a vice presidential portfolio.

In the meantime, ECOMOG peacekeeping troops were replaced by UNAMSIL. This, however, turned out for the worst when the RUF took a large group of hostages (among them some 500 UN peacekeepers) in May 2000. British forces came to the help of UNAMSIL; ECOWAS negotiated the release of the troops while Foday Sankor was arrested after a mass demonstration by the civil society. In January 2002, President Tejan Kabbah declared the bloody civil war over. Presidential elections were held in May 2002 and Kabbah returned to power in a country where the socio-economic impact has been enormous and grave sources of concern for the country to relapse into instability and violence remain in place.

2.6 Intervention: International stakeholder analysis

Intervention is Sierra Leone has been multi-layered and intense. The United Nations approved the largest peacekeeping mission ever with over 16,000 troops deployed in Sierra Leone. The peacekeeping mission cost is estimated at 2.8 million US$ a day for close to four years now. Great Britain took both military and political initiatives in rescue to its former colony. British war vessels with at least 200 ground troops played a significant role to eliminate RUF and West Side Boys threats when over 500 UNAMSIL blue helmets were captured by the rebels in a move that apparently disgraced and discredited the whole idea of UN peacekeeping. At the political level Britain has continued to assist in restructuring the army, police and other security forces. The British Department for International Development (DFID) has also been engaged into DDR and resettlement.

The ECOWAS Monitoring Group (ECOMOG) was the first intervening force in Sierra Leone. It played a central role in preventing the ruthless RUF from taking over the country. ECOMOG spent over 2 billion US$ in its intervention mission in Sierra Leone. The bulk of the funds was offered by Nigeria (especially during the despotic Sani Abacha regime).

Hundreds of local, national, and international humanitarian organizations including UN agencies are addressing humanitarian and development concerns in the country. Similarly to the case of Rwanda, the NGO space in Sierra Leone has become crowded leaving the young and fragile government to sometimes recline in complacency.

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83 Hinga Norman has been arraigned before the Special Court to answer charges of murder, abduction, torture, rape and crimes against humanity.

84 Sobel is the word coined for soldiers turned rebels. Sobels means “soldiers by day and rebels by night”. This appellation portrayed the attitude of the soldiers who connived with the rebels and robbed the people by night.
Nevertheless, despite the energetic intervention of UNAMSIL, disarmament and the organization of free and fair elections (May 2002) in which the RUF transformed into a political party (contesting and losing the elections), Sierra Leone remains vulnerable to violent conflict. UNAMSIL commenced its pull-out from Sierra Leone in December 2004. The atrocities of the past decade have left their scars that the healing process is yet to overcome. The war’s legacy encompasses the prevalence of small arms, war traumas, a culture of greed, corruption and impunity and a deafening governance challenge. It also resulted in a plundered economy that has been compounded by illicit trading in diamonds. A number of mercenaries are still in the country (some moved in from Liberia and Côte d’Ivoire as DDR processes were announced) with many establishing diamond trading centres as private entrepreneurs. The social, political, economic, educational, and health infrastructure collapsed and/or disarticulated by war are slowly being re-established.

At least 10,000 young boys and girls dehumanized and trained to kill and plunder are among the so-called 45,000 demobilized combatants in Sierra Leone. While the international community can boast of disarming 45,000 soldiers, experience from Liberia (when faction fighters including Charles Taylor’s Patriotic Front falsely claimed to have disarmed only to unleash another phase of a ruthless and deadly war) suggests that the process is far from over. It is difficult and perhaps deceitful to claim that the disarmament process is completed and successful. Demobilized and former CDF fighters who claim to have fought for President Tejan Kabbah’s government still demand compensation and have never concealed their intentions to take up arms again if their grievances are left unaddressed. The former CDF continue to hold on to public buildings in Freetown and Bo. Incidences of human rights violations and organized criminal activities by these ex-combatants are still rife. Lack of effective demobilization and rehabilitation programs in the country have returned very dangerous young men and women to communities where memories of their despicable atrocities remain fresh. The Sierra Leonean government accused for undermining the development of young people cannot afford to turn a blind eye to the demands of youth this time around. This ‘reservoir of killers’ can deploy their dangerous skills anytime and anywhere.

In the light of this threat, efforts at conceptualizing and establishing a conflict prevention strategy are crucial. One of such preventive measures is the establishment of an early warning and early response system that would continuously monitor and analyze the situation throughout the pre-conflict, conflict and post-conflict phases. Sierra Leone is actually in the post-conflict phase and a functional EWS would constitute a necessary tool to accompany the ongoing reconstruction process in the country, while helping to prevent further escalation.
3. Conflict in Sierra Leone: Key socio-economic, political and regional factors for (in)stability

Some analysts say the Sierra Leone civil war was merely a diamond war. Others maintain that a selfish thirst for power and personal gain by the political class was responsible for the tragedy. This study central tenet is that, in contrast to these perspectives, no one single factor can explain Sierra Leone’s civil war. Such a perspective has been well documented by Joe Alie,\(^\text{85}\) who described the complex web of inter-locking factors that underlies that terrible war, from over-centralization of the state machinery to inadequate resource allocation, a politics of affectivity which Alie calls “connectocracy” rather than “meritocracy”, and a weak and corrupt military. This section therefore attempts a multi-disciplinary critical examination of conflict and peace causalities that lay the grounds, facilitate or accelerate escalation to armed conflict, in light of the Sierra Leone experience. Key causalities are treated with a concern for comprehensiveness (if not exhaustively), along three main axes: socio-economic factors, political factors, and regional and international dimensions.

![Economic Activity Map](image)

Map 2: Primary sector activities in Sierra Leone

3.1. Socio-economic indicators for conflict and peace

Although the relationship between conflict, employment and selected indicators might not necessarily be direct and straightforward, an analysis of their connectivity is attempted here. Socio-economic indicators are systemic indicators, i.e. underlying factors that have been present in the country for long and that are not likely to be lifted in the short to medium term. These factors constitute the foundation on which conflict accelerators or

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proximate (or triggering) indicators draw their strength. It should be noted that some systemic factors gradually transform into accelerators of conflict, and it may thus be difficult to draw a clear line between systematic and accelerating factors in a static manner.

### 3.1.1. Dependency on the extractive industry

Sierra Leone, like many African countries, depends highly on the mineral extraction industry for its economic survival. The problem, however, is not so much the extractive nature of the economy, but how the proceeds are managed to sustain the economy and the well-being of the people. Our main focus will be on diamonds (while also making references to other mineral such as rutile and gold), Sierra Leone’s precious gem stones that have played such a critical role in its tumultuous history, and especially so in the last two decades.

Diamond-mining in Sierra Leone seems to have been both a blessing and a curse for the country. Since 1931 when diamonds were discovered at Futinggaya in Nimikoro Chieftdom, in the Kono district of Sierra Leone by John Dudley Pollet of the then British colonial administration, the monopoly has been the operational modus operandi. The British mining company, Sierra Leone Selection Trust (SLST) had the monopoly lease for exploration and excavation covering the entire country for 99 years beginning in 1934. With independence, the lease was reduced to 33 years and limited to the Kono district.86

Sierra Leone’s alluvial diamond-mining has come to be recognized as one of Africa’s richest, having produced one of the world’s largest rough and uncut gem stone. However, mining has suffered enormously from disorganization. The greatest concern was how government ministers connived to cheat the very government and people they were serving. Constant smuggling of diamonds and all types of corrupt practices clouded the diamond trade. Policies for monitoring production were weak and inadequate. Kono for instance was declared a Diamond Protected Area for residents only but was in practice flooded by West African nationals in search of treasure. The catalogue of problems and mounting debts led to the passing of the 1987 Public Emergency Regulations, which suspended gold and diamond-mining licences to private companies and centralized exports within the Central Bank of Sierra Leone. The results were disastrous as there was a 1.4 million US$ monthly drop in diamond and 1.9 million US$ in gold proceeds. It was later discovered that within this period 15 gold and diamond buying offices opened in Liberia.87

### 3.1.2. Excessive lure of diamonds, smugglers paradise

Illegal mining is still accounting for about 45 per cent of mining activities, and mining as a whole seasonally employs as little as 5 per cent of the total labour force in the country. Illegal diamonds deprive Sierra Leone of much-needed revenue to support the public services sector. Moreover, the new mining law only allocates 3 per cent of the mining proceeds to the state coffers.

It is the lack of governance in the sector which has made Sierra Leone’s gold and diamond mining a “smugglers’ paradise”. Sierra Leone’s diamond and gold economy has constantly affected the reputation of successive regimes. A critic of the illicit diamond trade, Russell Short, blamed the racketeering network on all the actors from the remotest corner of Africa to the currency-laundering operations in Europe’s financial capitals.88 The illicit trade (ran by a wide palette of merchants, including some Lebanese, West Africans

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86 Koroma, *Agony of a Nation*, p.91.
87 Ibid., p. 94.
88 Ibid., pp. 96-97.
and nationals) would not have succeeded without the close association of top level corrupt bureaucrats in the political strata down to the banks, customs, police and so forth.

Many were attracted to Sierra Leone’s conflict only because of its precious stones. Out of desperation, governments contracted diamond fields to mercenaries like Executive Outcomes from South Africa and Sandline from the United Kingdom. Other mercenaries from Ukraine, Liberia, Burkina Faso, Nigeria, Ghana, etc. descended on diamond fields in Sierra Leone to obtain a share of the precious stones. Many of these mercenaries are now aware of the weaknesses of the government making diamond-mining a free-for-all deregulated enterprise. These established interests do not seem to be willing to depart and will continue to undermine the government’s authority in the diamond sector. As for the labour force, most of the workers in the illegal mines in Kono, Tonga in the east of the country⁸⁹ (fief of the RUF rebellion that led to the civil war) and the new illicit mining zone in Kamakwei in the Bombale District are former combatants. They often combine this illicit activity with drug-peddling as mines incidentally serve as lucrative centres for drug marketing and consumption. These former fighters turned miners are not only poorly paid but are also recruited as guards and security agents for drug peddlers. Their lifestyles have become a constant source of menace for the urban centres as well as for villages in mining areas.⁹⁰ It is certain that the years of economic plunder are yet to be over, and with such illegal mining and trade, other illegalities, criminal activities and private use of violence that plug into the business are promised an enduring future.

The Government of Tejan Kabbah and the international community seem to have entrenched this lure for diamond. A recent legislation has reorganized the mining sector, a process that started in 2000. A new mining policy aims at establishing an internationally competitive and investor-friendly business environment in the mining sector. The government has consequently reduced corporate tax for industrial mining companies from 35 to 30 per cent. Ownership of the mining sector has been left entirely in the hands of the private sector. Machinery and equipment for prospecting and exploration are imported duty-free in addition to approving prospecting and exploration expenditures for capitalization.⁹¹

In 2000, the total exported (official) diamond earnings stood at 6.5 million US$. In 2001, the same earnings rose to 21 million US$; in 2002, they climbed to 41.7 million US$ and in 2003 the figure soared to 76 million US$. Out of these amounts, only 3 per cent was paid to the government as export duty. Policies in respect to the marketing of the precious minerals have been liberalized to enable exporters to operate on a levelled playing field, or so the government claims. Currently, there are about 80 prospecting and exploration companies operating in Sierra Leone, with few hundred Sierra Leoneans, mostly ‘hand labourers’ employed. Koindu holdings (so far one of the largest mining companies) employs about 300 Sierra Leoneans.⁹²

Efforts such as the Diamond Area Community Development Fund (DACDF), collected from the proceeds of alluvia diamond exports, are encouraging. Funds under this scheme are allocated to the number of artisanal diamond mining licences issued per Chieftain and are used for community development projects in Chieftains concerned. Such efforts only represent however a piecemeal allocation to communities (one is tempted to conclude that Sierra Leone’s diamonds proceed are still reserved for a privileged few). Political and commercial barons continue to hold the business under their control.

⁸⁹ See map on page 20.
⁹⁰ Interview with a prominent youth leader, Ngolo Katta, National coordinator, CCYA (Freetown, 24 October, 2004).
⁹² Ibid.
Reports that government ministers are involved in illegal mining have appeared in local newspapers. Recently, a 750-1040-carat “star of Sierra Leone” gem ‘metamorphosed into stone’ in the hands of government officials and the police at Kenema.93 Four miners who unearthed the treasure at a mining plot at Bormie, in Tonga were surprised that the huge discovery ‘miraculously’ transformed in the process into a useless stone. The Movement of Concerned Kono Youths (MOCKY) in July 2004 planned a demonstration against President Kabbah in disapproval of his handling of mining excesses by the Koidu Holdings Limited in the Tonkoro District.94 Such demonstrations are signals not to be overlooked, as they may transform into organized violence, and risks of escalation cannot be ruled out.

### 3.1.3. Land conflicts and litigations

Closely linked to the mining quarrels, and a potential source of violent conflict, is the little discussed but serious problem of land ownership. Disputes over land ownership, family holdings and heritage existed in Sierra Leone even before independence. However, the war and the (sometimes orchestrated) displacement it produced generated new tensions on the land dispute, with people losing land and/or claiming ownership over abandoned land and property. According to a local news tabloid, 75 per cent of conflicts and litigations throughout the country are related to land management and questions of ownership.95 The question is yet to receive proper regulation by the concerned authorities.

The Yenga land dispute between the Republic of Guinea and Sierra Leone is an indicator that international border disputes are also a menace to future stability and peace. Yenga is believed to have valuable quantities of diamonds in its subsoil. When combined with the potential presence of minerals, in a continent where boundary disputes are still rife, land constitutes a potentially important source of violent conflict.

### 3.1.4. Youth unemployment

There are no definite statistics on the number of unemployed in Sierra Leone. 45,000 former combatants have been disarmed in Sierra Leone, among which a quarter are youths. Lapses in demobilization and rehabilitation programs in the country have returned very dangerous young men and women to communities where memories of their despicable atrocities are fresh. The DDR process, as noted above, is far from being over. CDF rebels who claim to have fought for the Kabbah government still demand compensation. Incidences of human rights violations by these ex-combatants are still rife. It is alleged that a large number of RUF soldiers crossed over into Liberia to support Charles Taylor while CDF fighters make up the rank and file of the Liberia United for Reconciliation and Democracy (LURD). A number of the ex-combatants or soldiers of fortune have extended their profession to Côte d’Ivoire as well. The Sierra Leone government, internationally indicted for undermining the development of young people, cannot afford to turn a blind eye to the demands of youth this time around.

On his recent visit (2002) to Sierra Leone, the UN Under-Secretary and Special Representative of the Secretary-General for Children and Armed Conflicts warned that “…without prospects for jobs or education, Sierra Leone’s youth could be a source of instability in the country.”96 Indeed, the issue of unemployment is critical, and influences other dynamics such as emigration (especially to Europe, the Americas and Southeast Asia), criminality, banditry and even armed rebellion. The recent African Union (AU)

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95 *Salone* newspaper, 16 August, 2004.
96 *Reliefweb* ([www.reliefweb.int](http://www.reliefweb.int)), Sierra Leone, February, 2002.
regional summit on employment in September 2004 in Ouagadougou (Burkina Faso) raised the issue and emphasized the need for decent employment as a critical factor in the resuscitation of the African economy.

### 3.1.5. Growing number of asylum seekers

One of the indicators of the socio-economic situation today is the number of people seeking asylum abroad. Since the outbreak of civil war in Sierra Leone up until this day, Sierra Leonean youths in particular have continued to emigrate to Europe and North America for asylum in large numbers. United Nations High Commissioner for Refugees (UNHCR) repatriation programs have benefited thousands of applicants. Recent attempts by UNHCR authorities to send asylum-eager Sierra Leoneans in Guinea to return home because of an improved security situation was met with ferocious resistance and riots in Conakry (Guinea).

The precarious economic situation back home and the large remittances regularly sent home by Leoneans are the push and pull factors for emigration to Europe, America and South East Asia. Sierra Leonean youths have joined their fellow African youths in defying the scourging Saharan desert sun, the vigilant north African police and the deadly Mediterranean Sea waves in the now infamous migration into Europe through Spain and Italy in search of better paid jobs and better livelihood. They are ready to forfeit everything to cross into Europe, even at the cost of their very lives.

### 3.1.6. The international sector and the “dollar shock”

Despite the presence of the United Nations and other international organizations, relatively few Sierra Leoneans have benefited from the employment opportunities offered by the presence of the United Nations and the plethora of international development, health and relief organizations involved in the post-conflict reconstruction of the hitherto collapsed state. Lack of requisite skills and the high level of “brain-drain” that resulted from the rebel invasion have made the jobs that matter inaccessible to locals.

Most Sierra Leoneans, apart from those working in the public service, are contented with low-level or average jobs such as security guards, drivers, messengers, house helps, secretaries, etc. These categories of people are paid in local currency, using national salary scales. Their counterparts of the same category from abroad are paid double or sometimes triple the amount. Even international organizations that are aware of the salary discrepancy between international and local staff and the effects on the lives of locals have maintained the status quo not only in Sierra Leone but in the whole of sub-Saharan Africa.

The dollar-driven economy that is propelled by UNAMSIL, international NGOs and relief organizations will have a significant impact as UNAMSIL scales down from over 16,000 to about 3,500 staff beginning December 2004. The high rent proceeds that privileged landlords enjoyed will fall sharply, so the food prices and the general purchasing power of town dwellers. The banking system, transport system, utilities and all sectors of the economy will be affected. How to manage the economic shocks and consequences on the overall socio-political stability of Sierra Leone is a major concern for peace and stability. The pulling-out strategy of the international community, especially the UN, is therefore critical.
3.1.7. Fuel/Rice price increases

There are two necessities for which Sierra Leone depends on importation and which it may not be able to do without for the next decade, namely petroleum and rice. Recent hikes in petroleum products in the world market due to the precarious situation in Iraq and the Delta region of Nigeria have been economically burdensome to economies of developing nations. The situation becomes worst for dependent nations like Sierra Leone that imports all its petroleum needs. Pump price increases may occasion serious economic downturns due to soaring prices of transportation and basic necessities and may result in riots in the near future.

The history of the Mano River Union (MRU) has been fraught with rice riots that have resulted in far-reaching economic consequences. Liberia experienced it in the 1980s and recently (mid-2004) Guinea witnessed the same scenario as rice is the staple component in peoples’ diet in this part of the world. Though there has been a significant rise in rice production, Sierra Leone still imports more than 50 per cent of its actual rice needs.

3.2. Political indicators for conflict and peace

3.2.1. Culture of impunity

From its inception as a nation-state the culture of impunity has largely prevailed in the country. The poor conditions and capacities of the judiciary are an indication to this. Political assassinations under Stevens and other governments were never looked into. During the civil war the culture of impunity was entrenched. It will be extremely difficult to transform this culture in a country where heinous crimes were committed publicly. Victims will live with their victimisers. Amputees who bear physical scars from the war have alleged many times that they receive less attention from both the Sierra Leone government and the international community compared to their perpetrators. The perpetrators are demobilized and given assistance to resume normal life while the amputated languish in displaced camps with no limbs to return to farming. Peace agreements such as the Lome Peace Accord gave blanket amnesty to armed factions and their leaders, thereby endorsing and entrenching impunity par excellence.

