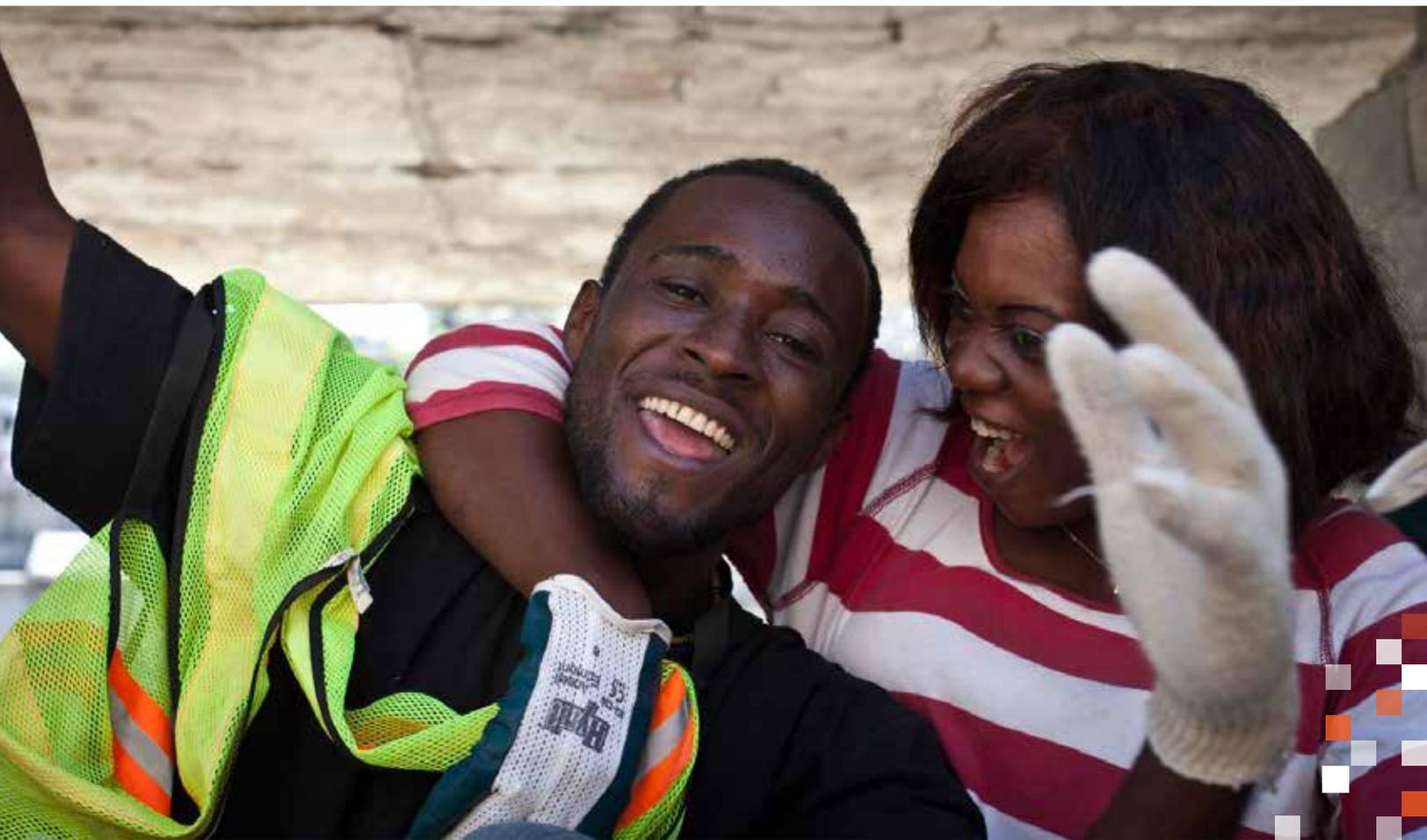


# EMPLOYMENT, LIVELIHOOD & SOCIAL PROTECTION



## PDNA GUIDELINES VOLUME B



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## INTRODUCTION

This chapter provides general guidance on conducting post-disaster needs assessment (PDNA) and recovery planning for Employment, Livelihoods and Social Protection (ELSP). It outlines how to assess and estimate the effects and impact of disasters on ELSP and provides recommendations for reactivating economic activities and employment for recovery of livelihoods.

ELSP is treated as a particular topic in this chapter. However, specific recovery needs related to overall economic recovery and recovery of permanent sources of employment and livelihoods in the social and productive sectors are also treated in the respective sector chapters of the PDNA Guidelines.

Livelihoods can be defined as a set of activities and strategies pursued by household members, using their various assets (physical, natural, human, social, financial) in order to make a living. Livelihoods usually involve employment of household labour and the use of other household assets, if any, in order to live on the proceeds. For the large majority of people across all countries, the most important livelihood asset is primarily their own labour, followed by other household assets (physical, financial, social and natural).

Social protection refers to people and households that are socio-economically secure with regards to access to health care and safety at the workplace, even in the face of vulnerabilities and contingencies. This is particularly important for poor and marginalized segments of a population, often found in the informal economy. Commonly they are most in need of support and protection, yet are the least protected.

ELSP is an issue for consideration across the social and productive sectors of an economy or society. It is the expression of all productive sectors from a household perspective, as the means of making a living and earning an income. Therefore, disasters have an impact on ELSP, and are often manifested through disaster's effects on economic sectors where people are employed and make a living. As such, this chapter focuses specifically on the impact of disasters on ELSP, with the understanding that an assessment of ELSP is interlinked with the assessment of other sectors.

Disasters destroy or cause harm to people's livelihoods. Disasters deprive people of their jobs, or reduce their ability to raise income, and thus diminish (permanently or temporarily) their capacity to make a living. Emergency relief helps households to survive in the first stages, but soon an urgent priority is to get people back to work, to promote economic recovery and to reconstruct or replace affected livelihoods. Apart from its obvious economic functions, the reactivation of disaster-stricken economies facilitates the transition from emergency relief to recovery and restores people's dignity through allowing them to again make a living and contribute to society.

The effects of a disaster on ELSP include damage of assets necessary for the employment of labour, and a change in flows of personal income even if assets are not affected. Damage directly caused by a disaster may include the destruction of assets (e.g., irrigation infrastructure, workshops, factories, market stalls, tools, machinery, livestock, etc.) on which ELSP depends. Damages may also include reductions in the size and capabilities of the labour force, e.g., when a disaster kills or disables (totally or partially) a household's labour force, which is arguably its most important asset.

Change in flows of income derived from disasters include the (temporary or permanent) loss of income from employment. Such a permanent loss may occur, for instance, when a workplace building collapses as a result of a disaster and is no longer able to function in production or trade; its workers (and possibly its owners) thus lose their jobs and must seek alternative livelihoods. A temporary interruption of income from employment may occur, for instance, as a result of prolonged power cuts following a disaster, or through the disruption of the supply chain, even in the absence of direct damage to workers or workplaces. Even if jobs are not lost or interrupted, there might be a reduction of income flows. This is frequently the case for some forms of self-employment, including farming. For instance, the productive assets (land, tools) may survive relatively unscathed, and a household may still count on operating its farm and employ its labour force, but the season's or year's harvest (or the seed reserves) may be lost, or water supplies may be cut impeding irrigation. In other cases, a disaster may cause a reduction in demand for certain goods and services, thus reducing the income of people devoted to their supply; for instance, demand for hairdressing may fall in the aftermath of a disaster, leaving hairdressers with a reduced flow of income. It is worth noting, that some goods and services may actually see an increase in demand, such as the construction industry.

Change in the flows from livelihoods may also include the loss or reduction of other flows of income not related to labour (e.g., property rents that cease to be received if the property is destroyed or the renters have lost their livelihoods). Landowners, including small ones, who give land in tenancy under a sharecropping arrangement may receive less income from sharecroppers if farm production is affected by a disaster. Poor households, especially those headed by the elderly or disabled, may be unable to till their small farms themselves and thus being forced into new sharecropping arrangements. Another frequent change in income flows may come about when the costs of living increases in the post-disaster environment, particularly for such items as food, water, electricity, etc.

Self-employed and informally-hired wageworkers are most likely to lose their employment and wages during the period of inactivity. Whereas, formal employees may still receive their salaries, even if the establishment is not working (e.g., public employees, or workers in large enterprises if the latter vow to keep paying wages during a period of inactivity or if the law requires them to do so).

Long-term job losses are usually the result of severe damage to infrastructure or equipment, and necessitate substantial investments to replace those goods before lost jobs can be recreated.

In addition to a potential reduction in the demand for labour due to disaster, employment problems may be compounded by an indirect effect on the supply of labour. Increasing the supply of labour is a frequent coping mechanism of households that struggle with the impacts of a disaster on their livelihoods. Household members, including those not previously employed who had not hitherto sought any employment, may start to look for casual jobs or engage in some form of emergency self-employment, possibly at very low income levels, to make up for the loss of income resulting from a disaster. As a consequence, certain common trades may be overflowed by new workers (e.g., people seeking jobs as domestic servants or hawking goods and services on the street).

This extra supply of labour drives remuneration down and may result in an aggravation of the employment/livelihood impact on all households engaged in those trades, even if those households are not directly affected by the disaster.

**Case Study:** Changes in employment patterns following cyclone Sidr in Bangladesh

In 2007, many fishermen in Bangladesh lost their boats due to the Sidr cyclone. In the following weeks, not only the fisherman but also other, usually non economically active, members of their family started to seek jobs. This significantly increased demand for employment in the coastal regions affected, driving down the wage of certain trades and the price of certain services. Based on interviews in the field it was estimated that for each destroyed boat an additional 0.5 persons was added to the labour force per affected family.

On the other hand, certain skilled workers in the same area (e.g., electricians and carpenters) enjoyed an increase in employment and pay due to the reconstruction-driven demand for their services in the days or weeks following the cyclone.

This additional distress-driven supply of labour adds to the rate of unemployment created by the disaster and, at the same time, increases the number of people willing to engage in temporary employment, including labour-intensive work (rubble removal, irrigation canals cleaning, road repair, reconstruction and repair of buildings, etc.), in the aftermath of an event.

During the assessment process, affected households should be interviewed using rapid assessment methodologies to estimate the presence and extent of this increased supply of labour, or equivalently, the increased demand for jobs. This added labour may be estimated as an average per household (extra labour supply/previous labour supply) and applied to the estimated total number of households affected similarly (e.g., in the case of Bangladesh mentioned above, to the number of fishermen who had lost their boats).

Vulnerable populations are at particular risk during natural disasters. For this reason, livelihood recovery support can provide an important opportunity to “build back better.”

One area of building back better is the inclusion of disabled persons and the promotion of gender equality by capitalizing on the capacities of both women and men of all ages and abilities in the affected community. This is underpinned by the premise that livelihood interventions should be designed and implemented to strengthen both women and men’s productive capacity, to challenge socio-economic inequality based on disabilities and gender in access to and control of resources and to promote long-term self-sufficiency.

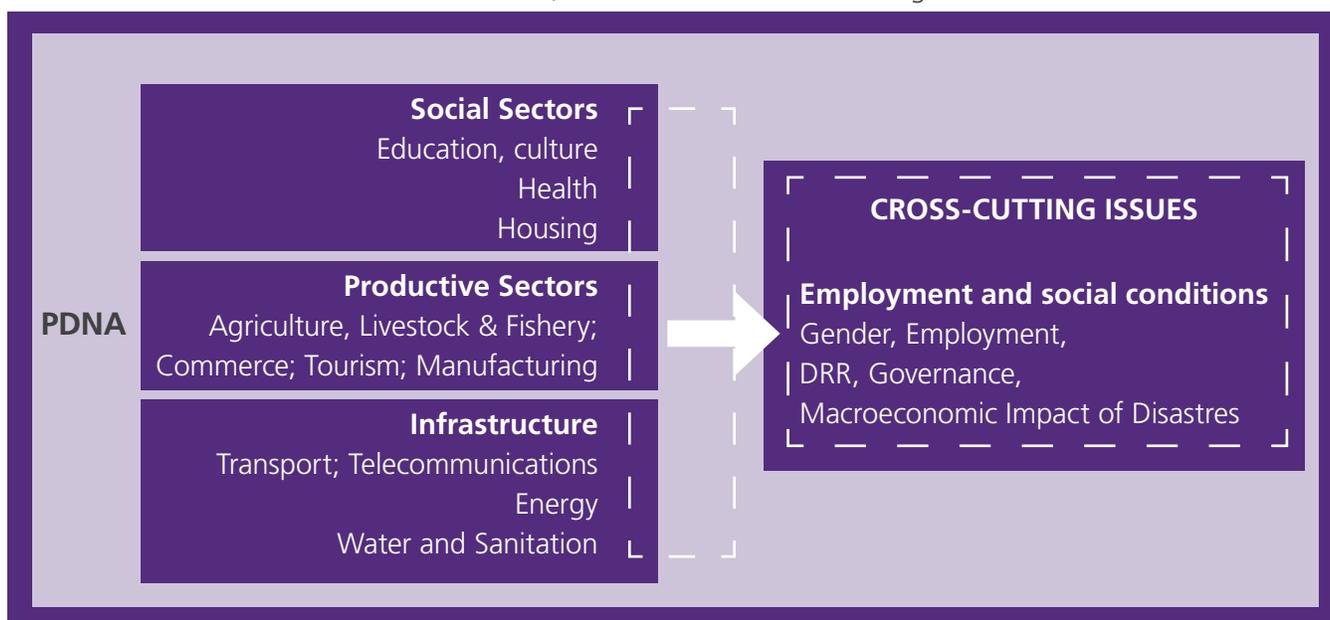
Building back better in terms of ELSP recovery also means taking the opportunity to ensure that livelihoods are sustainable. A livelihood is considered sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, and provide net benefits to other livelihoods locally and beyond in the present and in the future, while not undermining the natural resource base.

