



ORGANISATION
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AND DEVELOPMENT



**Routes Out of the Crisis:
Strategies for Local Employment Recovery, Skills
Development
and Social protection in Asia**

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**India National Case Study
A "Green" Value Chain Development Exercise in Jabalpur, India**

By

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Acronyms

GWP	Good Working Practices
OSH	Occupational Safety and Health
PACA	Participatory Appraisal of Competitive Advantage
TLA	TARA Livelihood Academy
VCD	Value Chain Development

Executive summary

The ILO's "Green Jobs" initiative supports a concerted effort by governments, employers, and trade unions to promote environmentally sustainable jobs and development in a climate-challenged world. It seeks to facilitate a "just transition" that reflects the environmental, economic and social pillars of sustainable development.

In support of the initiative, the ILO Regional Office for Asia and the Pacific, in collaboration with Sub-regional and Country Offices, has initiated demonstration programmes which aim to "contribute to identification and testing of pathways to clean development through the creation of green jobs which reconcile goals for poverty reduction with low greenhouse gas emissions." In India the first step in the exercise has been the pilot application of a sectoral assessment methodology. The assessment of three high potential clusters, including Jabalpur dairy cluster resulted in identification of high priority interventions that support the green jobs and decent work agenda. A key aspect of the implementation of such interventions is the provision of feedback to the assessment methodology, thus contributing to its further strengthening and refining with a view to the scaling up and replication of the approach.

The participatory value chain development exercise was introduced as an essential element to this process, so as to make both the pilot interventions and the assessment methodology legitimately reflective of the successful experience of the ILO's participatory Value Chain Development (VCD) approach in Sri Lanka. More specifically, the goals of the exercise were to integrate the identified interventions in broader value chain development logic and to ensure stronger ownership and support to the interventions by local stakeholders, ultimately providing feedback towards an enhanced assessment methodology that would address effectively these concerns.

In Jabalpur, the exercise started in October, and the first phase (data collection and analysis) was completed that same month.

Ten key proposals were decided on by the stakeholders:

1. Liaise with the District Rural Development Authority and "Panchayats" (local government) to use waste land for fodder cultivation. This addresses the shortage of green fodder which has become a limiting factor for improving the productivity of animals and for the growth of the sector.
2. Share relevant research and information to increase production of fodder. This addresses the lack among green fodder growers of knowledge of more productive fodder varieties and agricultural practices.
3. Rear and sell calves to village farms as additional source of income for large farms and to improve productivity of village level farms. There is no local breeding of high yield cattle so far.
4. Identify and establish links for marketing of organic compost. Promoting production and sale of compost from dung will help farmers address the problem of disposing dung in an environmental friendly manner and will provide them with additional income.
5. Facilitate the establishment of biogas plants for reliable power supply and carbon revenue. Small scale farmers can set up biogas plants for households thermal requirements with the presently available government subsidy schemes. Large farmers and processors can generate power with biogas for their own operations.
6. Establish a Steering Group including all key stakeholders for leading the development of the dairy sector and further increase productivity of dairy farms. This will address the need for more collaboration and dialogue.

7. Ensure quality standards in farming practices, quality of milk and milk products and promote a drive to excellence. This addresses the need to enhance quality and productivity, as well as for a better work environment.
8. Improve the dissemination of information and facilitate access to various support schemes.
9. Facilitate entrance by small scale processors to the dairy processing sector through better access to finance, technology and entrepreneurship training for newcomers.
10. Promote Decent Work / Occupational Safety and Health practices in the dairy sector. This addresses the need to improve the work environment and working conditions.

The Steering Group has already been formed. It is coordinating and facilitating the implementation of the proposals. Nearly all proposals have had stakeholders committing to implementation, and most interventions have already started. The participatory nature of the exercise has therefore been successful at getting stakeholders on board, generating ownership, and motivating stakeholders to take responsibility for proposals. The exercise's emphasis on identifying the reasons why stakeholders would want to implement proposals has probably contributed to this.