The Special Court for Sierra Leone, established by the United Nations Security Council, is entrusted with processing violations of international humanitarian law and certain violations of Sierra Leonean law. The court is expected to try cases that occurred in the war since 1996. In addition to punishing those responsible for atrocities, it is an indispensable instrument to combat the longstanding and destructive culture of impunity existing in Sierra Leone. It will also serve to revitalize the belief in the rule of law in a society that has largely lost confidence in the judicial system.

During the second week of March 2003, the court ordered the arrest of key suspects of grave human rights violations including RUF second in command, AFRC commanders including Johnny Paul Koroma (feared dead since 2003) and Hinga Norman. The Special Court has the potential to assist Sierra Leone in consolidating the rule of law, a value that was never cultivated in her 42 year history of independence. However, the mandate of the tribunal restricting justice to crimes committed during less than half of this brutal ten-year conflict risks undermining its overall objectives.

97 ibid.
In the spirit of national reconciliation, a Truth and Reconciliation Commission (TRC) was established alongside the Special Court with the aims of creating an impartial historical record of violations of human rights; addressing impunity; responding to the needs of victims; promoting healing and reconciliation and preventing a repetition of the civil war. According to the proponents of the TRC, the process aimed at helping to restore the human dignity of victims and to promote reconciliation by providing an account of violations and abuses suffered and for perpetrators to publicize their crimes, giving special attention to the subject of sexual abuse and to the experiences of children during the armed conflict. The TRC uses a multiple approach: cleansing/purification rituals and customary trauma healing; community/village councils; symbolic reburial of victims; religious services; monuments; humanitarian assistance and psychosocial projects for victims; survivors and the family; drama and oral history project; truth panels in displaced/refugee camps; reparation by returning perpetrators; human rights training and citizenship education.

The TRC, it is argued, is Sierra Leonean-owned. It is not a court; it is a platform for people to voice what they know and what they have experienced. Advocates insist that the TRC lays the foundation for lasting peace in Sierra Leone, as the victims and the perpetrators have everything to gain by their co-operation with the Commission.

According to Human Rights Watch, the TRC is experiencing serious funding shortfalls and bureaucratic delays. The 9.98 million US$ appeal to fund the TRC was launched in late February 2002, and only 1.2 million US$ was pledged. Commencing operations without adequate funds, it was feared, could undermine the work of the commission and public confidence in it.\(^\text{98}\) Indeed, truth told without adequate mechanisms for healing can incite violence or further violation of the victims. The level of education needed throughout the country for the process to begin on a good footing has been inadequate. Poor infrastructure also will affect the outcome of the process. Whether truth will heal and reconcile the nation or further polarize it will depend on the process put in place.

### 3.2.2. Endemic corruption

Corruption within both the public and private sectors in Sierra Leone has been described as endemic, transcending almost all levels of government and business transactions. Scandals involving the looting of state coffers and development aid are commonplace. The illegal mining and trading of diamonds, as described above, fuels corruption and crime while depriving the Sierra Leonean government of much needed revenue to support public services. Petty corruption, extortion and bribe-taking, particularly by police officers or low-ranking officials, is rampant. Money has to change hands in order to secure entrance for children into a public school, receive treatment in a public clinic, obtain a permit, authorization, or letter from a ministry, or even to file a police report. Corruption has historically bought the support of both the police and the army, making them subject to political interference and undermining their duty to protect.\(^\text{99}\)

In 2000, the government created an Anti-Corruption Commission (ACC), with the mandate to investigate, subpoena, and arrest persons alleged to be involved in corrupt practices. Some of the high profile cases probed by the commission included that of a High Court judge accused of accepting bribes from a former agriculture minister, the arrest and trial of the then-commissioner of income tax for soliciting a bribe, the arrest of a prominent businessman for attempting to bribe the minister of trade and industry, and the arrest of the then transport and communication minister and his wife for illicit mining and smuggling of

\(^\text{98}\) Human Rights Watch Briefing Paper on Sierra Leone, 11 July 2002.

\(^\text{99}\) Ibid.
diamonds. The political will is apparent but may fade out when the stakes become high, especially when British officials will be asked to appear in court, and political undertones begin to influence the course of justice.

In an October 15, 2004 address the British High Commissioner to Sierra Leone, John Mitchiner, while alluding to the persistent perception of an entrenched culture of corruption, lamented the fact that 70 per cent of Sierra Leoneans who live below the poverty line are the real victims of the corruption syndrome.\(^{100}\) Corruption threatens political stability as it leads to erosion of peoples’ trust and confidence in their government and eventually state collapse. According to the National Accountability Group (NAG), decentralization of the administration is “merely decentralizing corruption”.\(^{101}\)

### 3.2.3. The challenge of (in)security

As mentioned above, the Sierra Leone Army and Police have over the years been the source of considerable instability, corruption, and human rights violations. Since 1999 Britain has led the International Military Advisory and Training Team (IMATT) with a mission to reform, restructure, and rehabilitate the army. Some 14,000 Sierra Leonean soldiers, many of them former AFRC, RUF and West Side Boy rebels, were retrained and are currently deployed throughout the country. About 130 mostly British, Canadian, American and Australian officers are in Sierra Leone serving in various capacities in the Ministry of Defence, military headquarters and brigades. According to Human Rights Watch, the hands-on approach and tight supervision of the newly trained army appears to be yielding results as human rights monitors have received few reports of indiscipline and serious abuses against civilians by the re-trained soldiers. Another positive sign is the indictment of some high-level and mid-level officers, suspended from their positions for corruption and mismanagement, something unthinkable in the past.\(^{102}\)

Since 1998, the Commonwealth Secretariat, largely funded by DfID, has led a significant effort to restructure and retrain the ill-disciplined and abusive Sierra Leone Police (SLP), including the British inspector-general. The Commonwealth Police Development Task Force (CPDTF) has embarked on a complete restructuring of the police force to regain its lost credibility. The CPDTF has set up an internal investigation unit to look into complaints of corruption, mismanagement, and unprofessional conduct, and has dismissed many, and indeed prosecuted several police officers for corrupt practices. They have also made efforts to establish special units to respond to domestic and sexual violence. Restoring civilian police/military relations based on trust and confidence would however take long to consolidate.

These advances, however, could be undermined when international support is withdrawn as the country’s empty coffers and poor infrastructure will hardly sustain in the short-to-medium term what the international community is putting in place on its behalf. There seems to be a form of complacency by the Government, and preparations for the post-UNAMSIL period are yet to be seen.

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\(^{100}\) Independent Observer news tabloid, Thursday 21 October, 2004.


\(^{102}\) Human Rights Watch Briefing, Sierra Leone. Many people contacted during our research strongly believe that the hooks of corruption are so firm on the ground that it would take years and perhaps revolutions before they are dislodged.
3.2.4. Rising crime wave

Reports of armed attacks and burglaries in Freetown and other towns in the country have sent signals of fear, especially in a country emerging from a period of terror through the use of arms. Police stations are sacked and it is believed that arms caches are abundant in Sierra Leone especially as some key rebel leaders were never disarmed.

Security concerns have led to the creation of the Office of National Security as Sierra Leone takes over the destiny of its security from UNAMSIL and the British soon after the UN withdrawal commenced in December 2004. There is no threat to Sierra Leone’s security, the National Security coordinator in the Office of National Security, Rtd Brigadier Kellie Conteh, recently assured. He claims the police force is well-equipped and well-trained to deal with any national security imperative.103

Nonetheless, Sierra Leone is aware of the porous nature of its borders and the potential of intrusions by unwanted agents of destabilization and economic predators. The Border Strengthening Programme in the Office of National Security has been created to handle the 11 official and perhaps 55 unofficial border crossing points between Sierra Leone and her neighbours. Different areas (see Map 2: Primary sector activities in Sierra Leone in Section 2, page 21) are targets for illegal immigration, infiltrations by mercenaries, dissidents and cross-border raids by armed gangs.104

3.2.5. Successful elections

Successful Presidential elections in Sierra Leone in May 2002 which saw the re-election of President Tejan Kabbah, municipal elections held in 2003 and 2004, the chieftaincy elections that took place in 2003 and the elections of chiefs for parliament have apparently resuscitated the democratic culture in Sierra Leone. As these elections were generally considered as free and fair and exempt from violence, analysts agree that significant steps towards democracy have been made in Sierra Leone. Municipal elections in particular were a milestone for the opposition as they won numerous councils in urban areas, while the ruling party lost ground, an indication of the expression of masses’ discontent with the ruling party’s post war unfulfilled expectations and promises.

104 According to the Jonathan Sandy, Technical Consultant, Public Management Unit at the Border Strengthening Programme Office, a colossal sum of 168,000 US$ is needed to fund the pilot phase (Salone Times, 30 July, 2004).
3.3. Regional and international dynamics for conflict and peace in Sierra Leone

3.3.1. Effects of regional conflicts: Liberia, Côte d’Ivoire

The MRU basin ‘conflict system’\(^{105}\) is a pendulum swinging from one country to another. The War in Côte d’Ivoire, the renewed fighting in Liberia and instability in Togo have all exposed once again the regional connectivity of conflicts in West Africa.

A common vector is Governments (of Guinea, Liberia, and Sierra Leone) hosting each other’s rebel groups and thus supporting cross-border incursions. The resurgence of conflict in Liberia in mid-2003 (before the signing of the Accra peace agreement of August 2003) and the alleged involvement of former Sierra Leonean CDF - Kamajors fighters alongside the LURD rebel movement that unseated Charles Taylor brought back to the table the complexity of the regional conflict in West Africa.

Many former fighters from the Sierra Leonean rebel RUF, which received direct support from Liberian leader Charles Taylor for years despite its grossly abusive record, are now integrated into the Liberian government forces and have been implicated in atrocities against Liberian civilians. At the same time, LURD fighters clandestinely recruited and established supply lines along the Sierra Leone/Liberia border, despite the Sierra Leone government’s refusal to allow the LURD to operate from its territory. In January 2001, hundreds of former fighters from the Sierra Leonean CDF militias (such as the ethnic Mende militia known as the Kamajors) from the former members of the Sierra Leonean army who rebelled to form the West Side Boys militia, and even from the RUF, have been recruited as mercenaries for the LURD.\(^{106}\) LURD attacks on the Liberian Roberts port town in mid-2003 were said to have emanated from Sierra Leone. The government of Guinea also allegedly fuelled the Liberian conflict by providing logistical, financial and military support to LURD rebels.

In February 2002, soldiers from the Liberian army, the Armed Forces of Liberia (AFL), appeared in Batwono and Bobu, on the Sierra Leone side of the border, and forced local residents to buy their looted goods. In March 2002, LURD forces attacked Baladu village in Sierra Leone, killing one civilian and abducting ten as porters. Liberian army deserters were also found on the Sierra Leone side of the border, where they posed an additional security threat. Major crossing points such as Jendema, Sulima, Gbaa, Dar-Es-Sallam, Mano Kpandema bridge, and Bombohun have been on maximum security alert. Taylor’s deserted soldiers were later transferred to an internment camp at Lungi. The RSLAF and UNAMSIL reinforced their troops along the major border areas to forestall further incursions and raids by LURD rebels.

In view of the close links between the Guinean government and LURD rebel forces in Liberia, the participation of Guinean troops in the UN peacekeeping mission in Sierra Leone, UNAMSIL, raised much concern. The Guinean contingent of UNAMSIL was initially deployed in Sierra Leone’s Pujehun District, which borders Liberia, raising fears that this area too, could become a base of operations for LURD, enabling them to strike into Liberia from two directions and implicating UNAMSIL in the regional dirty war.

\(^{105}\) A conflict system refers to those conflicts affecting different countries but with common denominators and linkages such as ethnic belonging and hosting each other’s rebels, trans-border incursions, as is the case in the Mano river basin.

\(^{106}\) Ibid.
But this fear was transformed into a completely new conflict. Guinea in the first half of 2004 laid claims on Yenga, a strip of land purportedly rich in diamonds lying along the Guinea - Sierra Leone border. Tensions rose and thanks to diplomatic efficiency, Lansana Conte of Guinea and Tejan Kabbah decided to settle the matter not through violence but dialogue. Pundits argue that Guinea needed an external distraction from its food and political crisis that may trigger yet another crisis in the region.

Additionally, refugees, including families of run-away soldiers, remain in constant fear of persecution. In June 2002, the UNHCR registered some 24,000 Liberian refugees in Sierra Leone and estimated that several thousand more were living without international assistance in border towns. This number multiplied ten fold with the outbreak of hostilities in Côte d’Ivoire. The regional humanitarian crisis remains a serious contributing factor to the precarious situation in the country.

3.3.2. Flourishing mercenary enterprise

Over the years, West Africa has become a lucrative showcase for mercenary enterprises offering their services to a variety of authorities. Motivated by economic rather than political undertones, these soldiers of fortune have fought in Sierra Leone, Liberia, and Côte d’Ivoire and are said to be mobilizing in case Guinea descends into violence. Gold, diamond, arms and drug trafficking are the mobilizing factors. Taking advantage of the failing state phenomenon that is wrecking the sub-region, coupled with an unclear international policy towards rebellions as they continue to negotiate their way to power, the potential for violent conflict remains high. These African mercenaries have entered into alliances with international arms marauders and professional mercenaries predominantly from South Africa, Ukraine, France and Great Britain. The Sierra Leonean government of Tejan Kabbah recruited mercenaries from Executive Outcomes (South Africa) and Sandline International (UK) to boost presidential security during most unstable moments of the war. Newspaper reports say more international mercenaries may still be hired to assist in the intelligence department\(^\text{107}\) of the Kabbah government.

3.3.3. Threats of international terrorism

The threat posed by international terrorism that is often associated with failed states\(^\text{108}\) may be haunting Sierra Leone. There were allegations in 2004 that the Al Qaeda terrorist network may have made contacts with former Liberian strongman Charles Taylor to buy diamonds from Sierra Leone in a bid to escape the freezing of its assets. These rumours became more real following police reports of international networks operating from Sierra Leone. The police was in particular investigating activities of four airlines flying to Jordan, Lebanon and other Middle-Eastern destinations (Star Air, Air Universal, Heavy-Lift Cargo and Air Leone), all allegedly involved in money-laundering, drug-trafficking and terrorism. It is alleged that these airlines were fraudulently registered two years ago under the Sierra Leone flag by civil aviation officials. Star Air and Air Universal had earlier been banned from flying in the UK by Tony McNulty, British Transport Minister, for alleged involvement in \textit{Al Qaeda} activities.\(^\text{109}\)


\(^{108}\) The phenomenon of failing or collapsed states became prominent in the late eighties and early nineties when states like Somalia became practically ungovernable. Many more African countries have since joined the throng and incidentally, a majority of them (Liberia, Sierra Leone, Guinea Bissau) were West African states.

Former US Ambassador to Sierra Leone John Melrose admitted that “the United States never perceived itself to have a strategic interest in sub-Saharan Africa on the terrorism front until very recently”.

3.4. Peace and conflict indicators for Sierra Leone: A systematic compilation

The table below recapitulates the pluri-disciplinary and multi-layered web of conflict causalities as of beginning of 2005 in Sierra Leone as discussed in this section, that may be considered early warning indicators. These indicators were cited by leaders of recent violence as justification for their acts and the organizations and groups consulted in this research have identified them as critical conditions for the country’s stability.

Table 1: Structural and dynamic indicators for instability in Sierra Leone

<table>
<thead>
<tr>
<th>Political/Security</th>
<th>Socio-Economic</th>
<th>Regional/International</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor governance</td>
<td>Mass poverty</td>
<td>War in Côte d’Ivoire and Liberia</td>
</tr>
<tr>
<td>Lack of judiciary capacity</td>
<td>Sharp economic decline</td>
<td>Uncertainty in political situation in</td>
</tr>
<tr>
<td>Corruption, culture of impunity</td>
<td>Unemployment and under-employment</td>
<td>Guinea and pre-elections period in Liberia</td>
</tr>
<tr>
<td>Nepotism, clientelism, patronage,</td>
<td>High dependence on diamonds</td>
<td>Border dispute with Guinea</td>
</tr>
<tr>
<td>nationalism</td>
<td>High illiteracy rate</td>
<td>Proliferation of small arms and light</td>
</tr>
<tr>
<td>Politically motivated assassinations</td>
<td>Money laundering</td>
<td>weapons in the sub-region</td>
</tr>
<tr>
<td>Erosion of traditional chiefly power and authority</td>
<td>Brain drain</td>
<td>Presence of mercenaries</td>
</tr>
<tr>
<td>Hike in armed robberies</td>
<td>Inadequacy of basic and economic</td>
<td>Cross-border criminality</td>
</tr>
<tr>
<td>Breakdown of law and order</td>
<td>infrastructure (i.e. roads)</td>
<td>Withdrawal of UNAMSIL and</td>
</tr>
<tr>
<td>Breakdown of security</td>
<td>Poor educational facilities</td>
<td>international stakeholders</td>
</tr>
<tr>
<td>Generalized indiscipline</td>
<td>Poor health facilities</td>
<td>International terrorism</td>
</tr>
<tr>
<td>Breakdown in the value system</td>
<td>Massive displacement of families</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase in child abuse, prostitution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dependence on the domestic international economy and on donor funding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental degradation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Street children/youths</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug abuse and alcoholism</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refugee and IDPs problem</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emigration and asylum seeking</td>
<td></td>
</tr>
</tbody>
</table>

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111 We were also inspired also by the works of Joe Alie et al in Laggah, Alie, and Wright, “Sierra Leone” in Comprehending and Mastering African Conflicts (Adebayo Adedeji (ed)).
4. Stakeholder analysis

Stakeholders in the peace and recovery of Sierra Leone may be categorized into primary, secondary or tertiary stakeholders. Peace processes and development initiatives have tended to focus on primary stakeholders: the key players at the upstream level. Secondary and tertiary stakeholders have been neglected by these processes, which have not payed the due attention to the key role they played in breaking stalemates and political impasses at the local level.

This section will review the agenda, margins of manoeuvre and the ability to influence change either positively or negatively (spoilers and connectors) of all the three stakeholder categories.

4.1. President Kabbah’s government

President Ahmed Tajan Kabbah’s new mandate after the May 2002 elections gave him the leverage and legitimacy to lead the state for another five years. As the war-time president, he is probably in a advantageous position to steer the country forward. Whether he and his government would be able to surmount the numerous obstacles and challenges of rebuilding a strong and viable nation is the key to stability and peace in Sierra Leone. His recent official trips abroad yielded fruits, such as his visit to Saudi Arabia, after which the Saudi Government wrote off debts owed to the kingdom and which produced an agreement with the Saudi Kingdom to construct three referral hospitals in Sierra Leone. Kabbah’s Government saw this as visible proof of peace dividends and vivid confidence-building measures for the people. President Kabbah’s ability to continue to win the support of the international community is an asset to the post-conflict reconstruction process. In the same vein, the World Bank approved a 40 million US$ grant to rehabilitate the country’s war-ravaged health and educational sectors. President Kabbah’s recent pronouncement that President Obasanjo was in his right to host Charles Taylor, (former fugitive Liberian leader, wanted to answer charges in the Special Court) demonstrates the dilemma and contradictions he finds himself in when trying to strike a balance between the call for justice and sub-regional politics.