# ESTABLISHING THE ASSESSMENT PROCESS

## A MULTISECTORAL PROCESS

When a country is affected by a disaster, the analysis of its effects and the formulation of the needs for recovery and reconstruction are done through a multisectoral process. This process helps to acknowledge the differences between sectors, but also their interdependency. Sectors and their accompanying sub-sectors are defined by the National Accounting Framework of a country. Broadly speaking, PDNAs often distinguish between three main groups of sectors: 1) productive, 2) social and 3) infrastructure (see the chart below).

ELSP falls under all three of the PDNA sectors, as it is one of the crosscutting issues.



When assessing disaster impact and/or defining the recovery strategy for ELSP, it is therefore crucial to consider in what ways the various impacts are interlinked.

## COORDINATION MECHANISMS

A successful ELSP assessment requires distinct coordination mechanisms to allow for consultation with broad groups of stakeholders and with PDNA sector teams throughout the assessment process. Since the ELSP assessment is based upon inputs from other sector assessments, continued engagement and exchange with other PDNA sector teams is key to a successful assessment. Clearly established communication channels among the various sector assessment teams are essential to avoid overlaps, double counting, and/or inconsistencies and to formulate a timely and accurate recovery plan (see section 7.0).

The PDNA is first and foremost a government-led process, and as such it is fundamental to identify the relevant ministries and the leading authority for the PDNA. Depending on the country-specific institutional design, in most cases the ministry of labour is the focal reference for the ELSP assessment. To facilitate a smooth flow and exchange of information, it is advisable to identify a focal point within the ministry of labour (or within other relevant ministries) and to form a steering committee that oversees the assessment and the recovery framework, and that ultimately validates and monitors the recovery strategy and plan.

The PDNA aims to be an inclusive process and it is therefore important to consult women and men from disaster-affected communities to ensure their participation during the ELSP assessment. Field visits and interviews with focus groups or key informants are crucial in this regard.

To recap, steps for coordination of the assessment are:

- identify a focal point within the ministry of labour (or within other relevant ministries);
- form a steering committee;
- ensure the inclusiveness of the ELSP assessment through direct consultation of disaster-affected communities (e.g., field visits);
- consider in what ways the ELSP assessment depends on information from other sector assessments; and
- provide sufficient time to incorporate the results from these sector assessments into the ELSP assessment.

## **ASSESSMENT AND PLANNING PROCESSES**

The ELSP assessment is primarily designed to generate a credible and well justified picture of the current and likely disaster impact on ELSP and forms an essential component of the PDNA process. It is usually led by the government and supported by the International Labour Organization (ILO) with support of its other constituents (employers and workers), who play a key role not only during the emergency period but also during the recovery/reconstruction phase.

ILO's objective is to contribute to the ELSP assessment through considering and linking its own findings with those from other sectors to frame and influence programmes that mainstream decent work into the response strategy.

The ELSP assessment typically includes a complete description of the severity of the disaster and reflects the exposure of, and impact on, ELSP. The degree of exposure can be measured by the size and location of particular geographical areas, as well as by the size of the population living in these areas. Vulnerability is largely determined by the type and characteristics of livelihoods within the disaster-affected area. Poverty levels and demographic variables such as sex, age and ethnicity, play an important role in the determination of the level of vulnerability.

ILO's contribution to the PDNA recovery strategy is to provide technical assistance in the development of a short to medium to long-term plan that supports the government and its partners with the conceptual and operational framework through which ELSP can be rebuilt and improved after a disaster. An ELSP recovery strategy should:

- allow governments to provide a structured and measured response to a disaster;
- provide the basis for the development of a well-defined programme and a detailed work plan;
- offer a framework around which all players, including government departments, can assemble, coordinate, and divide up the work;
- provide a timeline and a clear set of milestones to which implementing partners will have to adhere, and when possible, a budget; and
- provide a clear plan to mobilize resources.

## SPECIFIC ASSESSMENT METHODS FOR ELSP

The ELSP assessment follows the PDNA guidelines and combines secondary with primary information to estimate the disaster's effects and impacts on ELSP and to provide recommendations for reactivating economic activities and employment for livelihood recovery, in the short, medium and long term.

Given the time constraints of a PDNA, an assessment of disaster impact on ELSP is rarely done through direct measurement. Usually, the disaster impact on ELSP is estimated through the use of proxies that are constructed on the basis of overall GDP impact and other sector assessments.

Such secondary information is used to build an overview of the impact on ELSP. When working with secondary information (censuses, social security records, data collected through qualitative methods, etc.) baseline and disaster exposure information are combined to develop working hypotheses about vulnerability and livelihood impacts.

If possible, these hypotheses are then tested, elaborated and validated through primary data collection from rapid field visits which are done either as part of an inter-agency process or as a stand-alone process. Such field visits usually consist of meetings with district level authorities, settlement-level key informants and individual households in the disaster-affected area (see Annex 1). When field visits are not possible, the ELSP assessment is entirely based on baseline information and reported information on exposure and damage or the effects of the event (i.e., damage and changes in economic flows from all sectors).

## THE ELSP REPORT

To summarize key findings and recommendations for the overall PDNA, the ELSP assessment team prepares a report. Typically such a report would include the below topics.

1. Executive Summary
  - Key messages
  - Timeframes
  - Immediate and medium-term needs
2. Background: Overall effect and magnitude
3. Sources of information
4. Effects of the event relevant to the ELSP assessment
  - Description of the affected area
  - Livelihood or agro-ecological zones
  - Livelihood groups
5. Impact of the event on:
  - Organizations
  - Markets

- Household livelihoods (e.g., social and political capital, natural and agricultural assets, physical assets, human capital, financial assets and personal possessions)
6. Livelihood outcomes, current realities and people's short and medium-term aspirations
  7. Opportunities and capacities for response
    - Organizations
    - Households (coping and adaptation)
  8. Response priorities (issues and implications for response programmers)

## THE ASSESSMENT TEAM

The quality of the ELSP assessment depends to a large extent on skills and experience of the ELSP assessment team members. The size of the ELSP team is usually prescribed by the magnitude and complexity of the disaster and its impacts. Some localized disasters may be assessed by an ELSP team of one or two experts; more complex situations may require additional team members.

While there may be optimal configurations under ideal circumstances, the selection of the ELSP team members is bound by the reality of available ELSP experts at the time of the disaster. It is, however, fundamental to engage experts with knowledge of the country undertaking the PDNA and to identify clear qualifications needed for selecting appropriate experts.

Ideally, the assessment team is composed of a team leader who is familiar with the overall process of impact assessment and at least one (but possibly more) expert(s) to handle baseline statistical information and to perform a rapid field appraisal of impacts on employment and livelihoods. At least one of the team members should be familiar with the use of survey and census databases, and the corresponding statistical software, to extract or estimate the baseline for employment data for the disaster area and to combine it with field data on the extent of damage to employment and livelihoods. One of the team members should have experience with rapid appraisal techniques to obtain quantitative estimates of effects and impacts through key informants, local registers, grassroots organizations, non-governmental organizations, and interviews with survivors, either individually or in focus groups.

Depending on its scale and magnitude, arranging effective logistical support in the aftermath of a disaster can be a challenging task. It is essential for the ELSP assessment team to have a temporary office space to support field assessments and data collection, ideally in close proximity to other sector assessment teams to ease communication and information exchange.

Transport for the ELSP assessment team is required to meet stakeholders and to conduct site visits for direct observation and consultation with community representatives in the disaster-affected area. However, it may be difficult to access disaster-affected areas due to interrupted infrastructure or scarcity of transportation. Such situations require flexibility and cooperation among the various sector assessment teams to optimize the use of the available means of transportation.

# PRE-DISASTER BASELINE INFORMATION

The assessment of the effect of a disaster on ELSP involves the comparison of the post-disaster situation with the pre-disaster (or *baseline*) situation in the disaster-affected area. The baseline situation for ELSP is obtained from pre-disaster sample surveys and censuses and other sources of information (e.g., local registers of enterprises or shops provided by local governments or chambers of commerce). The baseline contains both qualitative and quantitative information about the economic structure of the disaster-affected area. It outlines the main sources of income for women and men from the affected population, and establishes how people made a living prior to the disaster.

Since disasters often hit specific local areas, baseline information should be related to those specific local areas. However, tables from censuses and surveys are often published only for wider areas or regions. In such cases, effort must be made to extract local information from the regional data. This can be done in several ways, such as re-processing surveys and censuses in order to obtain results for the specific area hit by the disaster or estimating characteristics of the specific area based on the general characteristics of the region and information that is available. For instance, if there is no indication that the disaster-hit area has different characteristics, then the ratio of the labour force to the total population in the disaster area may be roughly estimated to be the same ratio prevailing in the whole district, province or region. This applies as well to average household size and other features.

In the following sections technical issues related to baselines are briefly discussed.

## IDENTIFYING BASELINE DATA SOURCES

The number and characteristics of jobs and livelihoods existing prior to a disaster are a necessary piece of information to assess the effects of the disaster. The most important sources of information in this regard are:

- censuses (demographic, agricultural, economic);
- surveys (labour force surveys, living standard surveys, household income and expenditure surveys); and
- business/tax registers.

In some cases, qualitative livelihood surveys may be available, describing in qualitative terms the main kinds of livelihoods for women and men in the disaster area. Many rural development projects include livelihood typologies and livelihood maps, which may contain useful information on the prevalent livelihoods in the area.

Aspects not usually covered in censuses or household surveys are covered by qualitative livelihood surveys and case studies and may be combined with the quantitative information in censuses and household surveys to estimate key features of livelihoods, such as the coping mechanisms expected to be used in the aftermath of a disaster or the typical income of various trades.

Censuses and surveys provide data at individual and household levels. Employment is normally predicated on individuals, while livelihoods are an attribute of households. However, characterizing livelihoods involves using data about the household itself and data about their individual members (such as the particular combination of jobs held by various household members).

## GATHERING BASELINE DATA

The first steps for gathering baseline information are below.

- Identify the most recent censuses and household surveys covering the area;
- Obtain statistical reports from those censuses and surveys;
- Obtain any qualitative reports on the types of livelihood existing in the area;
- If necessary, obtain census or survey micro data for the disaster area, to produce additional statistical tables and analyses, or produce small area estimators;
- If census population data are relatively old, update the figures to the time of the disaster.

Whenever possible, quantitative data should be disaggregated by sex and age and qualitative data should include an analysis that examines the gendered division of labour in the formal and informal sectors, access to productive assets and patterns of consumption.

## PRE-DISASTER DATA ON LIVELIHOODS

The main basis for ascertaining livelihoods is the employment of the family labour force, since most households' livelihoods depend on the use of their own labour force. Secondary information that determines livelihoods is non-labour income, such as rent from real estate or transfers such as pensions or remittances.

Several sources of income may coexist in the same household. For example, a family may have a small farm while a family member may work as a casual construction worker and another may be active in petty commerce. The family may also have rental income or receive regular remittances. Therefore, ascertaining household income implies: (a) combining data on employment of all members of the household; and (b) obtaining data on household assets and non-labour income. However, this is not always possible. Many household surveys fail to identify and measure productive assets (such as agricultural land, livestock, infrastructures and equipment) possessed by households. Most surveys measure only employment and living conditions, while others might take income or consumption into account. Few censuses and surveys investigate remittances or other forms of non-labour income.

Often, households are classified on the basis of employment of the household head, without recognizing other members who work and ignoring non-labour income. Qualitative data must be consulted to detect any potential bias stemming from such a lack of adequate information.

## EMPLOYMENT DATA

Standard data on employment can be used to characterize employment at the individual level and livelihoods at the household level. Employment is analyzed in censuses and household surveys through various standard categories, concepts and indicators. Annex 4 explains in more detail the most important concepts involved. The main categories are: economic activity (a person belongs to the labour force); employment (having a job), economic sector of employment (agriculture, construction, manufacturing, etc.), and status in employment (wage job, self-employed, employer, unpaid family help).

When more than one household member works at a family farm or micro-enterprise, usually one of them is recorded as self-employed and the others as unpaid family help. The self-employed may or may not include employers. An employer is a self-employed person who has at least one wage employee.

The main indicators concerning workers at the individual level are as follows:

- **Total population;**
- **Number of households;**
- **Total labour force** (or economically active population), comprising workers that are either employed (have a job) or unemployed (actively seeking employment), disaggregated by sex and age if possible;
- **Total employed population.** Workers holding a job, thus excluding the unemployed (i.e., those not having a job but actively seeking work) and the non active (no job, and not seeking employment) disaggregated by sex and broad age groups;
- **Hidden unemployment** (persons without a job that are available for work or ready to accept employment, but not actively seeking a job, disaggregated by sex and age). In some cases, this information is collected by household or labour force surveys. It is useful to ascertain the size of the available labour force. Many persons who are usually in hidden unemployment may start looking for a job in the aftermath of a disaster, when other sources of income may be faltering;
- **Total self-employed population disaggregated by sex and age, by broad sector.** The most useful distinction is between the self-employed in agriculture (smallholder farmers and fishermen), and the self-employed in other sectors (commerce, transport, industry, construction, etc.). Finer distinctions may be made if necessary (see the Glossary in Annex 7);
- **Total workers under wage employment.** Depending on data availability, this would or would not allow to differentiate between those permanently employed (e.g., public servants, permanent employees in private companies) and those under casual or temporary jobs, often in sectors such as construction or seasonal agricultural activities (e.g., harvest).

These indicators are in principle absolute numbers. These indicators can also be presented as number per household, by dividing any particular indicator by the number of households in the area. This yields indicators such as labour force per household or smallholder farmers per household. Often the labour force/household ratio is about 1.5 workers per household, though the actual figure may vary. Similar averages may be obtained for other categories such as waged workers, smallholders or pensioners. These ratios and averages may differ across regions, provinces or districts and also between rural and urban areas. In all cases, the data should be disaggregated by sex and age to gain a full understanding of the gendered and generational division of labour.

## CREATING VULNERABILITY PROFILES

A baseline should identify and characterize the most vulnerable groups (both socially and economically) from the point of view of their employment and livelihood. Vulnerable households usually include (among others) the following:

- poor smallholder farming households;
- households depending on informal self-employed workers in non-farm low-pay activities;

- households depending on casual or short term wage jobs for unskilled labour;
- households with elderly or disabled people depending on outside help;
- households composed of ethnic or religious minorities; and
- female-headed households with young children or elderly relatives in their care.

These groups may partially overlap, since members of poor households (especially in rural areas or small towns) may be engaged in more than one occupation. Censuses usually record only the main occupation of each person; labour force surveys provide more information, including secondary occupations. Households may be characterized by the combination of occupations reported by their members, which may generate mixed types of livelihood (e.g., many women in particular may engage in smallholder farming combined with petty commerce).

In some areas, private transfers from relatives living elsewhere (remittances) are an important part of the livelihoods of the poor. Remittances may be an important source of income in the wake of a disaster, but the disaster itself may hinder the reception of remittances (e.g., by affecting financial services in the affected area). Thus estimating the prevalence of remittances in the affected area may be important for identifying the most vulnerable livelihoods.

For each vulnerable group, a vulnerability profile should be prepared. A typical vulnerability profile indicates at the minimum the following information for each vulnerable group:

- numerical import of the group (in terms of population and in terms of number of households);
- zones of geographical concentration (if any);
- socio-demographic characteristics (age-sex distribution, household size, female headship, number of young children or elderly people per household, etc.);
- typical sources of income, income level and standards of living, including (if possible) estimates of the prevalence of poverty (based on income, consumption or material conditions of living);
- employment characteristics,, including participation in labour force and status in employment (employees, self-employed, family help), sector of employment (agriculture, commerce, construction, etc.), formality/informality and stability of employment;
- degree of risk exposure to various kinds of adverse shocks and outcomes; and
- usual coping mechanisms and degree of resilience (shown in previous emergencies or expected).

An analysis of livelihoods and their vulnerability profiles should also include the main risks implied in that livelihood in relation to the disaster. Livelihood vulnerability refers to all risks to which a livelihood is exposed. However, some risks associated with a livelihood may be unlikely to be affected by a particular type of disaster. For instance, some agricultural livelihoods may be ordinarily subject to droughts happening perhaps once every five years; the danger of a drought might possibly not be relevant for assessing the impact of an earthquake that happened in a year with normal rainfall, or for planning the immediate post disaster recovery, but should be considered anyway when describing the vulnerability situation in the area.

A vulnerability and risk analysis should also attempt at least a qualitative assessment of the below risks for various areas, communities or kinds of livelihoods.

- Risk to lives:
  - risk of mortality;
  - risk of hunger or food insecurity;
  - risk of not having access to clean drinking water; and
  - health risks, especially for children, linked to inadequate sanitation, lack of health care services, or other factors.
- Risks to livelihoods:
  - risk of losing productive assets, such as livestock, standing crops, tools, market stalls or irrigation infrastructure; and
  - risk of interrupted income flow due to disaster-caused disruption (e.g., power stoppage, roads blocked, etc.) causing loss of sales for petty merchants, loss of work for the self-employed or dismissals (temporary or not) for wage earners.

For the risk assessment of ELSP, the direct risks involved are temporary or permanent loss of revenue and jobs.

Assessment of risks cannot usually be done in an exact or quantitative manner. However, vulnerability profiles should include a qualitative assessment of higher or lower risk for each kind of impact (see the box below).

#### **Case Study:** Bolivia Vulnerability Map

The Government of Bolivia, with assistance from the United Nations World Food Programme, prepared a Vulnerability Map for the entire set of about 18,000 identifiable settlements (including neighbourhoods, towns, villages, hamlets, agricultural settlements and other kinds of residential human groups) into which the population of the country is classified in the census. The average size of settlements was about 450 people, but most were far smaller.

Each settlement was evaluated to be at some level along a qualitative five-point scale in regard to various risks (such as earthquake, flood, drought, unseasonal frost, etc.) and also by prevalence of poverty and basic services. The estimation was based on existing information on the surrounding environment, existing basic services (such as schools or health care centres), prevailing living conditions and other characteristics of each settlement available in the census and other sources of information. The Bolivia Vulnerability Map was especially focused on risks to food security, but this applies to other risks as well. Prevailing forms of employment and livelihoods can also be incorporated into the vulnerability profile of each settlement (e.g., percentage of labour force that is self-employed or unpaid family help in agriculture).

# ASSESSMENT OF DISASTER'S EFFECTS

The damage caused by the disaster to infrastructure and physical assets together with the change in flows as a result of production losses sustained would typically lead to employment loss, implying a (temporary or permanent) loss of the corresponding income for households. There may be an increase in the supply of labour in local markets due to disaster-induced unemployment (when it prompts members of households to enter the labour force as job seekers). As a consequence, certain common trades may be overflowed by new workers (e.g., people looking for jobs as domestic servants or street vending). This extra supply of labour may drive remuneration down and compounds the size of the unemployment problem (both pre-existing and the new cases directly caused by the disaster).

At the same time, people's access to employment and their ability to operate their micro-enterprises may be seriously constrained for some forms of employment or businesses, while recovery and reconstruction efforts create demand for labour and increase the availability of certain forms of employment such as construction.

This section provides examples of the elements considered during an assessment in relation to the availability/supply of labour/employment and access to these by those affected.

## EFFECTS ON INFRASTRUCTURE AND PHYSICAL ASSETS

One of the most frequent and visible effects of disasters is the full or partial destruction of enterprises, shops and marketplaces, usually located in villages and towns. The data on disaster's effects on infrastructure, assets and production of goods and services is produced by the formal sector teams (in specific those covering Productive, Social and Infrastructure sectors) and is provided to the ELSP team to use for its assessment.

The ELSP team may consider adding the damage and changes in flows sustained by the informal sector.

Field visits to deepen the interpretation of the data through the interview of local informants (e.g., micro entrepreneurs, employers, traders, etc.) as well as proxies (e.g., destruction of houses) may form the basis for estimating the percentage of enterprises and market facilities that have been affected by the disaster. A broader compilation of such field data may provide information on the average damage and change in flows of income suffered (e.g., typical value of lost inventories, typical reconstruction cost of a market stall) and may provide important information for a full assessment.

## EFFECTS ON PRODUCTION AND DELIVERY AND ACCESS TO GOODS AND SERVICES

As a result of the damages and changes in economic flows outlined above, the production and delivery of goods and services are likely to be impeded, either directly or indirectly. Disruption of value chains and production lines are a typical result of damaged enterprises and infrastructure and may cause a reduction in productivity and revenue. During field visits local informants should be asked for qualitative information to assess the disaster's effect on local and regional value chains (see the box below).

### **Case study:** Floods disrupt the value chain in Bosnia and Herzegovina

The 2014 floods in Bosnia and Herzegovina, caused severe damage to Europe Beds Inc., a large company that manufactures bed bases for the European export market. Prior to the disaster Europe Beds Inc. employed 265 people and recorded 29-32 million Bosnia-Herzegovina Convertible Marka (BAM) of annual revenue. In Bosnia and Herzegovina Europe Beds Inc. subcontracts approximately 80 additional enterprises that manufacture specialized components and fabric that are crucial for Europe Beds Inc.'s production line. The expansion of the business operations of the subcontractors went hand in hand with the growth of Europe Beds Inc.'s, and created an additional 800 jobs in Bosnia and Herzegovina.

In the aftermath of the floods, Europe Beds Inc. recorded damages of 6 million BAM and additional losses of 5 million BAM in terms of increased cost of business, lost revenue and reduced productivity. Out of its 265 employees, Europe Beds Inc. was forced to lay off 113, while an additional 50 jobs were at risk.

During a field visit, Europe Beds Inc.'s director explained to the ELSP assessment team that if production could not be resumed to pre-flood levels within the next two months, the enterprise would go out of business given tight competition in the European market. This would also negatively affect its subcontractors and jeopardize an additional 800 jobs in Bosnia and Herzegovina.

In one town alone, 58 percent of the annual revenue for four subcontractors depended on Europe Beds Inc.'s demand for their supplies. Although the May floods did not directly affect these companies, they experienced a monthly loss of 77,000 BAM due to production delays at Europe Beds Inc. and 15 out of 33 jobs were put at immediate risk.

## **EFFECTS ON GOVERNANCE AND DECISION MAKING PROCESSES**

The disaster's effects on governance and decision making processes regarding ELSP are usually quite easily identifiable at district or village level. Observations in the field, and/or data from local authorities, may help to assess the disaster's effects on the functioning of governance. Typically a disaster may hinder the functioning of local employment information and placement services (if any existed) that are crucial during the recovery phase.

A disaster may also delay payments of pensions and social benefits if public institutions are damaged and their functioning disrupted. Qualitative information on the extent of governance disruption should be gathered during field visits and included into the ELSP sector report.

## **EFFECTS ON RISKS AND VULNERABILITIES**

Any disaster is likely to create new risks and vulnerabilities or exacerbate previously existing ones. During the ELSP assessment, particular attention should be paid to new entrants on the labour market. Labour supply is likely to increase after a disaster, as additional family members look for jobs once the main sources of livelihood have been affected or interrupted. Field interviews with affected families are the main source of information to investigate this phenomenon.

In particular, children are often a prominent share of these new entrants, as adult family members were already part of the labour force (or fully devoted to housekeeping chores); an increase in child labour supply (and demand) should therefore be expected. In some cases this may lead to some of the worst forms of child labour exploitation (including sex slavery). This kind of phenomenon can usually be gauged only in very approximate

terms, but its qualitative importance requires lending it special attention during post-disaster field assessments.

Additional attention should be paid to the safety of those engaged in debris removal. In the aftermath of a disaster, clean up and debris removal are likely to start in an unorganized and spontaneous fashion, not taking into account hazardous working conditions.

## ESTIMATING THE VALUE OF THE EFFECTS OF THE DISASTER

The first and most immediate estimation of the disaster's effect on employment entails the steps below.

1. Gather the baseline (pre-disaster) number of employees, disaggregated by sex and age, in a certain industry or type of employment within the disaster area, and update it to the disaster date.
2. Estimate the percentage of those jobs that have been lost or temporarily affected by the disaster.
3. Apply this percentage to the (updated) pre-disaster number and calculate work days lost and the increase in unemployment.

It is important to note that the second step is normally done on the basis of the production losses by sector that are estimated by sector teams covering all formal sectors of economic activity. This is critical so that the PDNA can be consistent and coherent. If the ELSP team seeks to make its own estimates of losses in employment, there is little or no consistency of results.

If for some reason it is not possible to receive the results of the PDNA, which provide the estimate of the income losses on the basis of the estimated value of changes in flows for all the productive sectors, then, the disaster's effect on ELSP may be estimated through the use of proxies that are constructed on the basis of the overall GDP impact and on other sector assessments. The main proxies, not excluding each other, are as follows:

- a. Estimation based on the impact on the sectoral GDP. Sectoral teams in the PDNA may have estimated that a certain sectoral GDP (e.g., agriculture or construction) has been reduced by a certain percentage due to the disaster. From this it can be very roughly estimated that probably about the same percentage of sectoral employment has been affected. As GDP losses are usually expressed in terms of the annual GDP, this estimate refers to the amount of work (e.g., workdays) or work income lost in the year of the disaster, and does not distinguish between jobs completely lost, jobs temporarily suspended or jobs with reduced income.
- b. Estimation based on proxies. In some cases, impacts on employment may be closely correlated with other kinds of impacts. For instance, partial or total destruction of workplaces (enterprises, shops, market stalls) may be closely correlated with partial or total destruction of dwellings. The latter is usually one of the first indicators to come out of damage reports communicated by local communities to the central or regional government.
- c. If a certain percentage of dwellings in an area has been destroyed, it may be estimated that a similar percentage of enterprises have been destroyed, affecting a similar percentage of jobs in the sectors involved. Thus destruction of dwellings may be a proxy for destruction of enterprises and destruction of enterprises may in turn be a proxy for destruction of jobs. In a normal PDNA, the number of industries and trade shops that are destroyed is determined by each sector team and

delivered to the ELSP team for its subsequent estimations. In exceptional cases, when no accurate counts have been obtained of the number of destroyed establishments, exceptional use has been made of the destruction ratio observed in the housing sector.

- d. Likewise, cut power lines and interrupted power supply in a certain area, with estimates on the duration of the interruption, may be combined with previous information on establishments using electricity (factories, sawmills, etc.) to estimate damage resulting from an interruption of power supply (loss of work-days, and thus loss of income on the basis of average income per day).
- e. Estimation based on direct field assessment. A rapid appraisal performed during a visit to the affected areas may allow for an estimation of the percentage of enterprises and jobs affected. Interviews with local workers, unions, business organizations and authorities, as well as visual inspection of enterprises, marketplaces and other key sites, may provide the basis for a rough estimate of the percentage impact on employment and incomes in a sample of places. Correlation of these estimates with overall indicators of disaster impact in all areas may allow for a generalization of the entire disaster area. For instance, if an area where 50 percent of houses were destroyed shows a 30 percent loss of jobs and enterprises, and this evaluation is repeated with varying results in other areas with higher or lower rates, a certain relationship may become evident between destruction of houses and destruction of jobs. The information may be used to estimate (for other parts of the disaster area and for the disaster area as a whole) the overall number and percentage of disaster impact on varying kinds of employment and sources of income.

Whenever two or more of these sources of information are available, analysts should combine all the sources of data to arrive at a reasonable consensus estimate.