4.2. The Revolutionary United Front (RUF) & Civil Defence Forces (CDF)

These two groups could be referred to as the potential spoilers of peace and reconstruction. The RUF’s acrimonious history remains a source of fear and concern although it has transformed into a political party since the war. The trial of Foday Sankoh ended abruptly as the infamous Corporal later died while in detention in 2003. The subsequent arrest and appearance of General Issa Sesay and Morris Kallon before the Special Court has raised fears of the resuscitation of “the devil”. A warrant of arrest for Sam Bockarie, alias Mosquito, another prime suspect became a non-event as the individual

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112 By secondary stakeholders in the Sierra Leonean context, we refer to groups such as the youth and women who were greatly affected by war. Youths constituted the recruitment pool for both the rebellion and the government factions; while women suffered from humiliation, rapes and fending to feed the family during war time. Tertiary stakeholders may include non-governmental organizations and investors.

113 ECOWAS seem to back Nigeria’s position to hold Taylor despite pressure from the international community.
was found dead in Liberia.\textsuperscript{114} The RUF seems to have lost much of its former virulence and activity but circumstances may resuscitate the movement.

There were fears that the arrest of the former senior CDF leader and Minister for Internal Affairs, Sam Hinga Norman and the arrest warrant for Major Johnny Paul Koroma (feared dead) might provoke a backlash. Those fears are still rife today. CDF supporters cannot comprehend the fact that those who defended their fatherland from the invading RUF are now victims of the hand of justice when RUF henchmen have been allowed to move freely and even compensated financially.

4.3. The UNAMSIL

The presence of the over 16,000-strong United Nations force, (the largest UN deployment in history) demonstrates the commitment of the world body to peace in Sierra Leone. In collaboration with the Sierra Leonean Armed forces (RSLAF), peace has been maintained. However, the announced slicing of the force and fear of massive withdrawal and dwindling UN support is a source of worry. Analysts are concerned about how Sierra Leone will fare once the UN has left the country. The dependency syndrome on UNAMSIL might be too delicate to manage and balancing these fears with reality is vital for Sierra Leone’s future. How (exit strategies) and when the pull-out will occur is critical to the entire process of post-conflict reconstruction.

4.4. The British Government

British involvement in Sierra Leone following the capture of its forces by the Westside Boys marked the beginning of a new era in the process to salvage peace in Sierra Leone. As a demonstration of their continuous military commitment, Britain recently sent part of its \textit{Over the Horizon} Force to Sierra Leone with the mission to train a new generation of Sierra Leonean armed forces. Britain seems determined to remain in the region even after UNAMSIL leaves; Gurkhas (British army elite troops) would work alongside the UK-led IMATT to conduct the continuous training of the RSLAF.

4.5. The civil society

One of the strengths of the Sierra Leonean post-conflict reconstruction process is the wide-reaching mobilization and commitment undertaken by the local civil society. The future of peace, stability and development lies in the hands of civil society actors. The most interesting dimension is the fact that Civil Society Organizations (CSOs) (and especially NGOs) contacted and interviewed during the research are unanimous in saying that establishing an early warning and early response strategy is a necessity for Sierra Leone, and that they are ready to become part of the process. The windows of opportunity for eventual collaboration between CSOs (led by WANEPE and the NCP-SL)\textsuperscript{115} and international NGOs and inter-governmental structures like ECOWAS and eventually ILO, is a bolster to the envisaged early warning capacity.

\textsuperscript{114} Purportedly killed by Charles Taylor to cover evidence.
\textsuperscript{115} Another civil society initiative has come into being. The West Africa Civil Society Forum (WACSOF) is an umbrella structure that brings CSOs together in view of asserting their stance on sub-regional issues. It is an initiative backed by ECOVAS and donor organizations. WACSOF does not replace existing networks and organizations but helps build a lobbying and advocacy space. Launched in December 2003, WACSOF meets annually prior to the ECOWAS annual summits.
5. **Early warning and early response**

This section discusses the existing capacity for early warning and early response in West Africa. Consequently, the role of the ILO as a strategic partner in developing a comprehensive EWS in West Africa, beginning with Sierra Leone, is examined.

5.1. **Early warning and fragile peace: The rationale**

5.1.1. **Early warning and fragile peace**

Throughout our interaction with Sierra Leonean civil society actors, we have been faced with a common, and all the more resounding statement: “we saw these things coming”. Wars and deadly conflicts have always been preceded by precursors that society and the international community have failed to properly individuate, interpret and acknowledge.

Today Sierra Leone continues to be conflict-prone. Far from sounding the bell of doom, this challenge highlights the relevance of comprehensive and continuous early warning and response systems in such volatile contexts or outright failed states.

As a result of the fact that peace and conflict is viewed as a continuum (especially in contexts such as Sierra Leone), a development-oriented EWS should continuously monitor signals that depict inclination towards peace or conflict. An effective EWS in a country like Sierra Leone would, furthermore, look at all precursors from socio-economic signs of distress to community-level rumours and fears, on the basis of clear, understandable and ‘monitorable’ indicators. Timing and communication of the warning and the response mechanism should be coordinated as parts of the same whole and a wide set of stakeholders needs to be intimately involved at the local, national and international levels.

5.1.2. **Early response**

Early warning is an exercise in futility if it does not lead to political action in an early manner. The warning-response connection depends on a number of factors such as clear and comprehensible analysis, appropriate communication, acceptability of the warning and political will.

Early response is not only limited to the domain of state security. EWS also provide a key tool for improving the efficiency and accuracy of post-conflict international stakeholder responses. As illustrated by the war in Sierra Leone, post-conflict contexts are often characterized by a volatile environment with frequent and abrupt evolutions in the situation on the ground. EWS provide in this respect a continuous and systematic monitoring instrument that would prove crucial in acquiring a clearer picture of the limitations, constraints and risk assumptions when undertaking upstream or downstream interventions. Such information would prove instrumental in defining the most appropriate choices for interventions as far as the proper timing as well as level and type of interventions that may be foreseen. The benefits of such systematic and continuous information systems are self-evident, for operations that, for maximum efficiency, should happen at the earliest possible occurrence, while ensuring that investments (both monetary and effort-wise) are not contributed only to be compromised or annihilated shortly thereafter by an abrupt turn of events.
Knowing when a situation is ripe for a specific level and type of engagement on the ground represents a distinctive advantage for international stakeholders such as the ILO to complement efforts to set up EWS.

5.2. Existing capacity for early warning and early response

Early warning is typically, part of the state machinery. Most countries in Africa (including Sierra Leone) do have information gathering systems. Unfortunately, these state-owned structures often function through covert operations; information collected is considered state secrets and are restricted to the public. However, besides the state-owned information or intelligence services, embassies of most countries (particularly Western countries) do have information gathering systems. The UN Office for Humanitarian Affairs (OCHA), the World Bank and other development agencies such as DFID do conduct risk assessment reports that highlight the risk and peace factors affecting countries in Africa. Nonetheless, there is no systematic and comprehensive attempt at collaboration involving all actors and sections of the society.

ECOWAS and WANEP are both examples of this quest for effective collaboration, and represent key opportunities for ILO’s involvement in this field, at a time where opportunities for operationalization seem to be ripe.

5.2.1. The ECOWAS early warning system

ECOWAS\textsuperscript{116} was founded in 1975 for the purpose of sub-regional economic development and integration. The challenge of conflicts in West Africa compelled the founding fathers to rethink their strategy, and ECOWAS acknowledged the necessity to address conflicts from a collective security perspective. Protocols were designed to tackle the conflicts in the community that so gravely affected efforts towards the primary goal of ECOWAS, that is, economic development and integration.

The protocol on the Mechanism for Conflict Prevention, Management, Resolution, Peacekeeping and Security was signed in 1999 and the supplementary protocol on Democracy and Good Governance signed in 2001. The supplementary protocol primarily seeks to address the proximate causes of conflicts such as elections-related conflicts, human rights abuse and curtailment of freedoms. One of the highlights of the 1999 protocol is the institutionalization of an ECOWAS EWS which serves as a pivotal strategy for conflict prevention.

The ECOWAS EWS divides the sub-region into four conflict monitoring and observation zones, with coordinating offices in Monrovia (covering Liberia, Sierra Leone, Ghana, and Guinea), Ouagadougou (covering Burkina Faso, Mali, Niger and Côte d’Ivoire), Cotonou (covering Benin, Nigeria and Togo) and Banjul (covering The Gambia, Guinea Bissau, Cape Verde, and Senegal). Until recently however, the ECOWAS EWS remained largely non-functional three years since it went into existence.

Today, opportunities for operationalization abound; the UNDP, the European Union (EU), the African Development Bank (ADB) and bilateral donors such as the United States Agency for International Development (USAID) are ready to support the operationalization of the ECOWAS EWS. They are particularly interested in enhancing

\textsuperscript{116} See \url{www.ecowas.int}
collaboration between ECOWAS and civil society organizations and other relevant institutions and organizations in the domain of conflict prevention. As an illustration of these intentions, the EU has since 2001 supported the creation of ECOWAS’ zonal bureaus for conflict and peace monitoring and observation, while the ADB has signed an MOU with ECOWAS to further assist and develop the structures for early warning monitoring and reporting. It is expected that the EWS will begin operations during the course of 2005

5.2.2. The West Africa Early Warning and Early Response Network (WARN)

WARN is a pivotal programme in the context of the West Africa Preventive Peacebuilding Strategy of the West Africa Network for Peacebuilding (WANEP), a major collaborative effort of civil society organizations in the region. WARN’s overall objective is to institutionalize a culture of prevention in West Africa through an appropriate and effective early warning and early response mechanism. WARN is at the forefront of civil society early warning in Africa, with an emphasis on West Africa. WARN - WANEP has started in October 2002 interfacing with ECOWAS in developing a comprehensive early warning process in West Africa, emphasizing collaboration between existing early warning institutions, think tanks, academic institutions, relief organizations and international organizations, as well as other sources of information related to human security, peace and development. USAID and the EU are supporting WANEP to further develop WARN into a functional structure for conflict prevention and mitigation through continuous and systematic monitoring and analysis.

These efforts are in themselves part of the continental effort led by the African Union (AU). The strategy is to build on existing early warning sub-regional groupings in West, East, Central and Southern Africa through ECOWAS, IGAD, the Communauté Économique et Monétaire de l’Afrique Centrale (CEMAC), and the Southern African Development Community (SADC) respectively. With strong support from the EU, the opportunities for cooperation within early warning platforms are apparently gaining momentum. The creation of the UNOWA, as a response to the prevalent and potential crises in West Africa, is another element that will facilitate better and coordinated responses to crises and conflicts, in collaboration with ECOWAS and civil society organizations.

117 See website www.wanep.org
6. Recommendations for the ILO

Promoting and realizing fundamental principles and rights at work, campaigning for the creation of more and better opportunities for women and men to decent employment, promoting social protection for all and strengthening structures for social dialogue constitute the strategic objective of the ILO. Concerned with crises that have undermined human dignity and the overall goal of decent work, the ILO has also made efforts at documenting the role of unemployment and job-related factors in causing, fuelling and sustaining violent conflicts\textsuperscript{118} The present study is an instance of this effort, together with a series of other papers within the “Strengthening Employment in Response to Crisis” research programme of which this study is part.

As outlined above, the concept and reality of an early warning regional capacity in West Africa is gradually gaining ground. For the process to lead to a comprehensive early warning capacity able to harness the complex, multi-layered and interlinked dimensions of conflicts such as the experience in Sierra Leone has portrayed, such a system would involve taking into proper account the politico-security issues, the international and regional dimensions, as well as the crucial socio-economic realities that were discussed above in the case of Sierra Leone.

Economic indicators, however, have not been given the due attention and weight so far within established EWS. It is therefore the belief of the authors of this study that the ILO is well placed to utilize its in-house resources and experience to engage into conflict prevention through collaboration with wider exercises of regional early warning and response. ECOWAS and WANEP are presently establishing a list and structure of ‘monitorable’ indicators for conflict for West Africa, providing a critical opportunity for the ILO to influence the mainstreaming of such indicators, not only in this (important) instance, but also for future approaches to conflict monitoring and analysis.

The ILO should, in this regard, focus on further substantiating the link between employment, related economic and social issues and conflicts and should assist in the design of peace and conflict indicators. In collaboration with key international organizations working in Sierra Leone and neighbouring countries, the UN System (ECOWAS and UNOWA) and civil society players such as WANEP and its network members, the ILO’s technical involvement in the field of early warning may prove instrumental in strengthening the effectiveness of the EWS in West Africa and allow the development of a new (and necessary) dimension of conflict-related EWS.

This study could not, however, by its own nature, overlook the key challenges that remain to be overcome in the setting-up of a regional, comprehensive and continuous early warning capacity for West-Africa. Among these elements one can point at: the apparent competition between donors and international organizations due to differences in missions and agenda, a lack of knowledge, documentation and appropriate data, the entrenched interests of the economies of war, and relief-oriented organizations’ insufficient involvement in preventative measures for conflict.

6.1. **Selected socio-economic indicators for peace and conflict**

As an attempt to proceed along the lines of integrating employment and related socio-economic indicators within comprehensive efforts of early warning, the following selected key socio-economic indicators are proposed as root, aggravating or proximate causalities to account for the escalation of armed conflict and its continuation.

This selection builds upon the analysis provided in section 3 above, the primary data acquired for this study, and the numerous discussions conducted with key primary, secondary and tertiary stakeholders. This selection is also buttressed and informed by the standardized indicators that the ILO produces under the Key Indicators of the Labour Market series (KILM). 119

The following four socio-economic indicators stand out of our analysis of the Sierra Leone conflict as most crucial to understanding the conflict and its continuing threats to a peaceful and developing future:

- youth unemployment : a daunting problem that all our informants highlighted as the crux of future peace or conflict in the country;
- employment by sector : to monitor the relative importance of extractive sector activities, its attractiveness for government and foreign (legitimate and illegitimate) investors, and its low employment-intensity;
- informal sector employment : as accounting for the sector that would accommodate the large majority of the unemployed in the present circumstances;
- primary and secondary education enrolment rates : education represents for the poor and vulnerable a critical investment in the future and an expectation for them to break the conflict and poverty trap.

6.2. **Basic elements of an EWS**

The above indicators are but a tentative attempt at identifying suitable indicators for operationalisation. Striking agreement on an operationalization of such economic and social indicators cannot be done without collaboration with other key actors (ECOWAS, Government of Sierra Leone, IOs based in Sierra Leone, Civil Society (led by WANEP and NCP-SL)), and donor organizations such as the World Bank and the ADB. Such indicators would need to be validated and operationalised within the overall framework of indicator-based and/or event based early warning.

Conflict-related early warning as opposed to the case of natural disasters or economic and financial crises, is still a nascent tool. There is not a large basis, therefore, for standard or good practices to be built upon. The development of the concept has outlined, however, some necessary elements and procedures for the establishment and running of EWS, elements which are outlined here-after. It may be noted furthermore that the following elements refer to establishing and running indicator-based conflict monitoring (quantitative approach), as opposed to qualitative approaches that emphasize the analysts understanding of the issues (history, sociology, economy) and dynamics of a given situation and context, in an ad-hoc basis.

The basic components of an indicator-based early warning system include: an information component; an analysis component; and an action component. The table bellows summarizes what is required to establish an EWS.

**Table 2: Basic elements of an Early Warning System**

<table>
<thead>
<tr>
<th>1. Information Component</th>
<th>2. Analysis Component</th>
<th>3. Action Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of reliable early warning organizations.</td>
<td>Data collation. Capability to foresee and analyse crises before “the point of no return” is reached. Description of the determinants of the conflict situation within a pluralistic community. Ability to build on past experiences. Capacity to assess a society’s coping mechanisms.</td>
<td>Identification of the audience. Exchange of information on specific crisis situations where the tensions are in evidence. Initiating the most appropriate preventive measures. Coordination of response measures/action. Continuous monitoring.</td>
</tr>
</tbody>
</table>

The analysis component should also be supported by building on the existing capacity of organizations and networks, including international and non-governmental organizations such as WANEPE, NCP-SL, International Rescue Committee, ECOWAS, OCHA, the Integrated Regional Information Networks (IRIN), and competent Governmental structures responsible for early warning.

### 6.3. Basic steps in establishing an EWS

There are basic steps in the establishment of an EWS, although there are few cases of very successful EWSs to cite. The following elements may be considered as conditions in establishing a functional EWS: define indicators, monitor indicators, issue warning and communicate warning.

To effectively influence and complement the process of operationalizing the early warning processes in Sierra Leone and West Africa, the ILO should therefore take part in the collaborative establishment of a credible information network in Sierra Leone by:

- influencing the selection of indicators;
- taking part in the selection of monitors in the ground;
- taking part in the capacity-building of organizations and the training of individuals to monitor the identified indicators of the conflict;
- contributing technical expertise and training for the analysis of the data.

Analysis of data is as vital as the selection of indicators and their proper monitoring. The ILO should actively engage in the training of early warning conflict and peace analysts, bringing to bear the socio-economic and employment related-indicators that influence the trend of conflict and peace. An ILO analyst based in Freetown, analyzing data and trends and feeding into the national and sub-regional EWS, would be an added asset.

Yet early warning without early response, as mentioned earlier, is an exercise in futility. An ILO capacity to influence policy both in Sierra Leone, the Mano River Basin, ECOWAS sub-region as well as internationally should be actively pursued.

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120 Adapted from WANEPE’s EW training manual.
6.4. **Relevance of community-based EWS**

The experience from WANEP’s development of an early warning and early response culture has stressed the importance of the local dimension of early warning, analysis and early response. Local analysis that is evidence-based is incisive and can be verified. The nearer the monitor and analyst is to the source, the more accurate the analysis, and hence the appropriateness of the recommended action. Territorialized threats, ethnic, political and socio-economic, that are specifically local have the propensity of spilling over to inflame a whole nation (and a whole region). Ethnic affinities (Fullahs and Mandingos for instance) in Sierra Leone extend into Guinea, Liberia, and beyond, and therefore a local conflict is capable of becoming a national or regional conflict.

EWSs therefore need to be anchored into local realities, need to be able to sense these local dynamics and their propensity to spill over. This would depend on the quality of local analysis and packaging. Hence, the relevance of involving local level (CBO and NGO) organisations, able to interact in a bottom-up and top-to-bottom relationship with the central EWS coordinating structure, especially if these organizations feel they are part of the process and not simple informants. Moreover these CBOs and local organisations have a great stake, as mentioned, in diffusing conflict and promoting a culture of peace.

6.5. **Other recommendations for preventive action in conflict-prone areas: From peacekeeping to reconstruction and recovery in failed states**

The analysis of the Sierra Leone conflict has also raised several points, further from early warning, that we wish to highlight as necessary to stabilizing the country in conjunction with the socio-economic causalities of the conflict.

The ILO should lobby for a major shift in international assistance strategies from peacekeeping and humanitarian aid in failed states to reconstruction missions that could possibly be led by ILO, UNDP, the United Nations Industrial Development Organization (UNIDO), the Food and Agriculture Organization (FAO), ECOWAS and other development-oriented UN and international agencies. It is the failure of economic and social structures that led to or propelled the crisis; peacekeeping and elections alone are proving inadequate to address the issues at stake. Only if and when many more decent jobs are created in Sierra Leone and the MRU, the threat of violent conflicts would be diffused.