## PROXIES FOR ESTIMATING EMPLOYMENT AND CHANGE IN INCOME FLOWS

In some cases, the estimation of impact on employment and livelihoods cannot be measured directly in the short span of time allowed for such assessments in the immediate aftermath of a disaster. In such a situation, the impact on employment and livelihoods can be based on proxies, i.e. on data that are more readily available and are known to be correlated with employment and livelihoods.

There is no general rule for the kind of proxies to be used, since their availability depends on the information on other disaster's effects. Frequently used estimates (shown in italics) for rapid initial appraisal based on proxies provided by other sectors of the PDNA are based on loss of income in the social and productive sectors.

**Estimation of change in employment flows based on change in flows of sectoral output until full recovery and reconstruction is achieved in all sectors.**

**For each productive sector (agriculture, construction, industry, commerce, etc.):**

**Estimated number of work hours (or work days) lost in the year following the disaster**

**= Estimated number of workers employed in a certain sector (as per updated baseline)**

**× Estimated hours (or days) of work per year**

**× Estimated percent decrease in the sector's output (from sectoral damage report)**

Alternative or complementary estimates of the extent of change in the flows in income or employment may be based on the extent of physical destruction, especially for home-based activities such as micro enterprises, petty trade or subsistence farming:<sup>1</sup>

**Estimation of change in employment flows based on physical damage to dwellings**

Estimated number of employed persons affected in their home-based income or employment  
 = *Estimated number of households losing their dwelling as a result of the disaster*<sup>1</sup> (from housing sector)  
 × Estimated number of employed persons per household

This second proxy approach is, in general, less reliable than the former, and may be used only in the absence of other indicators. It is based on the assumption that percentage destruction of dwellings is a proxy for percentage destruction of the means of livelihood (micro enterprises, market stalls, etc). Its use should preferably be limited to home-based activities, and only when other sources of information are lacking. It may also serve as a first approximation in the immediate aftermath of a disaster, whilst more detailed information on economic activity is pending.

Evaluation of change in flows of income for waged workers should be based upon the most recent wage rates for each specific kind of worker. For the self-employed and their family help, change in income flows is best estimated at household level, taking into account average income per family enterprise as provided by surveys or economic censuses, or estimated through post-disaster field checks. In every case, the estimated time without (or reduced) income should also be incorporated into the assessment, to estimate total change in flows of income in annual terms. When the change is expected to last more than one year, separate estimates should be done for each year.

**Change in flows of income for wage workers affected**

= Number of workers affected  
 × Mean wage rate  
 × Estimated time without the job

**Number of non-farm micro-enterprises affected**

Estimation approach A:  
 = Number of households affected  
 × Number of non-farm self-employed persons per household

Estimation approach B:  
 = Percentage of non-farm microenterprises affected as per rapid field survey  
 × Number of non-farm self-employed persons per household  
 × Number of households

Estimation approach C:  
 = Percentage of non-farm microenterprises affected as per rapid field survey  
 × Number of non-farm microenterprises existing prior to the disaster

<sup>1</sup> Used as proxy for households losing the infrastructure on which their livelihood was based, assumed to be located in the proximity of their homes. This approach may be used in disasters causing heavy physical damage, such as earthquakes and tsunamis, in the absence of direct information about employment, on the assumption that loss of dwelling is a reasonable proxy for the loss of work premises and infra-structure nearby. This indirect proxy should be checked for consistency with estimates of decreased GDP.

Once the number of affected micro-enterprises is estimated, and based upon the assumption that a household with self-employed persons contains one micro-enterprise per self-employed person, the average microenterprise employment is the sum of the self-employed plus unpaid family help. Their change in flow of income may be estimated as follows:

### **Change in flow of ncome for the non-farm self-employed and their unpaid family help (SE+UFH)**

- = Number of non-farm micro-enterprises affected
  - × Mean number of persons employed per microenterprise (self-employed and unpaid family help)
  - × Mean (daily, weekly or monthly) income per SE+UFH person
    - × Percent reduction of daily/weekly/monthly income due to disaster
    - × Estimated time (days, weeks, months) with reduced income

The mean income per person employed at microenterprises may be available from previous surveys or the information may be collected in the field through interviews with selected micro-entrepreneurs and/or other informants. Likewise, the percent reduction of income may be estimated on the basis of a proxy and/or from data collected in the field. Consideration should be given to possible increases in the cost of living.

## **SPECIFIC APPROACHES FOR FARM AND NON-FARM EMPLOYMENT**

Specific considerations apply to agriculture and to non-farm activities, albeit both may be present in the same household. These specific considerations are discussed in the following paragraphs.

### **AGRICULTURAL EMPLOYMENT**

In many developing nations, agriculture is the main source of employment and livelihoods, although other occupations and non-labour sources of income are nearly always present, and in some cases are the main forms of livelihood, even in rural areas. Subsistence farmers in most places, and especially those with very small plots, combine their farming activities with other sources of income, especially casual wage work, petty commerce, and through the production of other goods and services for the market, ranging from making handicrafts, working as blacksmiths or plumbers, producing and selling clothes, furniture and other goods to providing transportation, etc. The baseline information may also indicate that some farmers may be mostly living off remittances, or may have property income (e.g., rent from letting dwellings or agricultural land to other people in the neighborhood).

In many instances agriculture is the main occupation of the majority, and many natural disasters (especially floods, typhoons and tsunamis, and to a lesser extent earthquakes) are likely to cause damage to uprooted or destroyed permanent fruit trees irrigation infrastructure, seed reserves, livestock, grain stocks and farm produce waiting to be sold or consumed. Disasters may also damage ancillary equipment and infrastructures, such as threshing machines, rice or wheat mills, silos and other assets used to store or process agricultural products. Following the death of livestock it may require several years to rebuild a herd. Existing crop fields may not be able to be harvested, or (in extreme cases) the field itself may become unusable, requiring (at best) significant investment for recovery, and in some cases forcing the population to move elsewhere.

**Case study:** Earthquake permanently damages livelihoods of rice farmers and fishermen in West Sumatra

In Indonesia, after the 2008 earthquake in West Sumatra, rock avalanches covered rice paddy fields with two or more metres of solid rock. The disaster forced affected families to abandon their fields and seek to live elsewhere.

Sections of a volcanic lake, where thousands of families lived off fishing, were also destroyed by the earthquake. These families had to abandon fishing altogether, as there were no free locations along the lake's coast where the families could have resettled.

Permanent destruction of non-renewable natural resources (such as the destruction of farmland by an avalanche, or the collapse of the inhabitable shelf around a volcanic lake, as mentioned in the box above) are, however, relatively rare. Disasters may also temporarily affect the quality of soils thus resulting in lower unit yields of a new crop. For instance, the 2010 monsoon floods in Pakistan came just before the wheat planting season. In some places floodwater destroyed wheat seed reserves and hindered timely land preparation and sowing of the new wheat crop for the next season.

Agricultural assessments, usually carried out by national governments in assistance with Food and Agriculture Organisation of the United Nations (FAO) and other organizations, are mostly expressed in terms of acreage or in terms of product tonnage, but usually do not indicate how many farmers have been affected. To estimate the number of affected farmers it may be necessary to gather the baseline information on the average size of a farm's cultivated land, or the average amount of product per farm, as well as the percentage of agricultural land or output that was affected. Recent agricultural censuses may provide the size distribution of farms in each specific district, which would refine the above rough estimates by adjusting them to the local agrarian structure. As a first approximation, the number of farms may be taken as equivalent to the number of farmers (or farming households). This situation is usually the most prevalent, though in some cases it may be the case that a single farm is operated by two or more families (e.g., two or more married brothers), and it may also be the case that two or more farms are operated by the same household. These two opposite possibilities tend in general to even each other out. A simple approach for these estimates might be the following:

**Estimated number of farmers (or farming households) affected**

= estimated number of *farms* affected

= total cultivated area affected/average cultivated land per farm

Regarding the loss of employment, it should be recalled that farms require labour inputs at specific times. Their labour requirements are usually concentrated at certain key crop stages, such as planting and harvesting. Therefore the loss of output does not directly translate into the loss of employment. Farmers (and their families) may often retain their farm and their employment as farmers, but would probably lose all or part of their annual farm revenue as a result of a disaster. The loss of farm income is equivalent to the monetary value of lost output (estimated disaster impact on agricultural Gross Domestic Product - GDP).

However, in areas where labour is temporarily hired by larger farms at the time of harvest, the loss of output would translate into reduced demand for casual harvest workers. A rough estimate of the number of workdays lost per casual harvest worker may be obtained as follows:

## Estimated loss of casual harvest employment (in workdays)

$$= \text{area with standing crops lost before harvest in medium or large farms} \\ \times \text{workdays required for harvesting one hectare (or one ton of output)}$$

The related loss of wage income affecting casual workers equals the number of lost workdays multiplied by the average daily wage of a harvest worker. Such wages are often paid totally or partially in kind, thus requiring computing the sum of monetary wages plus the average value of any payments made in kind.

Technical coefficients, such as the number of workdays per hectare (or per ton of product), may be estimated by the country's ministry of agriculture or by international agricultural experts working in the country. These estimates should take into account the usual techniques used for harvesting in the area.

The following table 1 summarizes the most usual damage to assets and losses of employment and income derived from the impact of disasters on the agricultural sectors.

In most cases, the amount of damage to crops, livestock and agricultural infrastructure and equipment would be included in the agricultural sector of the PDNA. The assessment of implications for livelihoods and employment would require additional information, especially about farming households, farm size structure, supply of family labour per farm, and the number of hired farm workers (temporarily or permanent).

It is essential for the ELSP team to work in close collaboration with the agricultural sector team to reach consistent estimates.

Disaster impacts on employment and livelihoods linked to the agricultural sector			
Category	Details of direct damage or loss	Likely duration of damage or loss	Costing principles
Standing crops	Crop failure	1 agricultural season	For farms: Gross value of lost production For casual harvest workers: Workdays lost, at current wage rates for such work
Crops not planted	Loss of income	1 agricultural season	Gross value of production minus input cost Number of workers affected (farmers and family help)
Crops not harvested*	Employment loss (hired labour)	1 agricultural season	Harvest workdays not hired x wage rate
Livestock	Loss of income	Medium and long term	Value of expected annual production (normal extraction of animals for slaughter or sale, and livestock products like milk or eggs)
Stored products	Destroyed	1 agricultural season	Market value of products destroyed in on-farm storage (grain, potatoes, beans, etc.) including also seed reserves.
Fishing revenue	Loss of income	Medium/long term	Gross value of lost revenue Number of workers affected

\* Crops not harvested may include standing crops that were destroyed and crops that were not planted as a result of the disaster. Lost harvest work opportunities may be distributed over time (usually over one or two harvesting seasons and in some cases over a longer period).

## NON-FARM EMPLOYMENT

Non-farm employment involves people engaged in all non-agricultural sectors, including mining, manufacturing, construction, commerce, transportation and all kinds of services. It includes people working on their own account (self-employed or employers), waged workers and unpaid family help. It may include employment in the public or private sectors. Damage in this case involves mainly total or partial destruction of those activities' infrastructure, such as public buildings, workshops, commerce shops, mines, brickyards, etc.

In many cases the damage to infrastructure is accompanied by damage to equipment, loss of tools of the trade or destruction of stock. In addition to suffering damage to work infrastructure and equipment, non-farm activities are also affected by the total or partial destruction of roads, power supplies and other basic services. Interrupted roads, power cuts and lack of fuel are frequently the cause of temporary interruption of activities until these are restored. Other factors may also impede or slowdown production, such as availability or non-availability of raw materials and inputs (such as electricity, fuel and water) for the functioning of the enterprises.

The relative amount of temporary or permanent disruption (which is evident by the production flow changes) to each non-farm sector may usually be applied as a rough guide to estimate the percentage of workers affected permanently or temporarily. The ELSP team should collect the data on production flow changes from each and every sector team to use as a yardstick to estimate personal employment and income losses.

It should be noted, however, that in many cases formal employees (especially in the public sector) may retain their jobs and collect their wages despite the disaster. Assessments of the reduction caused by the disaster in the annual production of each sector may therefore provide a simple proxy for the percentage of reduction in related labour income. Data on permanent damage to the private sector (e.g., destruction of mills or other manufacturing or service establishments) may be translated into (permanent) loss of jobs. This procedure, however, assumes that reduction in value added is proportional to reduction in labour income. This assumption in turn implies that the damage and change in flows in production occurred in an 'average' establishment with an 'average' number of workers.

It is, however, likely that in some cases (e.g., floods) large modern establishments (if any) suffer proportionately less than small, traditional enterprises, such as small market stalls or workshops. Artisanal fishing boats, for instance, may be hit harder than large modern fishing boats, simply because they are more vulnerable since they are built of weaker materials and often moored in more exposed locations. Similarly, small establishments (which are often more labour-intensive) suffer disproportionately heavier losses than larger firms, and therefore the percent loss of employment, income or livelihoods for smaller enterprises may be (on average) larger than the percent damage or loss to the overall sector.

As in the case of agriculture, the contribution of other sectors to the estimation of the change in the income from employment and livelihoods involves also damage to productive assets, and (short or long term) change in the flows of income. The following table summarizes basic concepts.

Disaster's effects on employment and livelihoods linked to non-farm sectors (manufacturing, commerce, services)				
Category	Details of effect	Likely duration of effect	Costing principles *	Effect on livelihoods/jobs/income
DAMAGE TO ASSETS				
Workplace buildings and equipment	Total/partial damage causing closure and permanent job losses	Medium and long term	Reconstruction or replacement cost	Hired labour job loss Livelihood loss for self-employed labour
Product or input stocks	Total/partial damage to stocks and supplies	Short term	Cost of replacement	Hired labour job loss Livelihood loss for self-employed labour
CHANGE IN FLOWS TO INCOME/ LOSS OF EMPLOYMENT				
Power cuts, fuel scarcity or damaged roads	Temporary closure	Short term	Foregone revenue	Loss of current enterprise income
			Jobs lost x annual wage rate	Temporary suspension for hired labour
Reduced demand	Reduced activity	Short term	Foregone revenue	Loss of self-employed income

**Note:** These guiding principles for estimating value of damage to assets are based on GFDRR Volumes 1, 2 and 3. DaLA Guidance Notes, GFDRR Volumes 1, 2 and 3.