The ILO should work in tandem with ECOWAS in addressing the root causes of conflicts in West Africa though ambitious and coherent poverty reduction efforts. The Poverty Reduction Strategy Papers have yielded little fruits in this respect. The ILO should work with the international community to promote investments in fragile and potentially unstable countries like Sierra Leone as the best way to prevent conflicts. Government’s capacity to mobilize potential investors, including the Sierra Leonean diaspora, and particularly in the agricultural sector so as to create jobs and increase food supply, should be strengthened. The sub-regional liberalized market project stretching from Guine-Foretiere and include parts of Liberia and Sierra Leone, a project explored by the UNDP, the World Bank and the ADB should be supported in this regard.

Victims of the atrocities, and especially the amputees and victims of sexual abuses, are frustrated that the peace and reconstruction process focuses on re-integrating the perpetrators, while they are abandoned to the assistance of a few NGOs with limited means. A Special Fund for the compensation and rehabilitation of victims needs to be established, with an autonomous institution established to closely monitor the administration of the funds.
Conclusion

For many years, the state of Sierra Leone has been incapable of performing its role as the guarantor and supplier of basic needs of the people and the provider of security, both human and conventional state security. Sierra Leone, it may be argued, gradually receded into a failed state, at the same time as it sank into conflict.

The issues underpinning state failure or collapse are as strongly economic as they are political. Sierra Leoneans, like most of their African counterparts, want access to food and jobs to cater for their needs and those of their families; they need to be helped to support their livelihoods in a sustainable and dignified manner while more job opportunities are needed. The relevance of this is buttressed by the UN Secretary General’s 21st report to the UN Security Council. Kofi Annan emphasizes the effective transfer of competences and skills to nationals, especially in the area of human rights monitoring and promotion, and the involvement of non-governmental organizations and community-based organizations. Annan calls for the continuous efforts to address the challenge of youth unemployment through support for well-targeted livelihood programmes and micro-credit initiatives.

As a specific correlate to this, the need to take proper account of emerging signs of socio-economic discontent and tension is imperative: thus the rationale and relevance of operationalizing socio-economic indicators within early warning continuous and systematic systems.

It is in this context that this research has been envisaged and conducted, as a first step toward mainstreaming socio-economic indicators with conflict-related EWS, conceptually at the same time as through concrete experiences in the region. The relevance of civil society actors and local ownership in this process is intimately linked to such a process, to ensure its grounding on local realities as well as its sustainability.
Annexes

1. Bibliography


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'Government of Sierra Leone, World Bank, Sierra Leone Disarmament and Demobilization Program Assessment Report: Executive Summary and Lessons Learned’ (Freetown, July 2002).


National Newspapers/tabloids

African Champion
Awoko
Concord Times
Independent Observer
New Vision
Salone
Sierra Leone
Standard Times
PEEP

Internet Websites

www.wanep.org
www.ecowas.int
www.reliefweb.int
2. **Questionnaire**

- Name and address of Organization/Institution/Ministry/Individual

- List key challenges (and/or threats) for peace and stability in Sierra Leone as UNAMSIL withdraws in a couple of months.

- Is Youth Unemployment a major cause for concern?

- What are the current formal and informal youth employment activities/strategies your organization/ministry/institution is involved (or going on in your area or community)?

- How relevant/effective/sustainable are these activities?

- What according to you should be the Priorities?

- What are the employment related difficulties/lacunas/shortcomings?

- Do returnee refugees constitute a major problem? How and why?

- What recommendations would you suggest to address the youth problem in Sierra Leone, Manu River Basin, and West Africa?
  
  - Youths themselves?
  - Sierra Leone Government?
  - Local development partners?
  - International Community/Organizations including ILO
3. **Organizations/Institutions interviewed**

<table>
<thead>
<tr>
<th>No.</th>
<th>Organization/Institution</th>
<th>Interviewee/Respondent</th>
<th>Date/Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Care International, Sierra Leone</td>
<td>Dr Eamonn Hanson, Country Human Rights Advisor</td>
<td>27/10/04</td>
</tr>
<tr>
<td>2.</td>
<td>Child Trafficking Network C/OHuRide, Care International 35/35A Williams Rd, Freetown</td>
<td>Sierra Leone Youth Human Rights Committee Members headed (James Mathew Chairman, Lansana Bongag, Coordinator)</td>
<td>27/11/04</td>
</tr>
<tr>
<td>3.</td>
<td>PASCO, 25 Regent Street, Freetown</td>
<td>Arthur Scotland-Nicol</td>
<td>26/10/04</td>
</tr>
<tr>
<td>4.</td>
<td>International Rescue Committee Kenema Office</td>
<td>David Gatare, Field Coordinator, Kenema</td>
<td>26/10/04</td>
</tr>
<tr>
<td>5.</td>
<td>UNDP Sierra Leone</td>
<td>Wahab Shaw, Youth Initiative Coordinator</td>
<td>25/10/04</td>
</tr>
<tr>
<td>6.</td>
<td>Catholic Relief Services (CRS)</td>
<td>Country Rep; Tiange Gondo; Adrian Alvarez</td>
<td>27/10/04</td>
</tr>
<tr>
<td>7.</td>
<td>Ministry of Youth and Sports, Ministry of Social Welfare, Ministry of Internal Affairs</td>
<td>Capacity Building Project (UNDP-sponsored) Collaborative Committee Meeting at Ministry of Youth &amp; Sports</td>
<td>26/10/04 Used occasion of this monthly meeting to meet individuals and had formal discussions.</td>
</tr>
<tr>
<td>8.</td>
<td>Conciliation Resource, Sierra Leone</td>
<td>Shirlay Sia Simbo, Janet Eno</td>
<td>26/10/04 Discussion centered on “Girls of the Street” project.</td>
</tr>
<tr>
<td>9.</td>
<td>Network for Collaborative Peacebuilding-Sierra Leone</td>
<td>Annual General Assembly meeting, Freetown (Claude Kondor, Coordinator; Paul Koroma, Board Chair)</td>
<td>25/10/04 Forum very useful for the research; informally discussed early warning structure</td>
</tr>
<tr>
<td>10.</td>
<td>Talking Drum/Search for Common Ground, Sierra Leone 44 Bathurst Street, Freetown</td>
<td>Francis Fortune, Director</td>
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<tr>
<td>11.</td>
<td>Youth Movement for Peace and Non-Violence; 44 Malama Thomas Street, Freetown</td>
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<tr>
<td>12.</td>
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<td>13.</td>
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<td>16.</td>
<td>West Africa Civil Society Forum (WACSOF)</td>
<td>Dr Richard Konteh Coordinator (and Sierra Leonean by nationality)</td>
<td>02/11/04</td>
</tr>
</tbody>
</table>

- NB. Other organizations and civil society actors were involved in the process during and on the sidelines of the Annual General Meeting of 25 October, 2005, particularly those from Bo, Kenema, Kono and other rural localities of Sierra Leone. We could not note all their names so we have decided to acknowledge their involvement generally.
4. List of participants, AGM, October 2004

<table>
<thead>
<tr>
<th>Names</th>
<th>Organization</th>
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</thead>
<tbody>
<tr>
<td>1. Cecilia Allieu</td>
<td>NMJD</td>
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<tr>
<td>2. Alice Marcaty</td>
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<td>3. Nyallay M. Awal</td>
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<td>4. Sama Sandy</td>
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<td>5. Mustapha A Klah</td>
<td>Humanist Watch Kenema</td>
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<td>6. Dylan Towey</td>
<td>YMPNV</td>
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<td>7. Stephen Cauker</td>
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<td>8. Saw A. Goba</td>
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<td>9. Mohamed Tarawallie</td>
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<td>11. Mohamed B. S. Lukaylay</td>
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<td>15. Mohamed Koroma</td>
<td>SFCOP – Sulima</td>
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<td>16. M. Saticon-Conteh</td>
<td>PIKIN TO PIKIN</td>
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<td>24. Mohamed Bangura</td>
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<td>27. James Nyakeh Lahai</td>
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<td>28. Abdul Kamara</td>
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<td>29. Paul L. Koroma</td>
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<td>30. Philip Marcarthy</td>
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<tr>
<td>32. George Williams</td>
<td>Love One Another Campaign</td>
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<tr>
<td>33. Gibril Maada Bassie</td>
<td>YAPARD</td>
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<td>34. Fatima Koroma</td>
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<td>35. Madinatu Kamara</td>
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<td>36. Safie Sesay</td>
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<td>37. J. A. B. Wright</td>
<td>Sierra Leone Labour Congress</td>
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<td>40. Gladys Goba</td>
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<td>44. B. F. Dimoh</td>
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<td>45. Magdalene Lansanah</td>
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<td>46. Osman Kargbo</td>
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<td>47. Josephine Lebbie</td>
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<td>48. Edward Jomba</td>
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<td>49. Lawrence Mossay</td>
<td>World Peace Prayer Sierra Leone</td>
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<td>50. Jacob Enoh Eben</td>
<td>WANEP Accra</td>
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<td>51. Kenneth Amadu</td>
<td>Disabled Rights Movement</td>
</tr>
</tbody>
</table>
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<th>Contact address and e-mail</th>
<th>Focus</th>
</tr>
</thead>
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<td>Gross Human Rights</td>
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<tr>
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<tr>
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<tr>
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<tr>
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<td>Sulima Fishing Community Development Project C/o Conciliation Resources 17 Off King Harman Road – 076 745702- Mohamed Koroma</td>
<td>Peace Building and Conflict Transformation</td>
</tr>
<tr>
<td>6. Mafufunsu Agricultural Development Organisation</td>
<td>MADA Kambia C/o 49 Circular Road Freetown</td>
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</tr>
<tr>
<td>7. Evangelical Fellowship of Sierra Leone</td>
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<td>8. WPSSL (Lawrence Mossay)</td>
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<tr>
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<td>13. Centre For Human Rights &amp; Peace Education 9CHRPE</td>
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</tr>
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</tr>
<tr>
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<tr>
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<td>37</td>
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</tbody>
</table>
Socio-economic indicators for conflict-related early warning systems modelling: A case study of Sudan

Africa Peace Forum
Nairobi, Kenya

September 2005
Acknowledgements

This research paper is a result of the collective effort of several organizations and the dedicated persons within them. We acknowledge the support of the Graduate Institute of International Studies (GIIS-IUHEI) and the InFocus Programme on Crisis Response and reconstruction of the International Labour Organization (ILO IFP/CRISIS) who jointly managed the research project, the Geneva International Academic Network (GIAN-RUIG) who funded the project and the project team in Geneva which provided useful comments that proved to be of great help in the finalization of this research. We specifically acknowledge the assistance of Mr. Luca Fedi, the Assistant Coordinator of the research project, for his support, without forgetting to mention the valuable contribution of the team at Africa Peace Forum which included Dr. Josephine Odera, Edwin Rutto, Kizito Sabala, Judy Avedi, Jebiwot Sumbeywo, Richard Damianopoulos, David Nyariki and Kaleria Muchena.

Africa Peace Forum,
Nairobi,
Kenya.
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## Acronyms

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<th>Acronym</th>
<th>Full Form</th>
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<tr>
<td>CEWARN</td>
<td>Conflict Early Warning and Response Mechanism</td>
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<tr>
<td>CEWERUs</td>
<td>Conflict Early Warning and Response Units</td>
</tr>
<tr>
<td>CEWP</td>
<td>Conflict Early Warning Project</td>
</tr>
<tr>
<td>CPS</td>
<td>Committee of Permanent Secretaries</td>
</tr>
<tr>
<td>CSOs</td>
<td>Civil Society Organizations</td>
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<tr>
<td>ECOWAS</td>
<td>Economic Community of West African States</td>
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<td>EWS</td>
<td>Early Warning Systems</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GNI</td>
<td>Gross National Income</td>
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<tr>
<td>GNP</td>
<td>Gross National Product</td>
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<tr>
<td>HPI</td>
<td>Human Poverty Index</td>
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<tr>
<td>IDP</td>
<td>Internally Displaced Persons</td>
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<tr>
<td>IGAD</td>
<td>Inter-Governmental Authority on Development</td>
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<tr>
<td>ILO</td>
<td>International Labour Organization</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>ISCED</td>
<td>International Classification for Education</td>
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<tr>
<td>NRI</td>
<td>National Research Institute</td>
</tr>
<tr>
<td>PANDA</td>
<td>Protocol for the Assessment of Direct Non-Violent Action</td>
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<tr>
<td>SADC</td>
<td>Southern Africa Development Cooperation</td>
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<tr>
<td>SOSUS</td>
<td>Southern Sudan SPLM/A</td>
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<tr>
<td>SPLM/A</td>
<td>Sudan Peoples Liberation Movement/Army</td>
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<tr>
<td>SWTUF</td>
<td>Sudan Workers Trade Union</td>
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<tr>
<td>TCEW</td>
<td>Technical Committee on Early Warning</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<td>VRA</td>
<td>Virtual Research Associates</td>
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<td>WFP</td>
<td>World Food Programme</td>
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Executive summary

Sudan has experienced a long period of violent conflict pitting the Northern-dominated government against the southern regions. The first phase of the conflict took place between 1956 and 1972, ending with the signature of the Addis Ababa Peace Agreement between both warring groups. Unfortunately, fighting broke out anew in 1983 and lasted until very recently when the Comprehensive Peace Agreement was signed by the Sudan Peoples Liberation Movement/Army (SPLM/A) and the Government of Sudan on 9 January 2005 in Nairobi, Kenya. The violent conflict in Darfur which began towards the end of 2002, however, is still ongoing. With the signing of the Comprehensive Peace Agreement in Sudan, hope remains that progress will be realized in all economic sectors. However, the violent conflict ravaging Darfur is a setback to efforts towards a peaceful Sudan.

Sudan as a case country study is considered with a focus on specific conflict and conflict-prone zones in the south of the country and in Darfur. The main objective of this study is to examine the relationship between employment and related socio-economic issues and conflict-related early warning systems within the context of the conflict in Sudan. Specific objectives include developing the methodological aspects or approaches that can be used by organizations to assess the correlation between socio-economic disparities and violent conflict; to develop a knowledge base for addressing the socio-economic dimensions of internal armed conflicts and to strengthen the capacity of conflict-related early warning systems to predict and prevent episodes of violent conflict by enlarging and sharpening the scope of relevant indicators to be operationalized.

The research methodology employed draws from secondary data. Variables such as the nature of the labour market, participation in the labour market, wages and the observance of internationally ratified conventions on basic standards in the labour market are discussed so as to identify employment trends in Sudan and its relation to conflict. Other variables such as strategic resources, education, refugees and Internally Displaced Persons (IDPs) have been focused on and attempts made to draw the correlation between them and violent conflict. The focus on these issues yields a check-list of socio-economic conflict indicators for conflict early warning. Socio-economic conflict indicators will no doubt help in enlarging and sharpening the scope of the relevant indicators to be operationalized in an early warning system.

The Inter-Governmental Authority on Development (IGAD) – Conflict Early Warning and Response Mechanism (CEWARN) being the only operational continuous early warning system covering Sudan, it is argued that the ILO can enter into a working arrangement with it so as to strengthen its capacity and efficiency. Considering the IGAD-CEWARN’s current focus on pastoral conflicts, the ILO has an opportunity to examine marginalization and the concept of pastoralism as a source of livelihood. As CEWARN plans to expand in the next five years to address all types of conflicts, there is an opportunity for the ILO to mainstream employment and related socio-economic conflict indicators in the process. The ILO can play a role in enhancing the capacity of local civil society organizations in the IGAD region in conflict prevention, management and resolution in order for them to play a more effective role in conflict early warning data collection, and the overall operation of the conflict early warning mechanism. The ILO can also play a role in the coordination of regular rapid assessment exercises with other organizations so as to continuously contribute to the Early Warning System (EWS) and thereby ensure its accuracy.
Introduction

The ILO High Level Research Consultation on Crisis which met in May 2000, in Geneva, confirmed the need to expand the knowledge base and adopt new approaches suitable for policy makers and crisis response managers to address the employment and related socio-economic challenges posed by crisis situations worldwide. The purpose of this research is to contribute to this effort by examining the relationship between employment and related socio-economic issues and conflict-related early warning systems (EWS), within the context of the conflict in Sudan.

Sudan is the largest country in Africa, neighboring Eritrea, Ethiopia, Kenya, Uganda, Democratic Republic of Congo, Central African Republic, Chad, Libya and Egypt. Sudan is made of three distinct geographic regions: The barren deserts of Libya and the Sahara to the North, the flatlands of the Central region and the dense rainforests to the South. The majority of the population lives along the Nile where sufficient pasture and watering points are found. One of the most worrying recent challenges the country has had to face is desertification, affecting nearly 60 per cent of the territory. In spite of the availability of vast natural resources, the country is ranked amongst the poorest, with a Human Development Index standing at 55.1 in 2002.121

The conflict in Sudan as a case-study is considered with a specific focus on conflict-prone zones in the South of the country and in Darfur. This study attempts a careful analysis of the relationship between socio-economic variables and violence revealing the extent to which socio-economic variables interact with the conflict environment at the local level to affect escalation of violence and the spread of violent conflict.

Against this general objective, the research addresses the following specific objectives:

- to develop the approaches that can be used by organizations at the international, national, and sub-national levels to assess the correlation between socio-economic disparities in society and violent conflict;
- to develop a theoretical knowledge base for addressing the socio-economic dimensions of internal armed conflicts;
- to strengthen the capacity of conflict-related early-warning systems to predict and prevent episodes of violent conflict worldwide by enlarging and sharpening the scope of relevant indicators to be operationalised;
- to deduce the correlation between employment and related socio-economic variables and conflict in Sudan. In order to achieve this objective, a number of derivative questions are addressed: what is the nature of the Sudanese labour market? In what sectors are people employed? What do socio-economic variables such as education and displacement (both refugees and IDPs) reveal about the potential correlation between socio-economic indicators and conflict?

Research methodology

The research methodology employed was drawn upon secondary data. Primary data would have been particularly useful in the case of Sudan, where years of armed conflict has affected the nature and quality of secondary data, especially from official sources. A clear example is the controversy between the North and the South on such issues as the accuracy of demographic data, as there has not been a reliable population census in several years.

This study therefore uses current statistical databases and reports available through the ILO, such as the LABORSTA database; the World Bank and other international organizations present in the country. These data sets provide information on various trends about the different socio-economic variables that have been focused on in this study. The analysis generated outlines the history of the conflict to provide a contextually based framework for understanding the current situation in Sudan. A desk research on and the state of the art for EWS modelling and conflict management was also carefully carried out.

This research uses socio-economic variables such as participation in the labour market, wage levels and types of occupation to identify employment trends in Sudan and their relation to conflict. Other variables such as education, refugees and IDPs have been focused on, and attempts made to draw the correlation between them and violent conflict. Specific focus areas of this study include an investigation of the Sudanese labour market, research on education levels of the active population in Sudan, a study of the balance between demographic and economic growth, refugees and IDPs.

The data collected provides an assessment of the relationship between socio-economic variables and violent conflict in Sudan. This assessment contributes to the broader aim of improving the capacity of existing conflict-related EWS and major efforts in this regard, in eastern Africa and elsewhere, to identify and inform the relevant actors before violent conflict erupts and to operationalise socio-economic indicators within these systems. Recommendations to operationalise socio-economic indicators within EWS modelling are provided.
1. Sudan country profile

Sudan gained its independence on 1 January, 1956 from Egypt and the UK. Its legal system is based on Islamic law as a result of the Egyptian-Arab influence and English common law. Islamic law applies to all residents in the North while the South has resisted an attempt to ‘Islamize’ the judicial system. Although the official language in Sudan is Arabic, over one hundred other languages are spoken while English is limited to business and government circles. The Sudanese population was estimated at 39.15 million people in 2004 with a 2.6 per cent growth rate.\(^{122}\)

Politics

The Sudanese Government is currently led by General Omar al-Bashir, in power since 1989. Democracy has not taken root in Sudan, as after the 1989 coup, all political parties were banned. The legal and judicial systems were significantly altered to fit the ruling elites’ version of political Islam. A new constitution came into force on 1 July, 1998. It reflects a strict ideology, providing a federal system of government and guarantees some important basic civil rights. Sudan has a unicameral legislature made up of 360 members. The December 1998 elections, boycotted by all major opposition parties, resulted in the election of President al-Bashir for a further five-year term, with his National Congress Party assuming 340 of the 360 parliamentary seats. Party members continued to hold key positions and strong influence over Government, army, security forces, judiciary, academic institutions, and the media.\(^{123}\) Sudan’s military is composed of the Sudanese People’s Armed Forces, Navy, Air Force and Popular Defence Forces. Compulsory military service provides the armed forces with manpower by calling upon the population aged between 18-30 years, to serve a three-year duty period. By 2004, the available figure for military manpower stood at 9,339,775 individuals.\(^{124}\)

In 1999, an internal power struggle within the National Congress Party pitting al-Turabi (the then Speaker of parliament) against President el-Bashir resulted in the latter declaring a state of emergency, dissolving parliament, and suspending important provisions of the Constitution, including those related to the structures of the local government in the states. In May 2000, al-Turabi led a separation from the ruling National Congress Party and established the Popular Congress. Many officials linked to al-Turabi were dismissed from their functions in the Government and in May 2001, al-Turabi himself was placed under house arrest and was later accused of organizing a coup d’état.\(^{125}\) Until the signing of the Comprehensive Peace Agreement between SPLM/A and the Government of Sudan on 14 January 2005, the SPLM/A led the separatist movement in the South. The conflict in Darfur still rages today. The roots of the present conflict in Darfur are complex, including identity issues, governance, tribal feuds, desertification, the availability of small arms, the emergence of armed movements enjoying popular support amongst certain tribes, and the Governments’ exploitation of tribal feuds for political reasons.

\(^{122}\) Care Sudan, Country Profile, www.caresudan.org


\(^{124}\) Ibid

\(^{125}\) Ibid
The economy and Infrastructures

Sudan’s GNP per capita stands at 330 US$. Sudan’s economy has been traditionally driven by agricultural exports such as cotton and Arabic gum. Since 1999 however, oil has become of the major export of the country. There is a high level of poverty and income inequality. The provision of government services is poor due to under-investment in the social service sector and the effects of the long-lasting internal conflict. The country has massive oil potential and a strong business network with East Asian countries which are actively investing in the sector. In 2002, the country’s GDP was 13.5 billion US$ of which agriculture made up 39.2 per cent, industry 18.3 per cent and services 42.5 per cent. In 2001, the country attracted 574 million US$ in direct investments.

As in many similar conflict-prone states, the educational system in Sudan has been significantly affected by the civil war. Primary education is available but greatly affected by a shortage of schools and teachers. Many students cannot proceed to secondary or technical schools. University education has nonetheless expanded in the recent past but the number of graduates remains insufficient to meet the skills required in all sectors of the economy and administration.

As a result of the prolonged armed conflict in the South, the infrastructure network in that region has remained below standards found in the North of the country. An oil pipeline runs from oil fields in the South to Port Sudan where oil production can be easily supplied and the oil shipped. Sudan has twelve paved airports; sixty-three remain unpaved. Waterways are open on the White and Blue Nile Rivers; ports and harbors are operational at Juba, Khartoum, Kusti, Malakal, Nimule, Port Sudan and Sawakin.

\[126\text{Sudan Country Analysis Brief, <www.eia.doe.gov>}
\[127\text{The Library of Congress, Country Profiles: Sudan, www lcweb org}
\[128\text{The Library of Congress, Country Profiles: Sudan, www icweb org}
\[129\text{Ibid}
\[130\text{CIA, The World Fact book-Sudan, www cia gov/cia/publications}
2. Understanding socio-economic indicators and Early Warning Systems (EWS)

2.1. Understanding Early Warning Systems

Early warning is a tool for preparedness and prevention. It is aimed at preventing the outbreak of conflict (pre-conflict), the spread of conflict (in-conflict) or renewed conflict (post-conflict). The success of conflict early warning and early response is much more likely when information, analysis and response options are shared and the actual response is a coordinated effort among multiple actors,\(^\text{131}\) ranging from States to regional and international organizations, and civil society actors.

There are three main objectives that underscore the value of Conflict Early Warning Systems:

- avoiding or minimizing violence, deprivation or humanitarian crises that threaten the sustainability of human development;
- gaining time for short-term containment and relief strategies as well as designing/building support for and implementing longer term pro-active strategies and development programmes that can reduce the likelihood of future disasters;
- generating analyses that identify key factors driving instability, providing a basis from which to assess likely future scenarios and recommend appropriate options for local and international policy makers oriented towards preventive action.\(^\text{132}\)

EWS variables can be grouped into three categories: structural, proximate, and triggers. Structural variables represent those factors that lie at the root of conflict, that provide the necessary but not sufficient conditions for conflict, they form the grounding for long-term risk assessment and are therefore needed either for preventive peace-building or peace-making initiatives and long-term planning. Examples of structural variables include: history of state repression, exclusionary ideologies, lack of democratic experience, increasing gaps in income and economic opportunity, high cohesion and external support for aggrieved groups, land desertification and increasing political pressures. Proximate variables refer to the accelerators that exacerbate the underlying conditions, thus driving up tensions. They refer to events that unfold rapidly and therefore provide the basis for dynamic early warning, such as arms/resource acquisitions, incidents of aggressive posturing or low-intensity violence, new discriminatory and repressive policies, crop failures and major currency devaluations. Finally, triggering variables are those events that directly ignite a conflict, examples often include coup attempts, assassinations, declared states of emergency and arrests.\(^\text{133}\)

According to the Report of the UN Framework Team on EWS indicators and methodology, socio-economic indicators are “comprised largely of structural preconditions for conflict, or the background conditions [and] root causes that make violent conflict more likely.”\(^\text{134}\) This assessment is based on an analysis of a given country for background signs of structural risk, rapid change or deteriorations of socio-economic conditions, the

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\(^{134}\) Ibid.
presence of structural factors that may be used or are being used instrumentally to mobilize
a political will in favor of violence, the degree to which the public recognizes and
participates in an elite discourse that is conducive to violence and the medium to long term
implications of the prevailing socio-economic trends. However, some of the socio-
economic factors/conditions can be categorized as proximate/intervening variables. It
therefore becomes clear that the causes of conflict cannot be compartmentalized into
distinct categories either as structural, proximate or triggers, instead, a dynamic interactive
consideration is more appropriate both conceptually and within the operational model of an
EWS, to seize the relevance of socio-economic factors.

The ability of EWS to monitor and detect the potential for violent conflict is based on
the observance of several indicators. These indicators include state institutions, regional
and international issues, security factors, elite discourse and behavior, ideological factors,
and socio-economic conditions. For the purposes of this study, the analysis will focus
solely on four socio-economic variables and gauge their relevance to EWS modelling. The
four socio-economic variables are employment, strategic resources, education, and
displacement (refugees and IDPs).

**Conflict Early Warning Models**

Within an EWS, conflict research findings are translated into a standardized
analytical model. A model is a set of identified indicators to be monitored within a pre-
specified framework, where indicators provide an account of conflict potential and chances
of escalation into violent conflict. The reliability of EWS is determined by the ability of
these systems to identify variables that are structural, proximate and trigger factors for
conflict.

Three different types of Conflict Early Warning models have been developed
conceptually: the correlational, sequential and conjunctural models. Correlational models
use multiple regression to test the strength of a postulated set of causal links among
variables. Information on events that took place in the past is used. Gurr and Harff argue
that patterns of causal relations may change over time and that it is necessary to carry out
regular appraisals on the basis of fresh data. Correlational models do not identify the
junctures at which intervention by third parties is likely to have the greatest effect. Correlational models are mostly preferred for conducting long-term risk assessments.
Gurr’s risk assessment for communal conflict and the CIA’s Directorate of Intelligence’s
State Failure Project are good examples of correlational models.

Sequential models try to track more precisely when tense and high-risk situations - as
indicated by structural conditions - are likely to erupt into crisis, thus adding time
sensitivity to risk assessments. Under this model, the analysis of accelerators enables the
tracking of the flow and sequence of events that can trigger a conflict. Sequential models
look at the dynamics of the conflict process by making a clear distinction between
background conditions, intervening variables and accelerators.

Conjunctural models aim at explaining complex patterns or thresholds, and try to
specify alternative sequences or scenarios of events, based on a combination of conditions.
A good example is the pattern-matching approach of Brecke’s ‘Conflict Early Warning
Project’ (CEWP), the cluster analysis of Schrot and Gerner, and the Protocol for the

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135 Ibid.
137 Goor, L. V. and Vestergen, S. Conflict Prognosis: Bridging the Gap from Early Warning to Early Response,
www.beyondintractability.org.
Ethno-Development, 1994, no. 1 pp. 3 to 14.
139 Ibid.
Assessment of Non-violent Direct Action (PANDA) of Bond. The focus of this model is on the intensification of the conflict situation and is greatly dependent on media coverage.\textsuperscript{140}

Whatever model is preferred, it is important to note that for predictions to be reliable, quantitative EWS demand strictly regulated and standardized procedures for the collection and processing of data, as well as harmonized usage of conflict indicators and rigorous application of all the concepts involved. Co-ordination of information among information gatherers is therefore of considerable importance.\textsuperscript{141} A mix of qualitative and quantitative EWS is most appropriate for making reliable predictions.

2.2. The Involvement of International Organizations in EWS

Concern about the immense humanitarian, material and strategic costs of violent conflicts in many parts of the world, and the overall impact of violent conflict on development efforts, has led to the realization of the value of conflict prevention strategies in general, of which early warning is a key component. The central objective for the involvement of organizations and other non-state stakeholders’ in early warning frameworks is to strengthen the efficiency of EWS as a way to enhance conflict prevention. Specifically international organizations and other non-state stakeholders aim to:

- prevent the outbreak of violent conflict at the earliest possible stage;
- find proper mechanisms for cooperation with other actors in conflict prevention;
- closely monitor highly volatile contexts so as to facilitate informed decisions and planning to intervene at the earliest possible juncture, in an appropriate manner, and without jeopardizing financial and human resources;
- establish instruments and mechanisms to prevent new eruption of violence in areas that have been affected by conflict.\textsuperscript{142}

On the basis of the above objectives, it is clear that for international organizations and other non-state actors, a \textit{sequential model} of early warning would be conceptually useful because it introduces a time element which facilitates the issuance of early warning alerts with some measure of certainty. The ILO, other international organizations and non-state actors, should collaborate with other actors to strengthen existing conflict EWS where they exist, while extracting benefits for their own operations. Such systems should be dynamic, time-based, continuous and comprehensive.

Some of the objectives highlighted above have also informed some of the EWS developed by International and regional organizations. The United Nations Interdepartmental Framework for the Coordination of Early Warning and Preventive Action was created in 1995. It instigates and coordinates preventive action among UN agencies, programmes and departments, and deals with situations where a broad-based multi-sectoral approach is needed, and where there is not already considerable UN

\textsuperscript{140} See Brecke, P. A Pattern Recognition Approach to Conflict Early Warning, also see Bond, D. ‘Timely Conflict Assessment and the PANDA Project’ and Shrodt P. and Gerner, D. Cluster Analysis as an Early Warning Technique, all found in Davis, J. and Gurr, T. Preventive Measures: Building Risk Assessment and Preventive Early Warning Systems, Colorado, Boulder, 1997.

\textsuperscript{141} Gurr, T.R. and Harff, B. (1994) op. cit; See Mwaura, C. and Schmeidl (2002) op.cit, pp.81 to 82

\textsuperscript{142} For a more elaborate discussion on the aims of international organization’s involvement in Conflict Early Warning Systems see Greco, E. The Role of International Institutions in Conflict Prevention and Early Warning. Instituto Affari Internazionali (IAI) http://www.id.gov.jo.
involvement, in the form of a UN presence. It focuses on structural prevention, based on
the premise that poverty, socio-economic inequalities, endemic underdevelopment, weak/non-existent institutions, the absence of good governance and gross human rights violations can provide the conditions that lead to conflict. Measures which are undertaken to address the broad range of long-term, political, institutional and development activities belong to structural prevention and support national efforts in addressing the root causes of potential conflict situations. These measures are jointly undertaken by the secretariat and by different UN programmes and agencies.

Similar objectives led to establishment of EWS by regional organizations in Africa, which are currently in different stages of development. The most developed and functional regional early warning units are found in West Africa, within the Economic Community of West African States (ECOWAS), and in the Horn of Africa within IGAD. In Southern Africa, the EWS of the Southern Africa Development Cooperation (SADC) is also to be noted.

2.3. The IGAD Conflict Early Warning and Response Mechanism (CEWARN)

IGAD decided to establish an Early Warning Unit in 2000 and gave effect to that decision at the 9th Summit in Khartoum in January 2002 when IGAD Heads of State and Government signed the protocol establishing CEWARN. The CEWARN unit, located in Addis Ababa, was set up in June 2003. It acts as a clearing house for early warning within the IGAD region.

CEWARN has adopted an incremental approach. Its current focus is on cross-border pastoral conflicts, but CEWARN intends to fully implement and expand the CEWARN mechanism across IGAD States for all types of conflicts over the next five years. Its current areas of responsibility are restricted to the Karamoja and Somali clusters, which cover Ethiopia, Kenya and Uganda. IGAD has identified National Research Institutes (NRIs) in each country, which in turn appoints a country coordinator and an assistant country coordinator to facilitate the collection and analysis of early warning information.

CEWARN’s Functions

CEWARN enumerates its functions as follows:

- to collect information and data using specific indicators and standardized reporting;
- to analyze and verify information and recognition of crisis development;
- to promote the exchange of information and collaboration among member-states on early warning and response;
- to establish and manage databases on information for early warning and response, including information sharing with other organizations;
- to formulate best, worst and most likely case scenarios and response options;

144 Ibid.
146 See the IGAD-CEWARN structure in Annex 1.
• to communicate recommendations on policy and response options to decision makers through Conflict Early Warning and Response Units (CEWERUs).

**CEWARN's Methodology**

CEWARN uses a sophisticated methodology and reporting tool, originally developed by Virtual Research Associates Inc. (VRA). The CEWARN system relies on the collection of information by field monitors, who send their reports to the National Research Institute. There are two types of reports, weekly situation reports and incident reports, which are sent as soon as an incident occurs. The country coordinators and assistant country coordinators, log in the relevant information according to a common set of coding rules.

The composite measures of conflict and cooperation used by CEWARN are based upon a unique set of indicators (currently numbering 52), designed specifically for monitoring pastoral conflicts in the IGAD region. The result is a set of baseline measures across a range of phenomena, including alliance formation, exchange behavior, mitigating behavior and peace initiatives as well as armed interventions, behavioral aggravators, environmental pressure and triggering behavior.\(^{149}\)

The approach emphasizes a comparable data driven analysis. The periodic structured reports are based on the precursors and incident outcomes data, collected on the field, and supplemented by background structural information, when appropriate as interpreted by the country coordinators.\(^{150}\) This is presented in quarterly CEWARN updates and annual baseline reports.

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\(^{149}\) Cilliers, J. (2005) op. Cit.

\(^{150}\) Ibid.
3. The socio-economic context and conflict: The nexus

The socio-economic environment creates conditions which influence societal cooperative and conflictual processes. A checklist presentation used at the end of this section brings the socio-economic conflict indicators into clear focus and provides a basis for tracking socio-economic trends with respect to their relevance for conflict early warning alerts and monitoring.

Two conceptual frameworks are useful for an understanding of the links between the socio-economic context and violent conflict: the greed versus grievance hypothesis and the inequality and uneven development hypothesis.

Greed versus grievance

The greed versus grievance debate has marked the contemporary understanding of socio-economic context as an explanatory factor for civil wars. Collier’s greed hypothesis, for example, is summarized in Murshed’s view that most of Africa’s wars are driven by the desire to capture loitable natural resource rents, while Le Billon points out that belligerents have become more dependent upon mobilizing tradable commodities like minerals, timber or drugs to sustain their military or political activities. Porto posits that resource rich areas have become increasingly important as a center of focus of both incumbent authorities and rebel movements. Sometimes encapsulated in the term ‘new wars’ the greed hypothesis can be interpreted as both a cause and effect of contemporary civil wars, resulting ultimately into protracted conflicts.

Opponents to the greed hypothesis argue that the statistics and the methodological basis of the greed theory require an oversimplification of data, and force events into common classifications while differences are more conspicuous. Michael Pugh for instance, argues that dwelling on economic arguments to explain complex civil wars in most of Africa, de-legitimizes protest against ethnic discrimination, abuse of human rights, denial of education and so on, and ignores the structures and activities of governments that bring about collapse by suppressing protest.

Keen makes an important observation that instead of talking in terms of either “greed” or “grievance”, we should be trying to understand the interaction and synergies between the two. The greed versus grievance debate is subsumed under socio-economic variables which are generally acknowledged as offering significant explanations for violent conflicts.

**Inequality and uneven development**

The inequality and unequal development hypothesis has a close relationship with the greed versus grievance debate. The argument is that inequality and uneven development provides a basis for the mobilization of people for conflict purposes. Alesina and Perotti argue that inequality is correlated with a greater incidence of political instability.\(^{158}\) This view is shared by Gurr for whom one of the most important causes of civil war is a high degree of inequality of wealth and income.\(^{159}\) To support this assertion, most of the authors in Boyce et al., explain violent conflict in El Salvador principally by the role of inequality, particularly unequal distribution of land.\(^{160}\) On the opposite end of the debate, Cramer argues that the poor quality and frail comparability of data is an obstacle in trying to understand the role of inequality in armed conflict. He concludes that what matters in studying the role of inequality in civil conflict is how inequality is institutionalized and shaped by history and changes in social relations.\(^{161}\)

Stewart and Fitzgerald believe that uneven development processes lead to inequality, exclusion and poverty. This contributes to growing grievances particularly when poverty coincides with ethnic, religious, language and regional boundaries. These underlying grievances may explode into open conflict when triggered by sudden shocks e.g. a sudden change in the terms of trade, or mobilized by conflict entrepreneurs.\(^{162}\) They argue further that the very high incidence of wars among low-income countries almost reflects a two-way causality, with low income predisposing to conflict, and itself being a probable outcome of conflict.\(^{163}\)

Porto argues that the role of income, natural resource endowment, population characteristics, ethnic and religious factionalisation, education levels, geography as well as previous conflict, are all factors that affect the likelihood of war.\(^{164}\) The war and poverty in Southern Sudan and the Darfur have created a vicious cycle which has trapped these regions in a protracted conflict that generated immense poverty, unemployment and illiteracy.