As mentioned earlier, the loss of employment may cause an increase in labour supply, as household members seek to work to make up for lost income. This is particularly important when the job that has been lost was relatively well paid or provided a secure livelihood. For example, fishermen that have lost their boats during a hurricane may lose a relatively well-paid job, which is difficult to replace through casual labour jobs. In such situations, sons or wives who did not work outside the home before are likely to enter the labour market along with the newly unemployed worker.

Estimation of this kind of increase in the job-seeking labour force is not straightforward. Field interviews with a selection of affected families may help with the estimation. Understanding a number of cases could serve as basis to estimate how many new workers will appear in the labour market (among those families) for each one who lost a job in the disaster. These new workers should be added to the number of people in need of a job, at least until the previous employment level is restored.

## ASSESSMENT OF THE DISASTER IMPACT

The impact of a disaster is the direct or indirect consequence of the disaster's effects. The disaster impact is usually analysed in terms of short, medium and long term implications and may be described through business as usual scenarios, worse case scenarios and best case scenarios. Since assessing ELSP requires a crosscutting analysis, the disaster impact must be analysed in close collaboration with other sector assessment teams to seek answers to a variety of questions that depend on the specific context of each respective disaster.

Such questions may be, but are not limited to these below.

### Impact on agriculture

- Will farmers have to migrate to other parts of the country because of damage to farm lands (seen as increased rural to urban migration trends)?
- Are farmers likely to become discouraged and not return to farming resulting in a shortage of farm labour and an increased food import bill and likely food insecurity?

### Impact on the macro-economy

- Will the national (or regional) unemployment rates rise and for how long and among which segments of the labour force and population groups?
- Will the government have the fiscal ability to provide cash grants to the unemployed?
- Will pensions be affected by the significant period of unemployment (and increasing demand) and non-contributions?

### Impact on gender and vulnerable groups

- Will women be able to access employment as quickly as men after the disaster and in which segments of the labour market are women likely to find employment?

In addition to the suggested questions outlined above, it is important to consider the disaster's impact on institutional capacities. This includes, actions that facilitate the short-term creation of jobs to support relief and recovery, as well as actions related to economic revival that would require participation of various public and private institutions such as local governments, local offices of central government agencies, chambers of commerce, labour unions, NGOs, small and medium enterprises and others.

The capacity of these organizations might have been limited even before the disaster, and it may have been further diminished by the disaster itself (destruction or damage to their offices, death or incapacitation of key staff, lack of electricity, lack of computer connectivity, destruction of equipment, etc.). Capacity assessments in the immediate aftermath of a crisis take stock of national capacity deficits and are a key priority. During the assessment it will be necessary to evaluate the government's capacity to lead and manage recovery efforts relating to employment and livelihoods and to identify gaps that need to be addressed as part of the recovery plan. For more detailed guidance see Annex 5.

## CROSS-SECTORAL LINKAGES, INCLUDING CROSSCUTTING

### AVOIDING DUPLICATION

ELSP is a crosscutting theme within the overall PDNA, and as such its assessment and recovery planning is based upon a cross-sectoral analysis. Although employment and livelihoods are treated as a particular topic within this chapter, it should be noted that specific recovery needs concerning both the overall economic reactivation and the specific recovery of permanent sources of employment and livelihoods in the agriculture, mining, industry, tourism and trade sectors are also treated in the respective chapters of the PDNA guidelines. For instance, loss of income by smallholder farming households is part of the income loss in the agricultural sector; loss of income by households

depending on petty commerce is part and parcel of the overall loss in the commerce sector. Noting these impacts on the livelihoods of the affected population does not mean that should be added to the respective sector losses.

Care should be taken to avoid double counting of damage, change in flow of income and recovery needs - and it is therefore essential to **cross-check the needs** identified in relation to all social and productive sectors such as the agriculture sector, manufacture, commerce or tourism.

While assessing disaster damage and defining the recovery strategy for the employment and livelihoods sector it is thus crucial to consider interdependencies between sectors and to establish clear communication channels among the assessment teams to avoid overlaps, double counting, and/or inconsistencies.

It is crucial that the assessment teams consider interdependencies between sectors, establish clear communication channels among one another, discuss the framework and scope of the PDNA prior to the assessment, and agree on the use of common sources, methods and indicators.

## INTERLINKAGES

Attention must be paid to linkages between sectors: health, education, agriculture, gender, governance, WASH, etc. When assessing the impact of a disaster on vulnerable groups, experts need to consider several elements:

- The socio-economic characteristics of orphans and children living in precarious conditions, people living with disabilities, people living with HIV/Aids, female-headed households, elder, informal workers and unemployed people, etc.
- The possible deterioration of living conditions of people affected by the disaster (access to services and rights).
- The breakdown of existing social protection mechanisms (interruption of service provision and income transfers, affectation of service infrastructure and quality, lack of human resources).
- The decapitalization of social security institutions and social assistance programmes.
- The upsurge of unemployment, informality and child labour.

## GENDER

Special attention needs to be paid to women, particularly those who are household heads (widows, single mothers, divorced women), and most particularly those who have young children in their care, as women are an especially vulnerable group. On top of the fragility of their livelihoods even before the disaster, women may also have reduced opportunities of employment in the aftermath of the disaster, due to increased child care obligations, loss of previous employment and reduced demand for female labour for work related to disaster recovery (such as rubble removal, re-building and other heavy work). Women are often discriminated against in labour markets and in post-disaster situations, discrimination may be more severe, and produce more severe outcomes, in post-disaster situations. Support for female headed households in the form of food, daycare and employment, reintegration of young girls to school, and policies to support such households with conditional transfers that impose education and health care obligations, should be put in place as soon as possible after a disaster.

In some cases, a disaster may force women into sex work, including young girls. Even if not all the characteristics of Decent Work can be fully implemented in the aftermath of a disaster, efforts should be deployed to identify cases exposed to these forms of exploitation and in need of immediate social protection.

## RECOVERY STRATEGY FOR ELSP

### SECTOR RECOVERY VISION

The vision describes the desired long-term recovery outcome in the sector, which should include measures to improve sector performance and to build resilience. Guiding principles for recovery should be defined to inform the sector recovery strategy and to guide the recovery process in an effective, transparent and accountable manner. These should be agreed to within the sector team under the leadership of the government. It is expected that the vision would be in keeping with the Government's own vision for development. Some guiding principles for employment and livelihood recovery may be summarized as follows:

- **Reactivate the economy.** Rapid economic reactivation is the best way to create genuine jobs, getting people out of relief as soon as possible.
- **Use relief and rehabilitation for immediate job creation and recovery.** Temporary jobs may be created during relief operations, mobilizing women and men from the local work force who are out of work due to the disaster, in order to provide help, remove the effects of the disaster, and contribute to rehabilitation of infrastructure. This accelerates recovery, uses local resources, and provides needed income in the aftermath of a disaster, until permanent employment and livelihoods are restored through sustainable economic recovery.
- **Prefer labour-intensive options.** In most cases, labour-intensive techniques can be used for relief and rehabilitation activities, from staffing soup kitchens to removing rubble to repairing dwellings and roads. Some activities are not suitable for labour intensive techniques, and would demand the use of heavy machinery (for instance, removal of heavy rubble after a major earthquake), but many other activities for relief and rehabilitation may be done in a labour-intensive way and may be open to both female and male workers.
- **Rehabilitate micro/small/medium enterprises.** Many self-employed workers, as well as those hired for a wage in small and medium enterprises, may not be able to return to their jobs unless the enterprises themselves recover from the disaster. This includes replacing or repairing infrastructure and equipment, replenishing inventories and working capital, restoring electrical power, and enabling road transport and communication with their suppliers and customers.
- **Enable local enterprises for relief and rehabilitation.** As far as possible, local enterprises should be used for relief and rehabilitation. For this to be possible, local enterprises may be enabled to participate, according to existing rules, in competitive biddings for emergency public works. This enablement includes: (a) simplifying the requisites for participating in public biddings; (b) establishing norms mandating a preference for local enterprises, on their own or in association with other firms, for relief and rehabilitation works; (c) assisting local enterprises to put them in conditions to participate in such biddings (legal status of the enterprises, regular book keeping, tax compliance, etc) and training of enterprise staff to make them capable of participating;

(d) and facilitating partnerships between local firms and other (national or foreign) companies to form joint ventures in order to participate in relief and reconstruction. A complementary regulation may be established to favor employment of local workers whenever available.

- **Train the local labour force** in key skills necessary for relief and reconstruction, or offering good prospects for long-lasting employment.
- **Promote decent work.** Even in temporary employment, and even more so when restoring normal or permanent employment, labour conditions should conform to the Decent Work principles adopted by the International Labour Organization.
- **Protect workers, disabled people, children and women from work abuse and discrimination.** Emergency situations are no justification for the worst forms of child labour, gender abuse, slavery, discrimination, and exploitation of workers. The most demanding requirements of labour regulations (e.g., contributions to social security) may be temporarily suspended during the emergency, but norms on the worst forms of child labour, slavery, or other forms of abuse, are on no account to be condoned even during the emergency.
- **Build back better.** Rehabilitation and reconstruction should, as far as possible, improve the previous situation, and in particular, create more resilience for future shocks and disasters. This includes building back better infrastructures, and also better livelihoods (better skills, wider access to markets, better compliance with labour regulations, and so on).
- **Build preparedness.** In areas prone to disasters, and also after a disaster has occurred, steps may be taken to be better prepared next time. This includes building physical protection (levees and flood plains, cyclone shelters, anti-seismic dwellings), improving enterprise preparedness to participate in public reconstruction works, and enhancing workers' skills.

## STAKEHOLDER CONSULTATIONS

The participation of public and private institutions, such as local governments, local offices of central-government agencies, chambers of commerce, labour unions, NGOs, micro, small and medium enterprises and others, is essential for developing a well-targeted and inclusive recovery framework for ELSP. Consultation with these institutions is, however, part and parcel of the ELSP assessment and should happen throughout the process (see 1.0 Assessment process and Annexes 3 and 5).

## RECONSTRUCTION AND RECOVERY NEEDS, INCLUDING BUILDING BACK BETTER

In general, recovery needs are those actions required to restore the previous level of production, consumption and welfare. While the goal is to restore the employment and livelihoods situation prevailing before the disaster, at the same time attempts are made to address some of the most evident shortcomings on the basis of the building back better principle. Building back better does not imply a fundamental change in the preexisting economic and social development level of the disaster-affected area, but it does address some of its deficiencies through proposing improvements that are compatible with - and sustainable - under the existing level of development in the area.

The cost of recovery needs for ELSP is usually evaluated as the cost of restoring or replacing lost assets that are required for labour to be employed (e.g., workplaces, machinery, roads, electric power, etc.) and to sustain the previous level of employment and wellbeing. Recovering employment includes the provision of short-term employment during the relief phase, and the facilitation of recovery of jobs and markets in the medium term.

## ISSUES IN ESTIMATING RECOVERY NEEDS

When estimating overall recovery needs, consider the items listed below.

- The need to restore access to goods and services and to facilitate recovery of employment, through:
  - Replacement of destroyed market stalls and stores, restoration of supply chains, rehabilitation of stores and enterprises supplying goods and services, road repair, etc.
  - Replacement of assets (such as livestock killed by the disaster, tools and other equipment, etc.) required for stores, farms and small enterprises to resume work, and thus to restart providing employment and income.
  - Restoring access to credit due to damaged physical assets that can be used as collateral to access credit, in addition to addressing pre-existing limitations in access to credit (e.g., due to lack of legal ownership title).
  - Replenishment of lost working capital in farms and other enterprises (e.g., loss of merchandise in commercial stores, loss of seed reserves in farms).
  - Short-term training of workers in the skills demanded by the reconstruction process (construction, electricity, transportation, etc.).
- Restoring governance and social processes related to employment and livelihoods and establishing governance for employment placement (labour market information systems, etc.)
- Redressing immediate risks and building back better. This includes the needs for the safe location and design of infrastructure to be rebuilt, as well as the needs and cost of technologies and practices to build resilient livelihoods, and training of workers that would be engaged in such work.
- Measures to address the human development impact, which may also help expand post-disaster employment (e.g., expanded employment in emergency health care, food aid distribution systems, etc.).

## EMPLOYMENT CREATION DURING RELIEF OPERATIONS

Employment and livelihoods depend on economic activities. Recovering lost or damaged livelihoods implies putting the economy back on its feet. However, in the early stages (starting in the immediate relief period right after the disaster) regular employment may be complemented with emergency short-term employment linked to the relief effort. This type of employment, entirely dependent on relief activities and resources, should gradually give way to employment related to reconstruction and economic reactivation, although still dependent on external assistance. Finally, as reconstruction activities are completed, the structure of employment should reflect again the structure of the economy, and depend mostly on the supply and demand for labour, which is in turn related to the demand and supply for goods and services.

Thus employment creation should be integrated as an objective in the post disaster process, beginning with temporary employment in relief operations and continuing with rehabilitation and reconstruction works, to converge on a recovered economy where people can again make a living out of their daily work, either for a wage or on their own account. Work needed during the emergency phase can be used to restore temporarily the ability of people to make a living, by entrusting this work to local workers that have (temporarily or permanently) lost

their previous employment and livelihood. Local people may find temporary employment by staffing the many activities needed during the emergency phase, from manual labour to manning soup kitchens. Removing rubble after an earthquake, for instance, or cleaning roads after a flood, may in part be done with simple tools by local people (although part of the task may require heavy equipment and should be done by specialized firms, possibly from outside the disaster area).