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\(^{158}\) Cramer, C. Economic Inequalities and Civil Conflict. Centre for development and Research School of Oriental and African Studies, University of London http://www.soas.ac.uk/centres/cdpr.

\(^{159}\) Pugh, M. “Peace building and spoils of Peace: The Bosnia and Herzegovina Experience” Council of Asia European Cooperation (CAEC), 2001, at http://www.caec.asia.europe.org/conference:


\(^{163}\) Ibid.

4. The conflict in the Sudan and its correlation with employment and related socio-economic variables

Contemporary academic debates on the socio-economic causalities of conflict point at several broad sets of factors such as poverty, unemployment, socio-economic inequalities, and access to natural (lootable) resources. It seems safe to assert that conflicts and particularly civil wars can hardly be considered as a mono-causal phenomenon. An analysis of the conflict in Sudan is proposed below, focusing on the Darfur and South-Sudan hotbeds, to consider the linkage that may be observed with key indicators related to poverty, the labour market, and inequality. This consideration of the conflicts in Sudan will look at, in particular, labour market imbalances, strategic resources, education and displacement. This analysis does not attempt to point at a single or sufficient factor to explain escalation to violent conflict, and/or prevent it through a careful monitoring and timely and appropriate response, but rather to consider in which crucial areas the socio-economic context can fuel, facilitate or set the grounds for conflict and its escalation into violence. Specific indicators as related to those factors are singled out.

4.1. An analysis of the labour market in the Sudan

The nature of Sudan’s labour market

The size of Sudan’s economically active labour force has been difficult to estimate because of different definitions of participation in economic activity, and the absence of accurate data from official sources. This makes it difficult to draw a strong correlation between employment trends and violent conflict. In rural areas for example, large numbers of women and girls are engaged in traditional productive occupations, but many may have not been included in counts of the active work force.

In the 1955/56 Census, the only complete count of the labour force for which data has been published, almost 86 per cent of those then considered as part of the work force were involved in agriculture, livestock raising, forestry, fisheries, or hunting. The ministry of Finance and Planning estimated that by 1969-70 the total had declined to somewhat less than 70 per cent and that at the end of the 1970s the sector accounted for less than 66 per cent. The lack of accurate data on Sudan’s labour force makes it difficult to establish the trends over the years and affects analysis, as it is not possible to draw the correlation between labour force trends and violent conflict, and more importantly to project into the future.

In 1980, the International Labour Organization (ILO) estimated that the workforce was about 6 million persons strong, approximately 33 per cent of the total population. This figure included about 300,000 unemployed. It also included the many male Sudanese working in other Arab states. In 1989, the ILO estimated that about 4,872,000 people were employed in agriculture. Services, which included a government work force that grew about 10 per cent per year in the 1970s, emerged as the second largest area of activity, encompassing an estimated 10.4 per cent of those economically active in 1979/1980, compared to 4.6 per cent in 1955/1956. Non-agricultural product manufacturing, mining, electric power and construction, accounted for 6.7 per cent during 1979/1980 as compared to 5.6 per cent in 1955/1956.

166 Ibid.
The Sudanese Strategic Report, 1997 of the University of Bremen mentions that 65 per cent of the urban labour force is employed in the “marginal sector”, meaning that most of the employees in the urban areas are casuals who are poorly paid and whose labour rights are most probably disregarded. According to the report, the Petty Traders Law, initially meant to protect women informal sector workers, has only made it more difficult for these women to operate because of its restrictive nature. For example, the women may not work before 6.00 a.m. and after 5.00 p.m.; this has directly affected their level of income as reported in a survey conducted by Al Gamhouriya Newspaper. In 1990 the size of the labour force was 45 per cent of the population, which increased to 47.5 per cent in 1996, of which 5 per cent had university level education. However, no indication could be found on the labour force’s overall literacy level.

According to the same report, unemployment figures in 1990 were at 16.5 per cent and rose to 16.6 per cent in 1996. Unemployment breeds frustration, resulting from the disillusionment of unemployed people who find it difficult to plan for the future, and who feel that the status quo is not in their favor and that they have nothing to lose if the status quo is changed, even violently. Increasing levels of poverty, coupled with rising levels of unemployment, creates a pool of idle and disgruntled people who can be easily mobilized into organized violent activities, including for political destabilization purposes.

**Sectoral distribution of the labour force**

Current data on the sectoral distribution of Sudan’s labour force is unavailable; however, figures for 1980 and 1990 show that a large majority of the labour force was employed in agriculture. The table below shows the sectoral distribution of Sudan’s labour force in 1980 and 1990.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Both sexes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>72.20</td>
<td>69.48</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry (total)</td>
<td>7.96</td>
<td>8.45</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry (manufacturing)</td>
<td>4.57</td>
<td>4.96</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Services</td>
<td>19.84</td>
<td>22.07</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>66.21</td>
<td>64.06</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry (total)</td>
<td>9.44</td>
<td>9.64</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry (manufacturing)</td>
<td>4.99</td>
<td>5.10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Services</td>
<td>24.35</td>
<td>26.30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>88.38</td>
<td>84.06</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry (total)</td>
<td>3.96</td>
<td>5.26</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry (manufacturing)</td>
<td>3.45</td>
<td>4.58</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Services</td>
<td>7.66</td>
<td>10.68</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: LABORSTA EAEP DATA

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Government reports maintain that the Sudanese economy is traditional and agriculture-based. In 1996 the sectoral distribution of the labour force was as follows:

### Table 2: Sectoral distribution of Sudanese labour force

<table>
<thead>
<tr>
<th>Sector</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>53 %</td>
</tr>
<tr>
<td>Services</td>
<td>18 %</td>
</tr>
<tr>
<td>Commerce</td>
<td>10 %</td>
</tr>
<tr>
<td>Industry</td>
<td>6 %</td>
</tr>
</tbody>
</table>

Source: Immigration and Manpower Survey 1996, Federal Ministry of Manpower

Going by the available statistics, which do not represent the current situation on the ground, it appears that agriculture occupies a broad percentage of Sudan’s labour force. Considering the seasonal nature of agriculture, it would not be too presumptuous to argue that there is a high probability that the majority of the agricultural labour force consists mainly of casual labourers whose services are only engaged when needed. The terms of service for agricultural casual labourers are generally poor.

The existence of a large and disgruntled labour force that sees itself as marginalized and unfairly treated can constitute a conflict indicator because they can be easily mobilized for conflict purposes.

**Education levels of the active population**

There is no current data on the education levels of the workforce in Sudan. Sudan’s Strategic Report of 1997 indicates that in 1996, the size of Sudan’s labour force was 47.5 of which only 5 per cent had university education.\(^{170}\) Deducing from these figures, a major part of the labour force is either illiterate or has some level of formal schooling.\(^{171}\)

On this basis therefore, while it may be argued that the existence of a largely illiterate labour force alongside a small highly-educated and ‘seemingly’ privileged group accentuates social and economic inequality and may constitute a conflict early warning indicator, it is difficult to establish a convincing case that the differences in the education levels of active members in labour participation are relevant to conflict early warning in the specific context of Sudan.

**Wages**

Data from available labour surveys show that the top 10 per cent of the formally employed people in Sudan acquired 51.6 per cent of all earnings by labour in 1990 and 64.3 per cent in 1996. At the same time, the earnings of the middle- and low-income groups appeared to have been severely squeezed.\(^{172}\) The departure of many professionals from Sudan put upward pressures on wages for the remaining well-educated labour force. Wide wage differentials resulted in increasing social and economic inequalities which constitutes the basis for conflict.

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\(^{171}\) Ibid.

In 2003, reports indicated that the government could not find the resources in the budget to pay its civil servants a living wage, let alone a motivating one. The pay structure at the time was based on 17 grades. G1 was the highest, G9 the graduate entry point, and G15-17 reserved for laborers. There were 3 super – scale grades for Directors General and Heads of Public Enterprises. A civil servant on G1, according to the pay scales that were in effect in March 2002, received in base pay and allowances the equivalent of 61 US$ per month. At G14, the lowest permanent grade position, the equivalent amount was 25 US$. It appears therefore that a civil servant at the lowest permanent grade lives below the conventional poverty line of 1 US$ a day, while the highest ranked official will earn no more than 2 US$ a day, a dramatic illustration of the paucity of official pay scales and the compression between grades.\footnote{World Bank, Sudan, Stabilization and Reconstruction, Country Economic Memorandum, Vol. 1 30 June, 2003, http://worldbank.org, p.133.}

High levels of poverty combined with poor pay and wide income differentials increase socio-economic inequalities, which constitute the basis for conflict.

**The balance between demographic and economic growth**

Statistics on the Sudanese economy (which do not reflect the situation in the South) indicate important improvements in macroeconomic management since the mid 1990s. Growth in GDP has averaged over 5 per cent annually since 1997, reflecting expansion in agriculture and industry, particularly in the oil sector.\footnote{DFID, Sudan: Country Engagement Plan, http://www.dfid.gov.uk.} However, Sudan’s economic growth has not resulted in an improvement in general living standards, as poverty levels remain high. Actual levels of poverty are however a matter of judgment as there has been no national poverty survey since 1978. The table below shows Sudan’s recent economic indicators.

**Table 3: Sudan’s recent economic indicators**

<table>
<thead>
<tr>
<th>Recent economic indicators</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (billion US$)</td>
<td>10.6</td>
<td>11.2</td>
<td>12.1</td>
<td>13.5</td>
<td>15.6</td>
<td>18.5</td>
</tr>
<tr>
<td>GDP per capita (US$)</td>
<td>346</td>
<td>358</td>
<td>376</td>
<td>411</td>
<td>463</td>
<td>537</td>
</tr>
<tr>
<td>Real GDP growth (% change YOY)</td>
<td>6.5</td>
<td>5.1</td>
<td>6.1</td>
<td>5.5</td>
<td>5.9</td>
<td>6.3</td>
</tr>
<tr>
<td>Current account balance (US$M)</td>
<td>-465</td>
<td>-557</td>
<td>-618</td>
<td>-1,008</td>
<td>-727</td>
<td>-205</td>
</tr>
<tr>
<td>Current account balance (% GDP)</td>
<td>-4.4</td>
<td>-4.9</td>
<td>-5.1</td>
<td>-7.5</td>
<td>-4.7</td>
<td>-1.1</td>
</tr>
<tr>
<td>Goods &amp; services exports (% GDP)</td>
<td>7.7</td>
<td>16.0</td>
<td>13.9</td>
<td>14.0</td>
<td>14.8</td>
<td>17.3</td>
</tr>
<tr>
<td>Inflation (% change YOY)</td>
<td>16.0</td>
<td>5.7</td>
<td>5.8</td>
<td>8.4</td>
<td>7.8</td>
<td>9.0</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

In terms of budget allocation by sectors, the public expenditure on education (as percentage of GNP) in 1990 represented 0.9 per cent. The public expenditure on health (as percentage of GNP) in 1990 and 2001 came up to 0.7 per cent and 0.6 per cent respectively. By contrast, public spending on the military in 1990 and 2002 was 2.8 per cent and 3.6 per cent respectively,\textsuperscript{175} and 4.8 per cent in 1999 as percentage of GNI.

Investing in people and especially in human development across the board enhances a country’s political stability while, obviously investing in defense for purposes of waging internal conflict at the expense of human development increases social alienation and political instability.

With a population growth rate of 2.6 per cent,\textsuperscript{176} youth between 18 and 25 years of age constitute approximately one-third of the total population in Sudan. The pattern of growth registered so far registered has not been able to absorb most of the young entrants into productive and decent work. A marked increase in the number of students entering tertiary education has also generated educated unemployed problems. The existence of a large population of unemployed people whose life prospects seem bleak, coupled with increasing levels of poverty, is a critical conflict indicator. The situation becomes even graver when the number of the educated unemployed continues to rise. This is because the increased awareness of the existence of social and economic inequalities arising from the employment – unemployment dynamic can be used to mobilize people for conflict purposes.

The results of the \textit{Immigration and Manpower Survey}, conducted by the Ministry of Manpower in 1996/97, indicated that the total number of graduates in 1997 amounted to 537,000 and the unemployment rate for the same year reached 29 per cent. The report also indicated that 21 per cent of Khartoum’s inhabitants were unemployed, and 15 per cent of the State’s newcomer graduates were unemployed. The Khartoum state accommodates 77 per cent of the total (country-wide) unemployed graduates, who were estimated in 1996 at 68,000 individuals.\textsuperscript{177} The concentration of a mass of unemployed, poor and disgruntled people in Khartoum is an indicator of potential conflict, as they can be easily mobilized for conflict purposes. The main features of unemployment among graduates in Sudan can be summarized as follows:

\textbf{Table 4: Unemployment among Sudanese graduates}

<table>
<thead>
<tr>
<th>Age group</th>
<th>Percentage of unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>65 %</td>
</tr>
<tr>
<td>30-40</td>
<td>18 %</td>
</tr>
<tr>
<td>Above 40</td>
<td>17 %</td>
</tr>
</tbody>
</table>

Source: \textit{Immigration and Manpower Survey 1996, Federal Ministry of Manpower}

The fact that the majority of unemployed graduates are young people aged between 20 – 29 is a disturbing matter. Unemployment disillusions young adults, making it difficult for them to find their respective niche in society, and the frustration that follows can be a source of tension in society arising from the disgruntlement of the disadvantaged.

\textsuperscript{176} Sudan Population Growth rate – Demographics, www.index mundi.
\textsuperscript{177} Immigration and Manpower Survey 1996, Federal Ministry of Manpower.
An examination of the observance of internationally ratified conventions on basic standards in the labour market

Although the Sudanese constitution provides for the right of association for economic and trade union purposes, the government restricts this in practice. The government prescribed severe punishment including the death penalty for violations of its labour decrees. There are no independent trade unions, and only the government controlled Sudan Workers Trade Union (SWTUF) can function legally; all remaining unions are simply banned.\(^{178}\) This constitutes a violation to ILO Convention 98 of 1949 on the right to organize and bargain collectively, which Sudan ratified in 1957. The continued suppression of basic rights such as the right to associate is a conflict indicator.

Although Sudan ratified ILO Convention 29 of 1930 on forced labour in 1957, and Convention 105 of 1951 on the abolition of forced labour in 1970, reports in 2003 of continuing forced and unpaid labour, underpaid labour and child labour for women and children particularly in the war zones and their transport to the central and northern parts of the country continued. The abductedees were forced to herd cattle, work in fields, fetch water, dig wells or do house work. They were also subjected to arbitrary punishment, rape and were sometimes killed. These practices had a pronounced racial aspect, as the victims were exclusively negroid southerners.\(^{179}\) The contravention of ILO Conventions 29 of 1930 and 105 of 1951, and particularly the practice of abduction and forced labour in Sudan is closely related to conflict.

In March 2003, Sudan ratified ILO Convention 182 on the worst forms of child labour and ILO Convention 138 on the minimum age for admission to employment, however, as already intimated, there were reports that children were abducted and subjected to forced labour as well as cases of children who were forcibly conscripted. Child labour existed in SPLM/A-held areas, particularly in agricultural areas. Child labour in such areas was exacerbated by lack of schools, extreme poverty and the lack of an effective legal minimum age for workers.\(^{180}\)

Mode of recruitment for jobs

Independent sources of data on the mode of recruitment for jobs in Sudan are unavailable. According to the Sudanese government, posts are established, modified and abolished according to work requirements.\(^{181}\) The Public Service Act prescribes free competition on the basis of merit by examination, interview or both in accordance with the requirements of work and various specialist fields.\(^{182}\) All vacant posts are advertised using all the available information media, except high level leadership posts and promotion posts that can be filled from within a unit.\(^{183}\) The government’s position on the mode of recruitment for jobs is, however, contradicted by reports that in 2003, southern IDPs generally occupied the lowest paying occupations and were subject to economic exploitation in rural and urban industries and activities, this contravenes ILO Convention 111 of 1995 on Discrimination (Employment and Occupation) ratified by Sudan in 1970.

\(^{179}\) Ibid.
\(^{180}\) Ibid.
\(^{181}\) Sudan, Article 10 of the Public Service ACT, 1994.
\(^{182}\) See Part 4, Article 18 of Sudan’s Public Service ACT, 1994.
\(^{183}\) Ibid.
4.2. Strategic resources

The conflict in Sudan is partly embedded in the question of access to natural resources controlled by the state. Sudan is endowed with precious minerals and land resources mainly across the southern region. Communities that live in this area are aware of the presence of natural resource wealth and external exploitation has raised questions of legitimacy over the possession of this wealth. At the core of the conflict in Darfur is a struggle for resources. Increasing desertification has resulted in competition for water, pasture and arable lands between sedentary farmers and pastoralists. This has often flared into violent conflict in the past. With the rise of rebel movements in Darfur, the government exploited the tension that existed between the different ethnic groups.

Water

The 1959 Nile Agreement over the control and use of the Nile waters has been a source of tension in the South. The Agreement gave Egypt an upper hand in the management of Nile waters. The share of water for Sudan was minimal and by 1973, Sudan had exhausted its share due to increased irrigation projects.

The Nile, which traverses Sudan, is a source of fresh water, fish, and irrigation water. The Nile and its tributaries, the White and Blue Nile, provide water for domestic and industrial use and large-scale irrigation. Four man-made water reservoirs have been constructed along the Nile to enhance this provision. These are Roseires, Sennar, Khashim el Girfà, and Jebel Awlia. Access to the Nile waters has been strained downstream due to numerous water projects along the river. This creates the potential for conflict between the people involved in large-scale irrigation projects upstream and affected communities downstream. Libya has also embarked on a ground water extraction project drawing water from the Nubian Sandstone aquifer through 4,000 kilometers of underground pipelines. The Nubian Sandstone aquifer is likely to be stressed, as it does not have any recharge rate against the withdrawal. This may result in water shortage in Sudan in the long term, which will, in turn, contribute to water-related conflicts.

Environmental concerns have arisen over Sudan’s development of large-scale irrigation projects. The Gezira agricultural scheme has resulted in high siltation and water pollution. The effect is felt by the potential users of residual water downstream. Similarly, high levels of salinity resulting from irrigation have accelerated soil deterioration. These adverse effects of water-use along the Nile are a hazard to the communities living in its vicinity and whose livelihoods depend on its fresh waters, thus creating conditions conducive for conflict. The fact that many people, including those from Southern Sudan are employed as casual labourers in the large-scale agricultural irrigation projects against the background of the abuse of basic labour rights coupled with poor pay increases the probability of the occurrence of violent conflict.

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187 Ibid.
188 Ibid.
The conflict in Darfur has an economic dimension related to the competition between pastoralists (generally Arab) and farmers (generally non-Arab) for land and water. The displacement of people in Darfur has resulted in job-loss as people ran to safety, abandoning their occupations. This increases poverty levels and inequality – a basis for violent conflict. At the same time, displacement has released many young people from their occupations (pastoralism and sedentary farming), thus creating a large pool of disgruntled youths, easily mobilized for conflict purposes.

**Oil and other valuable minerals**

Oil exploration and production has been a source of conflict in Sudan. Following the discovery of oil in 1978, the Government of Sudan decided to annex the oil-bearing lands, sparking conflict with the southerners, and thus became partly responsible for the renewal of the Sudan conflict in 1983.