Almost at the same time, and especially in the following weeks as relief operations fade, rehabilitation takes a more salient role, including reconstruction of buildings, road repair, street cleaning, rehabilitation of irrigation works and many other tasks requiring manual work using relatively simple equipment, that can be done by locally hired people. Part of the resources for relief should thus be used to hire local people to do productive work during the immediate post disaster relief period to facilitate a gradual transition to rehabilitation.

Employment gives people an income, normally a monetary one. But income is useless if goods and services are not available in the market. Many firms, including many micro-enterprises as well as small, medium and large enterprises, may find their activities affected by the disaster. In the aftermath of a disaster, the supply chains may be interrupted, and people who receive a monetary income (either pay for work or monetary transfers of other kinds) may fail to find the necessary goods and services in the market, or may face abnormally high prices due to scarcity of supply. Thus rehabilitation of industry and commerce is also essential not only to restore employment, but also to restore the normal flow of goods and services.

## EMPLOYMENT RECOVERY AND ECONOMIC REACTIVATION

Giving people wages may be of little use if the local market for food and other basic commodities is no longer functioning. Putting local enterprises back to work is a necessity, for people to be able to spend their wages and to satisfy basic needs in a post-disaster situation. At the same time, enterprises that return to activity will also demand labour and thus contribute to the recovery of employment.

**Recovery of enterprises** implies rapid rehabilitation of local workplaces and markets, especially micro, small and medium enterprises located in the disaster-affected area. Enterprise rehabilitation requires many related activities: restoring electricity; replenishing merchandise stocks; lending new (monetary) working capital; financing repairs of shop buildings and market stalls; repairing and replacing lost equipment; and re-opening roads to allow goods to be transported to and from local enterprises. The faster the rehabilitation of local enterprises, the faster these enterprises will restart to produce and sell goods and to hire additional workers.

Thus, beyond employment provided by the government in the immediate relief phase, recovery of employment and livelihoods implies the rehabilitation of local enterprises and essential infrastructure, through short term employment (by the government) in rehabilitation work, rapid restoration of power supplies and transportation to facilitate an uptake of workers by enterprises that restart business operations.

**Public reconstruction works** are often allocated through public competitive bidding, but only a few enterprises may be organized to the extent that they are able to compete in such biddings. However, for reconstruction to contribute to local economic recovery, local firms, as primary or secondary contractor, should be involved as far as possible in undertaking these works. Therefore, it is important to enable local firms to participate in competitive bidding for public rehabilitation works. This might require the adaptation of public bidding rules to enable more local firms to participate, either alone or in partnership with larger firms.

**Disaster preparedness** processes should have gathered (before the disaster) data to identify companies that may participate in rehabilitation works. Ideally, prior efforts have been made to prepare companies for such a situation and to ensure that companies are fully compliant with rules and regulations required to compete in bidding for reconstruction and rehabilitation works.

**Skills needed should be assessed.** Assessment of recovery needs in the various sectors of the economy (roads, power, agriculture, industry, construction, etc.) should dictate priorities for rehabilitation projects, and these priorities should determine what type of work is carried out first, and which skills will be required. These works may require skills that are not available locally, or that only a few local workers possess. An assessment of the skills that are needed and available in the disaster-affected area may lead to a programme of rapid training for essential skills. In some cases, rehabilitation based on building back better principles may imply using new construction technologies that require new skills (see the box below).

#### **Case Study:** Building earthquake resistant houses in West Sumatra

After the West Sumatra earthquake in 2010, some international agencies suggested a new technology to build houses that was both cheaper and more earthquake-resistant than traditional dwellings. The new technique included investment in presses to produce building blocks made of mud, and some of cement, that fit together without needing to use plaster. The building blocks were used during reconstruction in some of the earthquake-affected areas. The cost of a new house built with this technology was estimated to be about 40 percent cheaper than ordinary (non-resilient) houses in use in the region.

A distinct advantage of the system was that it had the potential to create continued employment, as the technique was expected to be in demand even after the rehabilitation phase, assuming that local families would choose this technology for building, enlarging or repairing their homes.

Government policy can encourage new types of construction (in the West Sumatra case, anti-seismic) to create further demand. Thus, jobs created in the wake of a disaster to reconstruct houses could become permanent, depending on the demand created in the post disaster period.

Examples of recovery needs in relation to ELSP are found below.

#### **To resume service delivery and access to goods and services;**

#### **Temporary employment (ensuring that employment opportunities are available to both women and men equally).**

- Identify relief and reconstruction activities that could be carried out through labour-intensive schemes and mobilize local workers;
- Estimate funds needed for cash-for-work schemes to assist in post disaster relief and rehabilitation activities (road cleaning, rubble removal, manning soup kitchens, irrigation system rehabilitation, etc.). These resources include wages, tools, and other ancillary costs (transportation, supervision, etc.) at adequate pay rates.

#### **Work to resume in establishments affected by disaster**

- Restore power supply to shops, workshops, factories and other buildings, enabling them to resume activity;

- List (by location) industrial establishments that require restoration of electrical power, and (if necessary) a priority schedule for restoration of power;
- List (by location) industrial plants and commercial establishments needing reconstruction of infrastructure, replacement or repair of equipment, and replacement of lost inventories. Facilitate repairs to damaged buildings and equipment, including the purchase of spare parts, repairs of infrastructure and replenishing of inventories. Allocate emergency credit lines for these purposes to micro, small and medium enterprises;
- Rehabilitate irrigation networks and other agricultural infrastructure (silos, pens, etc.) and equipment (tools, milking machines, tractors, etc.) that require replacement or repair. This may include also facilities and equipment for storage and processing of agricultural products (e.g., grain mills);
- Identify imports required due to restricted supply in-country;
- Identify rural and urban micro/small/medium enterprises that need recovery support (including soft credit for replacements or repairs);
- Make available the financial services that can help to rehabilitate or support enterprise recovery and development;
- Rehabilitate rural access roads to connect affected areas with markets and supplies.

### **Enhanced employment, employability and livelihoods**

- Rapidly establish employment information services and databases on labour supply and demand in the various localities affected by the disaster, with participation of local authorities, employers and unions. Costs include: technical assistance to establish the services; training of key staff; and communication and computing equipment to establish an interconnected network;
- Training programmes for workers to learn specific skills demanded in the post disaster situation (e.g., car driving, machine operation, anti-seismic construction). Estimation of number of workers to be trained, main skills to be included, priority locations, the creation of job opportunities for both male and female workers, and for disabled people to engage in such programmes.

### **Economic reactivation**

- Put micro and small enterprises back to work to restore small businesses and recreate jobs and incomes, but also to provide outlets for essential goods and services required early in the recovery phase.

### **To restore governance and social processes**

- Resume minimal functioning of government agencies (and their local offices in disaster areas) that are relevant to employment recovery (e.g., employment information and placement services, delivery of unemployment benefits, training services for workers, etc.).
- Resume minimal functioning of government agencies in disaster-affected areas, for delivery of public services and so that put public employees can return to work.
- Repair or rebuild infrastructure and office equipment of government offices in the area.
- Support rural cooperatives, farmer organizations, women's groups, labour unions, etc.

## To reduce risks and build back better

- Promote disaster-resilient livelihoods, through the use of improved agricultural technologies (e.g., for drainage).
- Protect work places and productive capacity (such as, dikes or floodplains to protect farmland and dwellings from floods and earthquake-resilient workplaces).
- Construct safe public buildings that offer physical accessibility for people with disabilities as well as protection in case of a new disaster (e.g., schools and offices built over concrete pillars to serve as shelters in case of flood or cyclone).
- Introduce hazard -resilient design standards for housing and productive infrastructure (e.g., new buildings and irrigation investments, retrofitting of existing facilities, safe boat construction, etc).
- Establish or improve disaster preparedness systems for employment and livelihoods, including dwelling and workplace registries at local level, readiness of local enterprises to participate in reconstruction efforts, employment information systems at local and regional levels, training programmes in skills expected to be needed after a disaster, development of local enterprises devoted to construction of resilient building, etc.

Care should be taken to avoid double counting recovery needs and costs. For example, cross-checking the needs identified in the agriculture sector with those in industry, commerce and tourism. The needs accounted for in relation to employment and livelihoods relate only to recovery of economic activity, restoration of employment and making livelihoods more secure and resilient. Disaster preparedness needs should include, as noted, preparedness for emergency provision of training, placement services, participation of local enterprises in reconstruction works, and other measures pointing to the recovery of economic activity, employment, livelihoods and social protection.

## THE ELSP RECOVERY PLAN

In line with the PDNA guidance on the recovery strategy in Volume A, the employment, livelihoods and social protection recovery should be formulated following a results-based model, and therefore include:

1. priority needs;
2. interventions required;
3. expected outputs;
4. recovery costs; and
5. intended measurable outcomes.

The table below provides an example of a results-based recovery plan in employment.

Priority recovery needs	Interventions	Expected outputs	Recovery costs	Intended outcomes
To train workers (M/F) in skills demanded in the post disaster situation	<ol style="list-style-type: none"> <li>1. Identification of skills demanded and their geographical location</li> <li>2. Organization of training centers</li> <li>3. Recruitment and training of trainers (M and F)</li> <li>4. Implementation of training events</li> <li>5. Placement of workers (in coordination with local authorities and employment services)</li> </ol>	<ol style="list-style-type: none"> <li>1. At least six specific critical skills identified in localities of disaster area</li> <li>2. At least 10 training centers organized and implemented</li> <li>3. 25 trainers recruited and trained (% M/F)</li> <li>4. 50 training events implemented for 2,500 workers (%M/F)</li> <li>5. 2,500 workers (%M/F) placed in suitable jobs using their newly acquired skills</li> </ol>	\$7,650,000	Training provided to 2,500 workers (%M/F) in six critical skills required for post disaster recovery

**Note:** This example is limited to one policy of the employment/livelihood recovery plan: training workers in skills required in the post disaster situation. Creating tables/plans of this type is recommended for each particular policy or strategy.

## ESTIMATION OF COSTS FOR EMPLOYMENT RECOVERY NEEDS

Most of the costs involved in restoring employment and livelihoods are overlapping with those for recovery of the main productive sectors (agriculture, industry, transportation, wholesale and retail commerce, etc.). However, there are specific costs related to employment and livelihoods, not included in needs estimates from other sectors, which should be budgeted, including:

- **Cost of worker training.** The costs involve estimating the number of workers to be trained and the unit cost of training. The latter includes: trainer remuneration, transportation costs and per diem allowances for trainers and (in some cases) the cost of assembling workers from a zone to receive training in one chosen place. It may be necessary to take specific measures to include women in the training programmes, such as separate venues, same-sex trainers, additional transport and child-care costs.
- **Cost of short-term employment** equivalent to the number of workers to be employed on a cash-for-work basis in relief or rehabilitation operations, multiplied by the amount allowed per day of work. To this it may be necessary to add the cost of tools and other equipment to be provided to workers in order to accomplish their tasks. Again, it may be necessary to take specific measures to include women in cash-for-work programmes, such as providing additional transport and child-care costs.
- **Cost of rehabilitating micro, small and medium enterprises** in order to restart activity and restart demand for labour. The cost of rehabilitation may in part be sustained by the establishment and in part provided from public sources. Public support may take the form, depending on cases, of transfers or soft-credit allowances earmarked for repairs (of building or equipment), inventory replenishing, and monetary working capital (to pay daily wages and other similar financial needs).

Micro-entrepreneurs and some small enterprises may be eligible for transfers, while larger establishments (small and medium) may be eligible for concessional emergency credit.

- **Cost of employment information systems.** This should involve the cost of establishing a network of local registries for supply and demand of labour in various activities and skills, and the means for interconnection (e.g., via Internet) of these registries, to match firms and workers across localities. Establishment of these systems may be gradual: local services (municipality level) may be established shortly after the disaster; inter-connection with other local services may follow shortly afterwards. The costs involved may include: initial training and technical assistance to local authorities to establish the services; computer equipment when possible (e.g., once electricity is restored at municipal buildings); Internet connection when possible; and cash-for-work schemes to staff the services during the immediate post-disaster period (up to six months in most cases).

## IMPLEMENTATION ARRANGEMENTS

### PARTNERSHIPS, COORDINATION AND MANAGEMENT

Describe the key partnerships, coordination and management arrangements for the recovery process of the ELSP sector, such as:

- partnership arrangements with specific sector clusters (e.g., agriculture, industry, commerce, transportation, basic infrastructure);
- coordination arrangements with government, civil society and local private sector organizations, such as labour unions and chambers of commerce;
- management arrangements within the government for the employment recovery process; and
- inter-agency management arrangements (e.g., coordination unit or similar arrangements, support services to be established, such as offices, human resources, etc.).

### MONITORING AND EVALUATION

- In the case of ELSP, monitoring and evaluation responsibility usually rests with the Ministry of Labour, or the equivalent government sector, and its major instruments are:
- programme delivery indicators (e.g., number of workers trained per period); and
- objective indicators of the labour market (e.g., national or localized labour force surveys).

### COORDINATION MECHANISMS AND LINKS TO DEVELOPMENT ASSISTANCE

The recovery strategy for ELSP should describe links with other sectors such as agriculture, commerce, etc. It should address how crosscutting issues will be reflected during implementation, such as disaster risk reduction, gender, child labour, the environment, human rights, HIV/AIDS and any others deemed necessary. This should be done in correspondence to the respective provisions in other sectors, and in chapters devoted to crosscutting issues.

Outline the ways in which the recovery of ELSP will link with and support the country's social and economic development goals and priorities, aligning, when possible, the recovery process with the broader strategic development objectives for the country. Consider the following:

- national objectives for meeting Millennium Development Goals or similar international development agreements;
- national employment policies;
- national development plans and poverty reduction programmes; and
- internationally supported planning instruments such as the United Nations Development Assistance Framework (UNDAF); the Poverty Reduction Strategy Paper (PRSP); etc.

## KEY ASSUMPTIONS AND CONSTRAINTS

Identify key assumptions made to successfully complete the recovery of ELSP, to enhance resilience to future shocks and to improve preparedness for possible future disasters. Also outline the major constraints likely to be encountered during the recovery process indicating how these constraints might be overcome. See Annex 5 for additional information on the appropriateness and feasibility of interventions in ELSP.

# ANNEXES

## ANNEX 1: TECHNICAL ISSUES CONCERNING BASELINE INFORMATION

**Published reports and micro data.** Many national statistics offices may provide (for a PDNA exercise) the database of surveys (and in some case censuses) for the entire country or for affected areas, including information about households (or dwellings) and individuals. Published reports from censuses and surveys are often not detailed enough for the purpose of establishing a baseline for the disaster-affected area. Many census tables are not available for smaller geographical subdivisions (districts, municipalities, villages), and most sample surveys do not yield reliable results for smaller subdivisions, rather only for major ones (provinces, regions), due to the limited sample size used in the survey. These micro data can then be re-analyzed to produce more detailed or appropriate results as needed for PDNA baseline purposes, if sample size is large enough.

When information is missing at the smaller level of aggregation, the regional or provincial average may be used instead. In such cases, however, care should be applied to use the most adequate value. For instance, separate rural and urban parameters may be obtained at regional level, to be used for rural or urban affected areas at district level, when district-level data is not available.

Census or survey databases can be analyzed using standard statistical software to provide the necessary tabulations or to quantify certain average parameters (e.g., size of employed labour force per household) in geographical subdivisions. Examples of such standard statistical software are: SPSS, SAS, Stata, and others. A PDNA team should include persons with the ability to perform statistical analysis of survey or census data and access to adequate statistical software.

To evaluate the impact of the 2010 Pakistan floods on employment, official data referred to the number of dwellings totally or partially destroyed. It was assumed that each dwelling corresponded to one household. The baseline number of employed persons per household at provincial level, measured by a recent Labour Force Survey, was applied at all districts within each province. Furthermore, since most of the affected households were rural and poor (or close to the poverty line), the number of employed persons in poor rural households was preferred.

It is worth noting that in this particular case, another recent survey also existed, the Pakistan Social and Living Standards Measurement Survey, with a sample large enough to be representative at district level, but its measurement of employment was more imperfect and was, therefore, not used in this context.

More complex techniques may be used to estimate baseline data for small geographical areas, such as Small Area Estimation techniques. It is often the case that a variable of interest (e.g., household income) is not available in censuses, but is available in sample surveys. The latter, however, are reliable at broad regional level only, due to sample size and sample design limitations.

To estimate average income, or the prevalence of income poverty (incomes below a poverty line) for small areas of territory, the **Small Area Estimation** technique involves three stages:

- Use survey data to estimate a regression equation that predicts household income as a function of other characteristics of the household (such as education of household head, occupation, living conditions, etc.) that must be also included in the (population) census.
- Apply the equation to census household data, to predict the missing census variable (e.g., income) on the basis of selected predictors.
- Use the resulting estimates at household level to generate aggregate measures (e.g., per capita income or percent below the poverty line) for small areas or districts. Small area estimators are not reliable predictors at individual or household level; they should be used mostly for generating aggregate estimates of small areas or districts considered as a whole.

Census micro data may include all enumerated households and individuals, or a sufficient sample (usually between two and ten percent of census records). Some national statistical boards would provide census samples, while others may make the entire census database for the disaster-affected area available. Large samples of recent population censuses for many countries are also available in public international repositories, such as [www.ipums.org/](http://www.ipums.org/). Census samples (such as those stored at IPUMS or provided by national statistics offices) are usually large enough to be representative of small areas such as districts or municipalities.

**Updating baseline information.** Baseline information may need to be updated when it is based on a census or survey that was conducted a considerable time before the disaster. The most basic requirement is that population numbers are updated. The internal relative structure of the population in terms of age, sex, employment, etc., may be taken from the most recent census or survey, since the percentages do not vary much over a few years, but the absolute figures should be updated to the date (or year) of the disaster.

The total population of the disaster area may be updated by applying estimated growth rates from the most recent absolute figures available (e.g., latest census), in order to obtain estimates of the current population of the area.

If possible, the growth rate for the region involved, or separate growth rates for rural and urban areas, should be used. If those specific local rates are not available, at least the national population growth rate may be applied. This latter solution, however, may be inaccurate, especially: a) for longer periods (i.e., more than five years); b) if only (or mostly) rural population is involved; c) if the structure of population has changed; d) the various geographical subdivisions (as well as rural and urban areas) are growing at varying rates; and/or e) the rate of growth for rural areas is different than the national population growth rate. Rural areas, for instance, usually grow at a slower rate than urban areas, because of rural-urban migration. In many countries, the national statistics office may have produced official population projections for major (and even minor) geographical subdivisions, and for urban and rural areas; however the validity of these projected assumptions should be evaluated.

**Census omission adjustment.** Every census fails to count some households and individuals for various reasons. In some cases, omission may be large in areas that were afflicted by violent conflict or ethnic tensions, or areas rendered inaccessible by bad weather, flooding or other conditions prevailing at the time of the census. Omission may be most severe in specific small areas or districts where enumeration was incomplete or simply not done. If a disaster happens in one of those areas, available census returns may be flawed and in need of adjustment.

**Classification of households by type of livelihood.** Averages are useful, but whenever possible a classification of households should be prepared based on employment and other sources of income reported for each household in censuses and surveys.

A simple classification of households may be based on the employment of the household head, irrespective of other members. Thus households would be classified in different groups if the head of household is a smallholder farmer, a non-farm self-employed worker, an employer, a wage worker, an unemployed person or not a member of the labour force (which may in turn be broken down into those receiving pensions, rent or remittances). To achieve this, it is necessary to have a table for each area showing the occupation of household heads. If such a table is not published, it can be obtained by processing micro-data from recent censuses or surveys.

Many households, however, have more than one member that is in the labour force. In some cases, the household head is not in the labour force but a son or daughter is. A more elaborate typology of households, requiring processing micro-data, may include the various occupations found in the household.

Broken down by categories of workers (or non-workers) in the household, and also using (if available) data on property income or transfer revenue, households may be classified in various categories. One possible classification based on all occupations present in the household might be as follows:

- **Employer households:** At least one member is an employer in any sector, irrespective of other occupations.
- **Small-holder farmer households:** No member is an employer. At least one member is self-employed in agriculture. Other occupations may or may not be present.
- **Non-farm self-employed households:** Nobody in the household is a smallholder farmer or an employer. At least one member is self-employed in a non-farm occupation. Other occupations (e.g., wage workers) may or may not be present.
- **Wage labour households:** At least one household member is a waged worker. No one is an employer or a self-employed worker. If relevant and feasible, households with permanent wage jobs may be distinguished from those in which only casual jobs are reported.

- **No-work household.** This group comprises all households in which no one is employed. As this group may encompass heterogeneous situations, it might be broken down into two or more categories, if feasible or convenient. This group of households may be depending on other sources of livelihood, such as pensions, remittances, property income (e.g., land rent). If the group is numerically significant, information may be presented on their sources of income. The group may include households with economically active persons that are currently unemployed, as well as households where nobody is economically active (e.g., households composed only of elderly or disabled people who are not usually employed or seeking employment).

In some cases, specific groups may need to be quantified. For instance, the number of female-headed households or households depending on fishing, or having any other activity considered relevant for the purposes of the analysis.

### Self employment and household headship

In many countries, when two or more household members work on their own account, the household head is classified as “self employed” while the other household members are regarded as “unpaid family help”. If that is the case, the number of the self-employed roughly coincides with the number of household heads that are self-employed (except relatively rare cases in which two members work as self-employed in different activities within the same household).

To classify the number of self-employed in agriculture versus other sectors, in rural and urban areas, an example of calculations might be:

- Self-employed in agriculture (some may be urban)
- Self-employed, other rural activities = rural self-employed – rural self-employed in agriculture
- Other rural activities = all rural households – rural self-employed
- Nonagricultural self-employed in urban areas
- Other urban activities = all urban households – urban nonagricultural self-employed

**Key employment indicators for small territorial divisions hit by a disaster.** Disasters usually hit specific locations, not entire countries nor even entire regions of the country. To estimate baseline figures for the disaster area, information is needed about employment size and structure at the smallest significant division. Names of divisions vary across countries. For the sake of simplicity, examples here assume the country is composed of regions that may comprise several provinces, and each province is composed of districts. The goal is estimating the baseline situation at the district level. However, it is often the case that survey samples provide results only at regional or provincial levels; census tables per district are scarce. For instance, census tables may provide the total population of each district (perhaps distinguishing urban and rural areas), but not presenting more detailed information at district level, such as employment data. For this reason, it is often advisable to start with the district total population (possibly split into rural and urban), and apply ratios obtained from the corresponding province or region to estimate some key indicators of the district. Some of these indicators may be estimated as follows:

#### Population and households:

- Current (pre-disaster) population in the district = projection from latest census (including adjustment for census omission when relevant and feasible). If no recent census results are available

at district level, use other (possibly official) estimates. The outcome may refer to the district as a whole, or may distinguish urban and rural areas.

- Current (pre-disaster) number of households in the district:
  - If this information is available at district level, proceed as in (a)
  - If not available at district level, proceed to (c) and (d).
- Average size of households (persons per household). If not available at district level, use data from the corresponding province. If not available at province level either, take from the region. If available, compute separately for urban and rural areas when the two differ in the average size of households.
- Estimated current (pre-disaster) number of households in each area = (a)/(c).

### **Labour force:**

- Labour force as a percentage of population. Taken from latest census or survey, from the smallest subdivision available (probably region or province). May be estimated for the whole population of each district, or separately by urban and rural areas.
- Current (pre-disaster) labour force = (a) x (e).
- Current (pre-disaster) labour force per household = (f)/(b) or (f)/(d).

*Major components of labour force:*

### **Smallholder farmers**

- Smallholder farmers as a percentage of total (or rural) labour force = estimated from the latest census or survey, possibly at provincial or regional level
- Current number of smallholder farmers in the area, based on labour force = (f)x(h)
- Smallholders per household (# of smallholders / # of households) = (i)/(b) or (i)/(d).

### **Other occupations**

Similar procedures may be applied to estimate the current (pre-disaster) number of people in other major occupational groups, such as those self employed in petty commerce, casual or permanent wage workers, fishermen and others. In some cases, the number of people in some occupations may be available from a previous economic census, or supplied by trade organizations, municipal or village records, local Chambers of Commerce, or similar sources. Once again, it is important that the information collected looks not only at numbers but at the sex and age profile of people in these occupations.

## **ANNEX 2: EXAMPLES OF PRE-DISASTER BASELINE INFORMATION**

Baseline information is required for the disaster area at the most detailed geographical subdivision feasible. The information comes from census counts (population, economic and agricultural censuses) and household surveys (labour force surveys, household expenditure surveys and other similar surveys). Complementary information can be gathered from municipal and village registries, previous qualitative livelihood studies in the area, etc.

## Socio-economic

- Population figures, by sex and age, rural and urban (updated)
- Number of households (urban/rural)
- Human development index (country, region/provinces, disaster area)
- Income poverty headcount
- Access to basic services (water and sanitation, health, etc.)
- Market price for basic commodities
- Labour force per household (persons employed, divided number of households)
- Structure of employment (by industry and status in employment)
- Main livelihood activities (farming, fishing, wage labour, non-farm, self-employment, etc.), and numbers of people involved in these activities
- Local wage rates for unskilled casual labour, also noted in relation to local price of basic subsistence commodities

## Employment-related institutions

- Worker organizations (unions, cooperatives, etc.): location, area coverage, membership, contact details
- Employer organizations (chambers of commerce, etc): location, area coverage, membership (including list of affiliated enterprises), contact details
- Government employment services (municipal employment information services), including (desirably) information on their effective capacity (staff, equipment, services offered)
- Local firms able or registered to participate in public works biddings (construction and other activities)

## ANNEX 3: INTERVIEW TIPS FOR FIELD VISITS

### Key informants at provincial/district headquarters

1. What are the main ways in which people make a living in this area?
2. Do women do different things to make a living than men? If so can you describe.
3. Which are the most vulnerable groups, where are these groups located and what is their relationship to those making a living?
4. Which groups have been most affected and why?
5. What has been the general impact of the disaster on how people make a living in the area?
  - **Keep in mind:** proportion of shops or businesses closed or collapsed, proportion of farms or crops flooded or otherwise damaged, roads closed, communal marketplaces, etc.

6. What are people doing to cope? What are they likely to do?
  - **Keep in mind:** internal displacement, overexploitation of natural resources, liquidation of assets, reduction of food intake, etc.
7. What are the immediate priorities to support?
8. What can be expected from governmental and non-governmental agencies operating in the area?
9. What changes are required for long term recovery of affected populations and reducing vulnerability to similar events in the future?

### **Entrepreneurs and SMEs owners**

1. What are the estimated damages (at reconstruction or replacement cost) to premises, equipment and machines, raw materials and finished goods?
2. Has the enterprise experienced an increase in the cost of business operation (e.g., higher cost of materials and transport, cleaning, demolishing, repairs)?
3. Has the enterprise had a reduction in turnover (e.g., less customers, cancelled contracts, etc.)?
4. Has the enterprise experienced a reduction in productivity (e.g., loss of skilled workforce, workers not fully utilized, etc.)?
5. What factors constrain or are likely to constrain this availability in the coming weeks and months?