The displacement of people to pave the way for oil exploration in Sudan has been a major source of conflict. Communities, such as the Nuer and Dinka groups living in oil-rich areas depend on the environment for pasture, cultivation, and general livelihood; their displacement has had traumatic effects on their way of life. These people were already facing a shortage of grazing land, the arrival of oil companies in their area forced them to seek alternative settlements. The displacement of people from their grazing and farmlands affects employment and income opportunities. People who were engaged as farm labourers and herdsmen lost their jobs. Displacement and the lack of a suitable alternative puts stress on land and relations, creating conditions that are conducive for the explosion of violent conflict.

Oil exploration and production generates great interest, both internally and externally, attracting a broader group of actors. Oil companies involved in oil exploration and production are foreign-owned while most of the affected people are locals suffering the consequences of displacement. Displaced people lack necessary skills to be seriously employed in the oil production industry. Although we do not have the data on employment and wage levels in the oil sector in Sudan, it may be expected that that most of the southern Sudanese are either engaged as casual workers or guards and are poorly paid. The perpetuation of inequality at this level against the background of displacement is yet again a potential source of conflict.

Oil exploration and production results in environmental degradation and pollution. Environmental degradation leads to resource scarcity, ultimately resulting in conflict as people compete for the available resources.

Apart from oil, other valuable minerals are found in most parts of Sudan, including gold, silver, uranium, chromite, bauxite, tin, copper, zinc, iron ore, lead, manganese, granite, marble, kaolin, and gypsum. The minerals would generate wealth if exploited. But this process is likely to trigger conflicts between different groups in the country. The oil exploitation experience has set a precedent over how the central government exploits resources in the South to enrich the North. The process of exploiting other minerals may also increase displacements and the struggle for control over the mineral-bearing regions.

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191 Ibid.
Land

Land ownership and exploitation has generated conflict between the displaced communities in the South on the one hand, and settlers and the government on the other. The Khartoum government annexed the Southern Blue Nile region in 1958 from the Upper Nile, the home of the Nuer and Dinka. Later, the Kafi Kingi region was annexed from Bahr El Ghazal in 1980. Agricultural intensification and modernization in these areas have adversely affected traditional farming. The resultant severe social and environmental changes do not favor the efficient performance of peasantry activities and has been a cause of conflict. Logically, this has had a negative impact on people in peasant occupations.

Sudan does not have a comprehensive policy on land rights. At one end is land ownership based on customary rights while on the other is formal land registration. While formal land registration recognizes customary land rights, it provides that they can be invoked under various legal provisions. The main provision is that customary land rights must first have a proven legal basis. The existence of these land tenure systems side by side creates conditions that are conducive to conflict as communal land cannot be registered under individuals’ names because this may limit the communities’ access to, and use of, the land in traditional community-based cooperative arrangements.

While accurate data on employment figures in the agriculture sector in Sudan is missing, it is assumed that most of the labour force consists of southern Sudanese individuals and the likelihood of contraventions of internationally ratified labour standards and poor remuneration is high. Displacement, negative impacts of mechanized agriculture on peasantry activities, serious contraventions of internationally, agreed labour standards and poor remuneration against the background of rising socio-economic inequalities are potential causes of violent conflict.

The issue of land has long been at the centre of politics in Darfur. In recent years, ecological and demographic transformations have had an impact on inter-tribal relations. In particular, tensions between farmers and cattle-herders have increased. Corridors that were agreed upon amongst the tribes to facilitate cattle movement were not respected and as fertile land became scarce, sedentary peoples’ tolerance of the seasonal visitors (mainly shepherds and herdsmen) diminished.

Faced with a military threat from the two rebel movements in Darfur and combined with a serious deficit in terms of military capabilities on the ground in Darfur, the government called upon local tribes to assist in fighting the rebels. The government exploited the existing tensions between different tribes. In response to the governments’ call, mostly Arab nomadic tribes without a traditional homeland and wishing to settle, given the encroaching desertification, responded to the call. People engaged as sedentary farmers or labourers in sedentary farms have had to abandon their farms and occupations as a result of insecurity and subsequent displacement.

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4.3. Education

The civil war, which ravaged Sudan for over two decades, has had a profound impact on the educational sector. The civil war resulted in people losing their lives, homes and livelihoods. Schools were destroyed and teachers fled for better opportunities abroad. Insecurity and poverty kept children out of school thus limiting their access to education.

Education is a human development requirement. Poor education limits opportunities and increases the risk of poverty and social alienation, which creates an environment conducive to conflict. Illiterate populations are to a large extent ignorant of their rights as citizens and may be manipulated by politicians. This is especially critical for Sudan considering the fact that over half of the population is illiterate and about half of the school age children are not receiving any form of education.\(^ {195}\)

**Education policy**

For most of Sudan’s post independence history, education has been used and abused by the government and the political elite in order to implement a specific ideology and agenda.\(^ {196}\) In the early 1990s, the Government of Sudan adopted a national education policy based on the recommendations of the National Conference on Education held in September 1990 whose main priorities were:

- the narrowing of disparities, that is closing the gender gap and regional imbalances;
- the absorption of all applicants to primary education as a step towards universal compulsory basic education;
- the reforming of the education system including pre-school education.\(^ {197}\)

It has been argued that the National Education Conference was flawed in that it was tilted in favor of radical Islamists in the ruling National Islamic Front, keen on establishing an education policy based on the Arab-Islamic civilization.\(^ {198}\) This alienated the liberal Muslims and the mainly Christian and Animist Sudanese in the South thus creating grounds for the mobilization of people for conflict purposes. It is worth noting that the National Conference on Education was held just one year following the 1989 coup d’état that brought al-Bashir to power, and that during this period, the conflict in the South continued to rage.

Higher education policies during al-Bashir’s reign have had a grave impact not only on higher education in Sudan but also on Sudan’s social fabric. The National Islamic Front realized the impact of higher education on society and the influence graduates could exert. In a bid to control the educated elite as well as higher education institutions, the government disbanded university staff associations but retained student unions, which were led by National Islamic Front loyalists.\(^ {199}\) The disbanding of university staff associations in universities is a violation of ILO Convention 98 of 1949 on the right to organize and bargain collectively, ratified by Sudan in 1957.

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\(^{196}\) Ibid, p.4.


\(^{199}\) Ibid.
Curriculum

The educational structure in Sudan was changed in 1991 from a 6+3+3 to a 2+8+3 to include a 2-year pre-school stage.\textsuperscript{200} The subjects for the first three years of basic education were Quran/El-figh (Islamic Studies) or Christian Religion, Arabic Language, Mathematics, and expressive arts (Music, theatre and sports). The second and third cycles cover the same subjects with, in addition, in the second cycle, Man and Universe, Applied Arts and English language. The third cycle covers Science in our life, and either “Us and the Islamic World” or “Us and the Contemporary world” in addition to the subjects done in the second cycle.\textsuperscript{201}

Sudan’s national curriculum is rigid and does not recognize the circumstances of herdsman children or consider the knowledge they bring to the education or their specific educational requirements.\textsuperscript{202} The result is a perpetuation of a system of education that pastoralist peoples in Sudan do not identify with because it is considered irrelevant. This again generates the inclusion-exclusion dynamic, which is responsible for many violent conflicts.

In practice, numerous curricula are being used in the country nowadays. In the north and government-controlled areas, a newly revised curriculum is currently being applied. While much effort was invested in ensuring a modern and updated content based on universal values and modern global knowledge, not all groups participated in designing the new curriculum; although the new version attempts to capture the diversity and particularity of the Sudanese context, it still emphasizes on Arab-Islamic culture. In SPLM/A-controlled areas, the Ugandan and Kenyan curricula are used with an African Christian approach and the language of instruction is English.\textsuperscript{203} The adoption of different curricula by North and South Sudan serves to depict the wide division in Sudanese society. This underscores the fact that curriculum content can serve as a conflict indicator because sections of a country’s citizenry believe that the curriculum does not recognize their values and is consequently irrelevant.

Enrolment rates

Sudan’s education enrolment statistics indicate that many school age children are not attending school. This portends serious trouble for sustainable development in Sudan. Gross enrolment rates in Sudan do not provide a complete picture because of the significant regional variations and gaps in data as the table below indicates. The Grade one gross intake rates reveal that many school age children are in fact not enrolling for school.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|}
\hline
\hline
Primary & 51.6 & 52.8 & 50.1 & 58.2 & 58.7 \\
\hline
Secondary & 21.1 & 24.0 & 20.6 & 31.8 & 32.0 \\
\hline
Tertiary & 1.9 & 3.0 & 4.9 & 6.8 & - \\
\hline
Total Grade One Intake Rates & 57.4 & 56.0 & 69.0 & 65.3 & 65.3 \\
\hline
\end{tabular}
\caption{Gross Enrolment Ratio (percentage)}\textsuperscript{204}
\end{table}

\textsuperscript{200} Sudan.net; Educational Institutions in Sudan, http://www.sudan.net.
\textsuperscript{202} Aikman, S et al; Mobile Education in Darfur, Western Sudan, www.oxfam.org.uk.
\textsuperscript{203} El-Kogali, S op. cit.
A Presidential decree issued in 1990 aimed at improving higher education led to an increase in the number of universities from 5 to 26 between 1990 and 1997. From 1990/91 to 2000/2001, enrolment grew on average by 16 per cent per annum, male student numbers observed a 13.1 per cent increase, whereas female student numbers rose by 19.6 per cent (by the end of the 1990s, female students outnumbered males). High enrolment rates have created a backlash effect, with a rising phenomenon of graduate unemployment. Frustration resulting from unemployment, is often felt in an even more intense manner among graduates, as stemming from the expectations of social and economic retribution from society for the efforts invested in their education, as well as from their self-esteem and their ambition to access higher social positions. This frustration, along with the capacities of these youths, can prove a powerful factor for conflict mobilization purposes. The table below shows the number of students enrolled in government universities between 1995/96 – 2000/2001.

### Table 6: Students enrolled in government universities according to International Classification for Education (ISCED) for the academic years 1995/1996-2000/2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Education</td>
<td>7083</td>
<td>10519</td>
<td>8514</td>
<td>11787</td>
<td>11895</td>
</tr>
<tr>
<td>Humanities &amp; Arts</td>
<td>7794</td>
<td>8292</td>
<td>14204</td>
<td>11707</td>
<td>10441</td>
</tr>
<tr>
<td>Social Sciences, Business &amp; Law</td>
<td>12367</td>
<td>8851</td>
<td>33861</td>
<td>27357</td>
<td>32740</td>
</tr>
<tr>
<td>Science</td>
<td>2448</td>
<td>2255</td>
<td>5201</td>
<td>5380</td>
<td>5630</td>
</tr>
<tr>
<td>Engineering, Manufacturing &amp; Construction</td>
<td>8517</td>
<td>2017</td>
<td>1621</td>
<td>6142</td>
<td>10978</td>
</tr>
<tr>
<td>Agriculture</td>
<td>6026</td>
<td>5747</td>
<td>7708</td>
<td>6805</td>
<td>6987</td>
</tr>
<tr>
<td>Health &amp; Welfare</td>
<td>5070</td>
<td>4155</td>
<td>8152</td>
<td>7828</td>
<td>9908</td>
</tr>
<tr>
<td>Services</td>
<td>327</td>
<td>365</td>
<td>212</td>
<td>318</td>
<td>243</td>
</tr>
<tr>
<td>Grand Total</td>
<td>49632</td>
<td>42201</td>
<td>94173</td>
<td>77324</td>
<td>88822</td>
</tr>
</tbody>
</table>


Moreover, the figures in the table above, indicate that few students enroll in Agriculture, Engineering, Manufacturing, Construction and services and yet these are the sectors that Sudan’s economy desperately needs to develop. The fact that the number of Sudanese nationals who are qualified and can be employed in these sectors is minimal means that expatriates have to be relied upon. The employment of many expatriates against the background of mass unemployment may generate conflict. The absence of recent data on the figures of expatriates employed in Sudan, however, makes it difficult to draw a convincing link with conflict.

### Regional Disparities

There are great regional disparities in Sudan’s education enrolment. Even in Northern Sudan, which is considered to be much better developed when compared to the South, there are wide disparities. The 1999/2000 gross enrolment rate in the Northern regions of Sudan was given as 84.4 per cent as compared to the Darfur region with only 34 per

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cent. The regional disparities are more glaring when vulnerable areas in southern Sudan are taken into account.

Table 7: 2002 Enrolment and gender gap, southern Sudan

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage enrolment</th>
<th>Gender gap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S. Sudan</td>
<td>Bahr El Ghazal</td>
</tr>
<tr>
<td>1</td>
<td>39</td>
<td>43</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>All grades</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>


Table 8: 2003 Gross primary school enrolment rates by region

<table>
<thead>
<tr>
<th>Location</th>
<th>Enrolment rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>82.4</td>
</tr>
<tr>
<td>East</td>
<td>42.5</td>
</tr>
<tr>
<td>Central</td>
<td>74.9</td>
</tr>
<tr>
<td>Khartoum</td>
<td>82.8</td>
</tr>
<tr>
<td>West</td>
<td>44.2</td>
</tr>
<tr>
<td>Darfur</td>
<td>45.5</td>
</tr>
<tr>
<td>Kordofan</td>
<td>42.35</td>
</tr>
<tr>
<td>South</td>
<td>na.</td>
</tr>
</tbody>
</table>


Regional disparities in enrolment rates constitute conflict early warning indicators. The fact that many children do not enroll in school in certain regions means that those children will not have equal opportunities compared with others from other regions. When it comes to employment, it is instructive to point out that the lack of opportunity and more so, of equal opportunities, can be a factor of conflict.

**Illiteracy**

Violent conflicts force children and youths out of school. The general atmosphere of insecurity works against the enrolment of children and youths in schools. The overriding objective of survival requires youth participation in the defense of their communities. Long drawn-out conflicts make young people to fight in defense of their communities as they grow while leaving no time for the pursuit of education. Sudan’s youth illiteracy rates have

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consistently averaged over 65 per cent for ages 15-24 from 1990 (1990 (65 per cent); 1995
(71.5 per cent); 2001 (78.1 per cent) and 2002 (79.1 per cent)).

The table below shows literacy rates in Sudan by region.

Table 9: Literacy rates by region

<table>
<thead>
<tr>
<th>Location</th>
<th>Literacy rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>71.6</td>
</tr>
<tr>
<td>East</td>
<td>42.8</td>
</tr>
<tr>
<td>Khartoum</td>
<td>62.4</td>
</tr>
<tr>
<td>West</td>
<td>53.4</td>
</tr>
<tr>
<td>Darfur</td>
<td>38.6</td>
</tr>
<tr>
<td>Kordofan</td>
<td>37.0</td>
</tr>
<tr>
<td>South</td>
<td>na.</td>
</tr>
</tbody>
</table>


Youth illiteracy rates can serve as a conflict indicator. The large numbers of illiterate youths whose life opportunities are limited owing to their illiteracy pose a serious challenge to peace and sustainable development because as alluded to earlier, illiterate people can be manipulated easily by unscrupulous politicians to perpetuate violence.

4.4. Refugees and IDPs

Massive displacement in Sudan can be viewed in the context of drought, political instability, civil war, and resulting famines. This, to a great extent leads to poverty, massive inequalities, poor health standards, limited education, and a situation that offers young people few options; all of these constitute conflict early warning indicators. Statistics indicate that Sudanese refugees primarily live in eight countries including about 150,000 in Uganda, some 80,000 in Ethiopia, 70,000 in Kenya, 70,000 in Congo-Kinshasa, about 35,000 in Central African Republic, 18,000 in Egypt, 15,000 in Chad, and 1,000 in Eritrea. While Sudanese refugees sought asylum in other states, the country is host to refugees from other countries. By the end of 2002, Sudan hosted nearly 310,000 refugees, including about 300,000 from Eritrea, 5,000 from Uganda and up to 2,000 from Ethiopia. An additional 10,000 Ethiopians lived in Sudan in refugee-like circumstances.

Sudan has the largest IDP population in the world. Of the estimated total of 4 million individuals, 1.8 million are presumed to live in Khartoum and 500,000 in eastern Sudan and the transitional zones. Others are displaced within Southern Sudan. In certain areas such as Juba in Equatoria, the vulnerability of IDPs is further compounded by reported cases of abduction and forced servitude, which contravene ILO Convention 29 of 1930 on forced labour and ILO Convention 105 of 1951, on the abolition of forced labour and serves to perpetuate the conflict. In addition, competition between refugees, IDPs and locals for limited jobs and resources generates conflict.

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207 Summary Education Profile: Sudan op. Cit.
209 Ibid.
Displacement as a consequence of civil war in Sudan

Since the resumption of hostilities in 1983 after president Numeiri’s unilateral abrogation of the Addis Ababa Agreement, the crisis of national identity intensified in the Southern and central parts of Sudan. Warfare and localized violence also occurred in other areas of the country including the provinces of Eastern Equatoria and Blue Nile. In addition, communal conflicts over land and cattle have become increasingly deadly, fueled by the proliferation of small arms.

Years of warfare in the South has pushed around 2 million persons to move to Khartoum and its outskirts, where they continue to live as displaced persons. Conditions for displaced residents of the capital are generally substandard. According to a 1999 survey by the World Food Programme (WFP),\(^{211}\) some 80 per cent of the displaced population were ‘very poor’ and spent four-fifths of their meagre incomes on food purchases that met only half of their nutritional requirements, while less than 10 per cent received food aid. According to a UN study, less than one in ten held formal jobs, three in ten had no access to medical services and displacement camps offered primary, but no secondary education. Furthermore, the study reported that only one-third of displaced children in Khartoum attended school, and many of the capital’s 10,000 or more street children were from displaced families.\(^{212}\) Increasing levels of poverty and unemployment among IDPs and competition over scarce resources in Khartoum may be a factor of conflict. Poor health and limited education opportunities for IDPs affect their future prospects in terms of employment, productivity, and ultimately, breaking out of the poverty cycle. The resultant rise in levels of poverty, socio-economic inequalities and competition over scarce resources will cause conflicts.

Oil exploration and displacement

In southern Sudan’s Upper Nile province, at least 50,000 persons fled their homes in 2001.\(^{213}\) Clashes continued near the province’s large oil fields, pitting government forces, pro-government militia, rebels and anti-rebel southern groups against each other. Splits within the local ethnic Nuer population also fueled violence in the province. The government continued to extract oil in the Upper Nile province, providing substantial new revenue that enabled Sudan to double its military expenditure compared to 1998. A report by Christian Aid stated that the government was pursuing a ‘scorched earth’ policy to clear the land of civilians and to make way for the exploration and exploitation of oil by private companies.\(^{214}\)

Oil exploration in Sudan is a major cause of conflict with respect to the displacement it occasions. The arrival of oil companies along oil fields is in itself an early warning indicator of conflict. This is because oil exploration puts pressure on the communities around these areas forcing them to look for alternative areas to settle. Displacing communities along oil fields interferes with their source of livelihood in terms of loss of land for pasture, and cultivation as witnessed among the Nuer and the Dinka groups.\(^{215}\) The displacement of Southern Sudanese populations without the provision of suitable alternatives in the context of the conflict in Sudan has helped to intensify conflict. This is compounded by the fact that the displaced people lack the skills required for employment in the oil industry, and that no serious capacity building effort to address this is undertaken, either by public authorities or the companies themselves.