### **Community leaders and households**

1. How did people make a living before the disaster?
2. Identify skills existing in the community and households.
3. What types of damage has resulted from the disaster?
4. What effect has the disaster had on livelihoods?
5. Identify businesses that have stopped functioning and causes of lack of merchandise or inputs (e.g., destroyed crops or livestock, damaged transport infrastructure to carry products, collapsed buildings, etc.).
6. Identify key factors that would enable citizens and enterprises to resume activity.
7. What coping mechanisms and livelihood strategies are households using to get by, and how effective are they? How sustainable or damaging are these coping mechanisms and strategies in the long term?
8. What opportunities and capacities exist for livelihood recovery within the local economy?
9. What were the wage levels for skilled and unskilled workers, including casual workers, before the disaster. What are the wage rates ongoing (if any) for casual workers after the disaster.

## ANNEX 4: EMPLOYMENT IMPACT ESTIMATIONS

The change in flows from production processes and other effects caused by the disaster may result in lower employment in the short and medium-term. Due to important differences in data sources and estimation methodology, impact on employment is usually analyzed separately for the agricultural and non-agricultural sectors. The decline in employment is estimated for each of the agricultural sub-sectors, expressed in terms of person months.

The table below summarizes the calculations by sector.

Sector	Estimate calculation
Farming sector	<ol style="list-style-type: none"> <li>1. Estimate the percent of total damage to crops, plus a percentage of partial damage, as a proxy for the proportion of farms losing most of their crops.</li> <li>2. Multiply the above result by the percentage of farms providing the main source of income to households.</li> <li>3. Use the above result as a proxy for the number of farming households sending their labour force to the labour market.</li> </ol>
Farm wage labourers	Assumed to be affected in the same proportion as farmers.
Sector	Estimate calculation
Fisheries wage workers	For households that depend on fisheries, boat owners are assumed to be affected based on the estimated number of boats lost, as determined by reports from local authorities. Number of fisheries workers should also be estimated.
Seasonal farm workers (casual labour)	Estimated based on the ruined crop area at a rate of the number of person-days per hectare per each crop (values are provided by agricultural specialists).
Non-farm sector	The estimation is done based on affected establishments and average number of people employed per category of establishment (micro to large). It is assumed that physical damage to establishments is approximated by the physical damage to houses, on the basis of field reports and observations.
Industrial establishments	In addition to direct physical damage to premises and equipment, industrial establishments can be affected by loss of electricity. Loss of power supply may cause a stop in production for varying lengths of time. Estimates of the length of time during which the factories are stopped leads to estimates of the number of workdays lost.
Commercial establishments	Commercial establishments may also be stopped for varying lengths of time, from one day at least to more than one month in the case of destroyed establishments that cannot restore their premises or inventory. Likewise, the number of jobs affected (workdays lost) is estimated on the basis of the average number of employees per establishment, and an estimated average length of closure.
Self-employed	It can be estimated that the self-employed have their livelihoods damaged or destroyed at the same rate of all damaged or destroyed houses in the affected area.

Source: *Livelihood Assessment Toolkit*, FAO/ILO.

## ANNEX 5: CAPACITY ANALYSIS FOR EMPLOYMENT CREATION AND LIVELIHOODS RECOVERY

**Stakeholder analysis:** identify key actors involved in employment-related matters, such as the below.

- Labour/employment authority, economic development authority, municipal authorities
- Local or regional development associations
- Civil society organizations, community-based organizations that support vulnerable populations (disabled people, women, etc.)

- Enterprises that employ local labour (micro, small, medium, large industries)
- Labour unions, trade unions, manufacturing and agricultural cooperatives and other organizations of workers (both wage workers and self-employed workers)

**Identify and consult local government authorities, civil society organizations and NGOs** to determine:

- the impact of disaster on their institutions and projects;
- their particular capacities (infrastructure, human resources, technical expertise, etc);
- their institutional needs to manage recovery;
- their potential for becoming implementing partners; and
- what is the general perception of the affected people concerning the public response to the disaster?

**Identify proposals for enhancing the capacity of public and other agencies** to participate in employment creation and economic recovery.

- Are there local offices (including local delegations of central government) dealing with labour issues? What services do these offices normally provide (before the disaster)? Can they address the challenges posed by the disaster? What are the key areas that require immediate enhancement (staff training, connectivity, equipment, etc.)?
- Does managerial capacities exist at national and local government level to plan and implement the recovery options in employment?
- What technical capacities are present at national and local levels to plan and implement the recovery programme?
- Is there experience available with employment recovery programmes?
- Is there experience available with short-term job creation through public works?
- What is the capacity for employment creation and supporting services?
- What is the procurement and recruitment capacity?
- What kind of support would state and local institutions (public institutions, workers' organizations and small business organizations) need in order to facilitate and improve income economic recovery, employment and livelihoods?
- Are there relevant line ministries with available technical capacity and experience with recovery programme implementation?
- Is there technical capacity available to ensure the integration of crosscutting issues, including disaster risk reduction, gender and environmental sustainability?
- Is there capacity among local enterprises (especially small and medium enterprises) to compete in public bidding for public works related to relief, rehabilitation and recovery in the aftermath of a disaster? What actions are possible to enhance this capacity? (e.g., formalizing the enterprises, adjustment to accounting rules, adjustment to rules governing public biddings, simplification of such rules, drafting of legislation that gives preference to local enterprises in case of emergency works, etc.).

- Which other key actors are present on the ground to provide required technical capacity, such as the private sector and civil society organizations that can be tapped into?
- What is the capacity of local banks and micro-finance institutions to support money transfers coming from employment and enterprise development recovery projects? What is the capacity of local banks and other financial institutions to channel credit to small and medium enterprises, enabling them to rehabilitate themselves and to participate in relief and recovery projects?

## ANNEX 6: APPROPRIATE AND FEASIBLE INTERVENTIONS

### Appropriate interventions are:

1. Sensitive to seasonality.

It does not make sense, for instance, to recommend a cash for work programme at the peak of the agricultural season, when family labour is required for cultivation on their own fields.

2. Supportive rather than undermining of the local economy and the sustainability of local livelihoods.

As an example, it may be more appropriate to address a problem of food availability through stimulating the local market rather than conducting a general food distribution.

### Feasible interventions are:

1. Acceptable to beneficiaries.

Particularly when targeting particular groups. For instance, although it may be technically justified to provide shelter support for the poor, this may not be acceptable to local communities. When planning interventions, gaining an understanding of local systems of obligation, power and reciprocity is vital.

2. Can be implemented in a timely and regular fashion.

Consider how long a particular intervention will take to become operational. For example, if food must be imported into a country to meet acute food shortages, food markets are still operational, it could be more appropriate to distribute vouchers or cash than food.

3. Can be implemented on a scale commensurate with the magnitude and priority of the problem.

There is little point in recommending immediate rehabilitation of irrigation systems over large areas if there is neither sufficient expertise or logistical capability to do so in the immediate term. Such a recommendation either needs to be more specifically tailored to particular extremely high priority areas or groups and/or needs to be recast for a medium or long term time frame.

4. Acceptable to and within the capacity of local partners.

Rapid scaling up of organizational capacity is to be expected after a disaster, but it is still important to be aware of what is feasible in terms of what partners can provide immediately and over time. This reduces the possibility of un-implementable recommendations and misallocation of funds.

5. Designed around the local infrastructure and circumstances.

Including transport and storage capacity, banking facilities (especially relevant in the case of cash transfers), local security and conflict status.

6. Compatible with government and donor policies.

Findings should be presented in a way that will maximize the probability of government and donor support. In addition to being soundly based on a robust livelihood assessment, it is also advisable to find out what donors and the government are likely to support and fund. When this does not correspond with the findings of the assessment, advocacy and lobbying will be required.

## ANNEX 7: GLOSSARY

**Economic activity:** To be engaged in, or actively looking for a chance to be engaged in, the production of goods or services for the market. It includes also to be engaged in subsistence agriculture even if the farm products are solely intended for household consumption.

**Economically active population:** All members of a social aggregate who are employed or unemployed.

**Economically non-active population:** Population not in the labour force (i.e. not employed, nor looking for employment). Includes young (non working) children, elderly persons who do not work, full time students, and persons solely working in activities related to their own home housekeeping (such as cleaning, cooking, etc.).

**Economic sector of employment:** Type of goods and services produced by the economic unit where the job is performed. Major sectors are: agriculture, mining, manufacturing, transportation, commerce and others.

**Employment, or gainful employment:** Utilization of labour to produce goods and services for the market, or in the case of subsistence agriculture for home consumption. Labour can be performed on the household's own account or through a wage-earning job. This does not include work in housekeeping if performed in the worker's own household.

**Enterprise (or business):** An organization for producing goods and services, usually for the market (but may also produce agricultural products for household consumption). Includes farms, stores, workshops, factories, banks, hotels, restaurants, market stalls, and other similar organizations. A self-employed person practicing a trade on their own account is regarded as an enterprise or business, even if lacking a store or workplace (e.g., a plumber or mason).

**Enterprise category:** Most enterprises are private, but some may be (partially or totally) owned by the state. Enterprises are usually classified into several categories according to size, as described below.

- **Microenterprise:** Usually operated by one self-employed person, or by several self-employed partners, with or without family help, and usually without any paid employee (though in some countries the definition may allow for a small number of paid employees, e.g., one or two). Many microenterprises operate from a store or workshop (e.g., small merchants, blacksmiths, etc.) but others may work without a fixed locale (e.g., street hawkers, independent cab drivers, plumbers, etc.).
- **Small enterprise:** Enterprises that employ a small number of wage workers (usually less than 50, or other similar figure).

- **Medium enterprise:** Enterprises that fall between the small and large categories.
- **Large enterprise:** Enterprises that employ a large number of wage workers, e.g., more than 250. May be local, with only one work unit in a particular place, or may comprise several work units in a number of places. These various work units may be all in the same country (national enterprise) or in various countries (transnational enterprise). Public enterprises are most usually large (e.g., state-owned oil companies).

Medium and large enterprises are most often **legally incorporated and registered**. Microenterprises, and many small enterprises, are often not formally incorporated or registered. However, in some countries there is some form of registration for micro and small enterprises (e.g., villages or districts may keep a list of existing small businesses).

**Labour force:** These are the economically active population. The labour force of a household, community or other social aggregate (region, country) is formed by all those having gainful employment (the **employed**), plus those looking for employment (the **unemployed**). Those not currently employed or looking for employment, but who may take up employment if opportunity arises, are sometimes regarded as **potential** labour force and also as **hidden unemployment**. After a disaster, some of the latter may start looking for a job if other sources of income are interrupted.

**Livelihood:** An ensemble of strategies and activities carried out by a household in order to make a living. It involves utilization of various household assets (natural, physical, financial, human and social) to produce income (monetary or in kind) and resulting in certain living conditions. A household asset provides labour income (through the use of the household members' capacity to work in home or productive activities) and **other sources of income** (such as property rentals, remittances from relatives abroad, and others). A livelihood is more **sustainable** when it has a higher probability of withstanding external **shocks** such as natural disasters, economic instability, or personal hazards such as death or incapacitation of working members of the household.

**Operational definition of employment:** A person is regarded as employed insofar as he or she has a job during a specified period (e.g., at the time of the census or survey, or in the previous week or month). A person is regarded as having a job even if not currently working on it due to normal causes such as being on holidays, on sick leave, or other similar circumstances. Farmers, for instance, may not be actually working on their farm at certain periods of the year, but are nonetheless regarded as having employment. For a person to be regarded as employed in a certain activity, usually a minimum number of working hours per week are required (e.g., at least 15 hours per week).

**Status in employment:** An employed person may be in one of the following positions:

- **Self-employed:** conducting an activity or microenterprise on their own account, without any paid employee (but may have unpaid family help). A self-employed person is owner of the goods and services produced and able to sell them in the market. A self-employed person, however, may not be the owner of some of the assets used in the activity, and may pay some form of rental for their use (e.g., tenant farmers, or traders operating a store in a rented building).
- **Unpaid family help:** workers participating in an activity performed by household members on their own account, but not conducting the activity itself.

- **Employer:** a person employed on their own account, with at least one dependent wage worker.
- **Wage worker:** a person hired by an employer for pay; the employer usually owns the tools and materials required to do the work and the resulting goods and services are also the property of the employer.

**Note:** The self-employed are often supported by unpaid family help. Unpaid family help are often inadequately counted in censuses and surveys. In particular, women and children often play a significant role in smallholder farming, and in other activities such as fishing, handicrafts or petty commerce, but their employment is often omitted or undercounted. In some cases, qualitative or otherwise in-depth studies, or data collected in the field after the disaster, may suggest more realistic figures for unpaid family help (e.g., number of persons normally lending unpaid family help for each self-employed person in particular sectors or activities). However, even if this correction may be important to quantify the effective size of the employed population, it may be less important from the point of view of household revenue and livelihood: if some data exist, for instance, on average revenue per smallholder farm, such revenue may be counted as household income regardless of how many family members actually work in the family farm.

**Transfers:** Money paid, goods delivered or services rendered to households or persons, without compensation in money or in kind. Includes:

- **private transfers** such as remittances sent by relative living (and usually working) abroad;
- **pensions**, usually paid by the state. Pensions are paid to retired workers, handicapped people, surviving dependent relatives of retired workers once the latter are dead, etc.; and
- **welfare payments** such as unemployment benefits, monetary help for poor households, food aid, etc.

**Unemployment:** A person is unemployed when they are both (1) lacking employment and (2) actively looking for employment. Includes people who have lost employment previous to the disaster, and persons looking for their first employment.

## ANNEX 8: KEY REFERENCES

FAO, ILO (2009). The Livelihood Assessment Toolkit.

A guide to livelihood assessments particularly aimed at sudden onset natural disasters. It includes detailed guidance on developing livelihood baselines, as well as on Initial Livelihood Impact Appraisal (ILIA); and a Detailed Livelihood Assessment (DLA).

Global Facility for Disaster Reduction and Recovery (2012). Damage, Loss and Needs Assessment Guidance Notes (DaLA).

Guidance on estimating damage and losses in post disaster situations across all sectors, including agriculture.