Famine and displacement

Famine, a consequence of the civil war, has affected the lives of millions of Sudanese citizens. The famine conditions in Sudan are directly related to the displacement of over four million civilians. The famine conditions in Sudan are aggravated by the unwillingness of the government’s to allow relief efforts access to famine struck areas. A case in point was the man-made famine in Bahr al-Ghazal province in 1998 that killed at least 70,000 Dinkas after the Khartoum government bombed and terrorized 700,000 people into leaving their homes and then refused landing rights for international relief flights.216 Khartoum imposed a similar flight ban on the Bahr El Ghazal region between February and April 1998. An estimated 60,000 people died of hunger and disease in a matter of weeks due to food shortages. On 14 July, 1999, the Khartoum government imposed a ban on relief flights in the five main population and relief centres of Western Upper Nile, making most of the region inaccessible to relief agencies.217

With the signing of the Comprehensive Peace Agreement between the Government of Sudan and the SPLM/A in January 2005, there is hope that the refugee and internal displacement crisis in Sudan will also come to an end in the South of the country.

On the basis of the above socio-economic analysis of the conflict in Sudan, it may be safely assumed that socio-economic factors are necessary, though insufficient variables, to account for escalation and outbreak of violent conflict in Sudan. It is the interaction between these factors with other sets of factors, political, cultural-religious, international, etc., that lead to violent conflict. It may still be concluded that socio-economic variables are part of the problem, and solution, to contemporary (civil) violent conflicts, and that therefore socio-economic conflict indicators are relevant for strengthening the knowledge-base and efficiency of conflict EWS.

5. Proposed socio-economic conflict indicators: A checklist for conflict early warning

On the basis of the identified key socio-economic variables that may be considered to infer on the conflict(s) in Sudan, a checklist is proposed below as a methodological contribution to assessing the socio-economic dimensions of conflicts and the integration of socio-economic indicators within the continuous monitoring of comprehensive, sequential EWS for conflict prevention and monitoring.

5.1. Employment

Are there wide disparities in the education levels of the economically active population?

The education levels of the active population determine to a large extent workers’ assets in the labour market and their ability to seize opportunities for upward mobility and decent income. If a small fraction of the labour force is highly educated while the majority is either illiterate or semi-illiterate, this will be reflected in socio-economic inequalities, which may create tension, and provide the basis for conflict.

Are there major wage differentials? And are workers paid a decent wage?

Major wage differentials between different categories of employees can be a source of tension. It appears that there are no disproportionate wage differentials in the public sector, although wages remain quite low. For the purposes of this study, a ‘decent’ wage is a wage that enables an employee to live a fairly comfortable life. The poverty of civil servants is a dramatic indication of the overall levels of poverty in Sudan. High levels of poverty can be a source of tension in society and may be for a factor of conflict.218

What is happening to the levels of unemployment?

If unemployment levels are high and continue to rise, there will also be a rise in poverty and socio-economic inequalities, which form the basis of conflict. At the same time, frustrations of the unemployed can be used to mobilize people for conflict purposes. As recent unemployment statistics in Sudan are high, we can assume that the employment situation today in the country acts as a potential conflict indicator.

Are there serious contraventions of internationally ratified labour conventions?

The practice of forced labour and its sheer inhumanity in Sudan and the breaching of other conventions on the right to collective association and bargaining, on discrimination in hiring and in the workplace, and on the worst forms of child labour, have a close relationship with the conflict in Southern Sudan. Grave contraventions to internationally ratified labour conventions on basic labour standards generate tension in the society, and may be considered a conflict indicator.
Indicators

- Wide disparities in the education levels of the active population;
- major wage differentials among workers and poor pay;
- rise in the levels of unemployment, and of skilled unemployment;
- serious contraventions of internationally ratified labour conventions.

5.2. Strategic resources

Are there valuable and extractable minerals? And who controls them?

If valuable and extractable natural resources can be found, there exists a high probability of conflict arising over land rights for extraction and the distribution of benefits. The exploration and extraction of oil, but also of other mineral resources such as gold, silver, uranium, chromite, iron bauxite, tin, copper, zinc, iron ore, lead, manganese, granite, marble, kaolin, and gypsum, has been a source of conflict with local communities.

Does competition exist over the control of valuable minerals?

Competition over the control of valuable scarce resources leads to conflict. Competition over the control of oil-bearing lands between the Government of Sudan and the Southern Sudan rebels was to some extent at the root of the renewal of the Sudan conflict in 1983. When attention is finally focused on other valuable resources, the chances of competition over their control are high.

Have peoples’ livelihoods been adversely affected as a result of natural resource exploitation?

Livelihood refers to the means of sustaining life both in rural and urban contexts e.g. access to and ownership of farmlands and pasture, living in a clean environment and other informal means of sustenance that do not involve monetary gain. If peoples’ livelihoods are adversely affected as a result of natural resource extraction, conflict may arise. The displacement of people in order to pave the way for oil exploration and extraction may result in the loss of pasture and farmlands leading to conflict. Environmental degradation resulting from pollution and related negative impacts of natural resource exploitation is another cause of conflict.

Does water access and use generate tension?

Water is a resource of vital importance; unequal distribution of such resources, or their over-exploitation, may result in high siltation and water pollution thus affecting potential users and results in tension between people, in particular between communities involved in agricultural irrigation schemes upstream, and those who are adversely affected downstream.
Is there tension over land use and ownership for agriculture?

Competition over arable lands owing to their scarcity, and the Government’s annexation of arable lands (for instance to facilitate the resettlement of Northerners in South Sudan), can be considered as clear sources of tension. The intensification and modernization of agricultural activities may adversely affect traditional peasant farming thus exacerbating the tension between natives and new settlers. In case where there is an absence of a comprehensive policy on land rights, accepted by all, customary land rights and formal land registration will find themselves in conflict with no clear and legitimate arbitration mechanisms and principles. The registration of community land under individual’s names may unravel traditional, community-based access to and use of land, therefore creating intra/inter-community tensions.

Indicators

- The existence of valuable and extractable mineral resources under the control of one party;
- adverse effects of oil exploitation on peoples’ livelihoods;
- competition over the control of valuable minerals;
- tension revolving around water access and use;
- tension over land use and ownership.

5.3. Education

Is there tension between communities resulting from the marginalizing effects of a country’s education policy, including curriculum design?

If some of the stakeholders feel that they were sidelined in the development of the education policy and that the policy itself is unfair, there is likelihood that conflict will arise between the government and aggrieved stakeholders. Education policies that do not address the needs of different components of a population (such as pastoral concerns) are likely to raise tensions between such components. It may also lead to autonomist/separatist desires, further aggravating political tensions.

What are the trends in enrolment rates at all education levels? And are there major regional disparities in enrolment?

Reductions in enrolment rates, on a national scope, or regional disparities in the enrolment rates may either be an indication of the existence of tensions or conflict, or may set the ground for conflict in the future. Regional disparities in particular may lead to inequalities by region in accessing the national labour market, or even to the economic and political exclusion nationally of certain regions.

Is there a rise/decline in the rate of youth illiteracy?

If youth illiteracy rates increase, there will no doubt be a sizeable youth population that may grow resentful at its inability to access decent employment opportunities, and may be easily manipulated for purposes of conflict mobilization.
Are educational institutions open and accessible?

In periods of tension, students / pupils cannot easily access educational institutions because of security concerns. Many students / pupils opt to remain at home before they see themselves forced to flee with their parents when the situation becomes too volatile. The accessibility of education institutions is therefore a conflict indicator.

Indicators

- The extent of acceptability of the education policy;
- the extent of acceptability of the official curriculum;
- major regional disparities in enrolment and literacy levels;
- rise in the overall rates of illiteracy by age, gender and region;
- accessibility and normal operation of educational institutions.

5.4. Refugees and IDPs

Are the numbers of refugees and IDPs increasing or decreasing?

The numbers of refugees and IDPs is a relatively straightforward indicator of a conflict’s intensity.

Is a region experiencing drought?

Extreme conditions of drought oblige people to leave their homes and create a conducive environment for conflict as a result of people competing over scarce resources such as water and pasture. Drought is, in this sense, an early warning indicator of displacement and conflict.

Are there numerous cases of gross human rights violations?

Gross human rights violations result in political unrest, conflict and displacement. While some of the violations have occurred in the context of the civil war, others have occurred beyond the war zone. Increasing cases of gross human rights violations bring the perpetrators and victims of those violations at loggerheads thus increasing tension in society.

Are small arms and light weapons readily available?

Availability of small arms and light weapons is a conflict indicator per se, but is addressed here with respect to the discussion on refugees and IDPs. The easy availability of small arms aggravates conflict, thus resulting in mass displacement of people.

What are the general living conditions of refugees and IDPs?

Living conditions consists of having access to basic human needs e.g. food, shelter, medical care and education. If the general living conditions of refugees and IDPs are poor, there is a high probability that the refugees and IDPs will be restive and may regroup with the aim of taking revenge on their perceived enemies.
Is there competition between refugees, IDPs and local communities over scarce resources?

Large groups of refugees and IDPs may exert pressure on limited available services and scarce resources within a certain territory (both in urban and rural contexts), therefore creating tensions with local communities.

Have oil companies been commissioned to carry out new oil exploration?

If oil companies have been commissioned to conduct oil exploration in new areas, there is a high probability that a community will be displaced, which may result in conflict between the displaced community and the authorities. In addition to this, the scarcity of farmlands and pasture occasioned by the displacement is most likely to result in intra- and inter-communal competition over these resources and conflict.

Indicators

- Conditions of drought.
- Rampant cases of human rights violations;
- Increase in the number of refugees and IDPs;
- Competition between refugees, IDPs and local communities over scarce resources;
- Proliferation of small arms and light weapons;
- Commissioning of oil companies to carry-out new oil exploration.
6. Initial considerations for early warning modelling using socio-economic indicators

As discussed in section 2, the sequential model of early warning is the most appropriate to the different information and early action needs of international organizations involved in humanitarian, security and development activities. The sequential model introduces a time element, thus making it possible to issue an early warning alert with a relative degree of certainty. Tense and high-risk situations as indicated by structural conditions can be tracked by analyzing the accelerators, proximate/intervening variables and triggers.

Socio-economic indicators pertinent to a close monitoring of conflict escalation and post-conflict relapses into violence, as well as to the evidencing of windows of opportunity and the easing down of tensions, consist of structural and proximate variables that may be operationalized in a sequential model of conflict early warning. The consideration of socio-economic indicators, and their interaction with other sets of indicators (political, cultural, foreign intervention, regional and international dynamics), sets the context for the development of a comprehensive sequential conflict early warning model.

It has been noted that socio-economic conflict indicators may be referred to as structural and proximate variables within an EWS. Looking at specific indicators as evidenced by the analysis of the conflict in Sudan, the distinction between these categories may arguably be not quite clear, a dynamic consideration is therefore more appropriate. However, in order to facilitate the operationalisation of socio-economic conflict indicators within a sequential model of conflict early warning, which is considered more pertinent to the monitoring and early response objectives of international organizations such as the ILO, it is deemed pertinent to propose a differentiation of the socio-economic conflict indicators generated by this research into structural and proximate variables. It is however important to bear in mind that the said categories are fluid and what matters more is how the specific indicators in the said categories interact in a dynamic conflict environment to affect the intensity and spread of violent conflict.

It may be considered that most socio-economic indicators as evidenced in the analysis represent structural variables while their abrupt deterioration qualifies them as proximate variables. Within a comprehensive sequential model, structural variables may encompass the following socio-economic indicators: the existence of valuable and extractable minerals under the control of a specific group(s), major regional disparities in education levels of the active population, tensions resulting from the marginalizing effects of a country’s education policy, high levels of unemployment, major wage differentials coupled with poor pay and land desertification. These indicators are necessary though insufficient causes of violent conflict and provide the basis for long-term risk assessment.

Proximate socio-economic variables may consist of: competition over the control of valuable minerals, tension over water-access and use, tension over land use and ownership, adverse effects of oil exploitation on people’s livelihoods, rise in levels of unemployment, serious contraventions of internationally-ratified labour conventions, discrimination in job recruitment and increases in the number of refugees and IDPs. These proximate variables or accelerators exacerbate underlying conditions, thus driving-up tensions.

The interaction between structural and proximate variables draws the situation close to a violent conflict, and it only requires a trigger for violent conflict to erupt. Triggers could be elections, coup attempts, declared states of emergency or arrests. For instance, the interaction between land desertification or conditions of drought, which creates a food security crisis, an increase in the number of refugees and IDPs, competition between refugees and IDPs over scarce resource and the availability of small arms, exclusionary ideologies and use of political instrumentation, can lead to violent conflict when triggered by a declared state of emergency or an assassination.
7. Recommendations

7.1. Socio-economic conflict indicators for EWS

This study focused on strengthening the knowledge and data bases of conflict-related EWS to achieve greater accuracy and efficiency in their operation, for the purpose of preparedness, rapid and adequate response. The study has advocated in this regard the establishment, or the strengthening, of continuous sequential EWS for conflicts, based on the close monitoring of a comprehensive (e.g. multidisciplinary) knowledge and data base that integrate socio-economic variables along with other more conventional sets of variables (such as the political, cultural, military, regional/international, etc.).

In this respect, it becomes clear that the key focus for the ILO is to advocate for the setting up and the strengthening of existing, collaborative EWS, able to integrate the key dimensions of conflict causalities, including but not limited to socio-economic indicators.

By taking part in these collaborative arrangements, the ILO will be able to contribute to the prevention of violent conflict by strengthening the efficiency of EWS, but will also reap important benefits for its own development operations by acquiring precise knowledge on the situation on the ground through a close and continuous monitoring of events. In contexts of protracted conflicts and in the early stages of the post-war phase, when relapses into conflict are likely, early action is crucial to consolidate peace and build solid paths to development. This will prove a crucial asset for the organization to make the best-informed decisions in as far as its involvement, in the shortest time possible and in the most appropriate manner. This will also allow the organization to invest in the best manner its precious financial as well as human resources.

In addition to this overall consideration, it is recommended to the ILO to:

- update its labour market data base on Sudan so as to provide more current data which can be worthwhile when used in conjunction with primary data;
- establish collaboration with other international, national or governmental organizations and agencies, with a stronger presence on the ground in particularly sensitive or conflict-prone areas, for socio-economic information-collection and sharing. The organization may engage in equipping such organizations and agencies with the tools and capacities to effectively monitor certain socio-economic variables through rapid assessment methodologies.

7.2. Conflict early warning in the Sudan and the IGAD region: Entry points for the ILO

The protocol establishing CEWARN, empowers the IGAD-CEWARN Unit and the IGAD Directorate of Political and Humanitarian Affairs to initiate cooperative arrangements with international, regional and sub-regional organizations.\(^{219}\) The current focus of CEWARN is on cross-border pastoral conflicts; the indicator base is therefore narrow. As CEWARN is planning to expand its scope in the next five years so as to cover all types of violent conflicts in the region, there will be needs to enlarge and sharpen the

scope of the indicator base. The ILO can make an important contribution towards this end. From IGAD-CEWARN’s current focus, the ILO will reap immense benefits in its operations in the IGAD region if it enters into a collaborative arrangement with CEWARN. Several lines of collaboration may be pursued:

- international organizations such as the ILO can play a role in encouraging policymakers and opinion leaders in the region, to move towards establishing a comprehensive conflict-prevention, management and reconstruction framework;
- to facilitate IGAD-CEWARN’s expansion of its focus to include all types of conflict in the region, international organizations, including the ILO, and other non-state stakeholders can help meet some of CEWARN’s costs as it expands through providing grants and donations, or by technically supporting the organization in its development;
- in the short term, the IGAD-CEWARN mechanism provides an opportunity to examine marginalization and the concept of pastoralism as a source of livelihood, as conflict indicators;
- the ILO should play a role in the indicator development phase of CEWARN so as to ensure that employment and related socio-economic conflict indicators are integrated into the comprehensive conflict EWS. The expansion of the IGAD Conflict Early Warning Mechanism provides an opportunity for the ILO to mainstream employment and related socio-economic conflict indicators;
- the ILO should participate in the coordination of regular rapid assessment exercises with other organizations so as to regularly update the EWS information base and thereby ensure its efficiency;
- owing to the acknowledgement of the role, presence and knowledge of the field, of civil society organizations in conflict prevention and post-conflict peace-building and reconstruction, civil society organizations have been incorporated into CEWARN’s activities. However, not all of them have sufficient capacity to efficiently contribute to the process of conflict monitoring and early response. The ILO should engage in the capacity building of grassroots civil society organizations on conflict prevention, management, and resolution training, as well as on monitoring conflict indicators and reporting;
- finally, the ILO should ensure that it has an input in the response arm of the EWS. This will enable it to address employment-related conflict factors. The ILO can do this through establishing close working relations with IGAD and IGAD member-states. Such an arrangement will provide the ILO with an opportunity to advise the regional organization and member-states on the response options that can help address some employment and related socio-economic conflict factors.
Annexes

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2. **CEWARN**

**CEWARN’s structure**\(^{220}\)

The CEWARN structure is made up of:

a) the policy arm - consists of the Assembly, Council and Committee;

b) the administrative arm - consists of the secretariat;

c) the technical arm - consists of the:

   i) CEWARN Unit
   
   ii) CEWERUs

d) the cooperating arms - consist of:

   i) optional inter - state structures;

   ii) optional sub - regional councils;

e) the coordinating arms consists of:

   i) the committee of permanent secretaries;

   ii) the Technical committee on Early Warning.

Once CEWARN receives information concerning potentially violent conflict,\(^{221}\) as well as its outbreak and escalation it is mandated to bring that information, through the Executive Secretary, to the immediate attention of the Committee of Permanent Secretaries, who review the options and make immediate recommendations to the council.\(^{222}\)

Conflict Early Warning and Response Units (CEWERUs), are the national early warning units in the IGAD member-states. They are made up of representatives from government departments and civil society organizations. They undertake preliminary analysis of collected information, review the analysis received, formulate response strategies and communicate information and analysis gathered to the CEWARN Unit.\(^{223}\)

The Technical Committee on Early Warning and Response (TCEW), is responsible for the technical coordination of the CEWERUs in the various IGAD member-states. The TCEW reports to the Committee of Permanent Secretaries and includes one representative from an independent research institution from each member-state in its membership.\(^{224}\)

**The CEWARN Unit**\(^{225}\)

The CEWARN Unit is part of the Directorate of Political and Humanitarian Affairs. It is accorded financial autonomy to the extent necessary for the performance of its functions. The CEWARN Unit is empowered to enter into cooperative arrangements with international, regional and sub-regional organizations, however, the terms, conditions and modalities governing such arrangements shall be governed by agreements concluded between IGAD and such other organizations.\(^{226}\)

\(^{220}\) CEWARN Protocol, Article 4, p.14

\(^{221}\) Addendum to the CEWARN Protocol, Part I: Mandate, Aracle (1) (a)

\(^{222}\) Ibid, Article 3.

\(^{223}\) CEWARN Protocol, Article.

\(^{224}\) CEWARN Protocol, Article 9 (5) (c).

\(^{225}\) CEWARN Protocol, Article 6.

\(^{226}\) Ibid Article 6 (3), (4).