The exercise has resulted in a "mix" of proposals, some being relatively short-term and easy to implement, and others longer term and more complex to implement. Some have the potential to result in significant changes in the market system of which the dairy value chain is part. This is the main aim of a systemic approach to VCD. More and better production of green fodder on waste land as well as larger farms rearing high yield calves and selling them to village farms would constitute important changes in the market system and have a sustainable and broad impact. The same is true for the production and sale of compost and promotion of biogas, although these are likely to affect fewer farmers. Many of the proposals involve, and have already resulted in, more linkages between different players in the value chain and more collaborative action. The ILO's experience indicates that this is often a result of a participatory VCD exercise and that it can lead to lasting and wide reaching change in the way stakeholders function in the market system. The establishment of the Steering Group is of course in itself a significant step in this direction. It may result in a lasting forum for dialogue in the sector, but even if the group is dissolved after most of the proposals have been implemented, closer relations between stakeholders are likely to be a sustainable benefit.

Regarding decent work and environmental concerns, a number of proposals can be expected to lead to significant advancements: these advancements can be in terms of employment generation and additional incomes, improved workplace conditions and occupational health and safety, environmentally sound practices that mitigate greenhouse gas emissions and improve the quality of the local environment, or a combination of them. Whereas the environmental and decent work dimensions are clear in some proposals, such as those related to OSH in dairy farms or promotion of biogas plants, many other interventions bring gains in terms of environmentally sound practices and decent work, such as proposals on compost production, re-generation of waste land using compost, and improvement of dairy farming practices. It can be concluded that the VCD approach has been largely successful at resulting in, and having stakeholders prioritize, feasible proposals that address environmental and decent work related issues, among others that address constraints in the value chain. Since consideration of "social and environmental standards" is part of the analytical framework the approach uses, this was to be expected. However, some of the data collection and analytical tools of the approach need further improvement to ensure more in-depth coverage of this aspect of the market system in the context of programmes whose first priority is to promote Green Jobs: this is part of the work-in-progress of the ILO towards the enhancement of the value chain assessment tool and participatory VCD methodology for Green Jobs.

1. Introduction – the Green Jobs and value-chain development

There is growing acknowledgement among governments, trade unions and employers' organizations that business as usual based on the strategy "grow first, clean up later" is not sustainable, neither economically, nor socially and environmentally. The growing awareness and willingness to act is reflected in the conclusions of the discussion at the 96th Session of the International Labour Conference of the Director-General's Report on "Decent work for sustainable development" and the ILO's "Green Jobs Initiative", which was launched in collaboration with the United Nations Environment Programme, the International Organization of Employers and the International Trade Union Confederation in November 2007.

The initiative supports a concerted effort by governments, employers, and trade unions to promote environmentally sustainable jobs and development in a climate-challenged world. It seeks to facilitate a "just transition" that reflects the environmental, economic and social pillars of sustainable development. Within this context, the initiative's objectives are:

- to promote awareness and dialogue;
- identify and respond to knowledge gaps;
- promote policies and measures to achieve green jobs and green workplaces;
- catalyze employment and poverty alleviation within climate mitigation and adaptation programmes;
- enhance the capacity of ILO constituents, and
- strengthen the collaboration among international organizations and the business community.

In support of the initiative, the ILO Regional Office for Asia and the Pacific, in collaboration with Sub-regional/Country Offices, has initiated demonstration programmes which aim to "contribute to identification and testing of pathways to clean development through the creation of green jobs which reconcile goals for poverty reduction with low greenhouse gas emissions." The selected countries for the pilots in the Asia and Pacific region are Bangladesh, China and India. Jabalpur in the state of Madhya Pradesh, India, has evolved a leading pilot location.

This is a report on what actually happened in the dairy cluster in Jabalpur, and it looks into whether the ILO's expectations are likely to be met. Since the analysis phase of the exercise was completed in late October 2009 only, it is rather early for such an assessment. However, there are some indications that can be considered here. Specifically we can consider:

- the extent to which both "quick wins" and systemic interventions were decided on
- the extent to which environmental and Decent Work issues were in fact identified and prioritized through the VCD exercise, leading to concrete proposals to address them
- the extent to which stakeholders have committed themselves to implementing these as well as other proposals

Following a brief introduction of the Jabalpur dairy cluster, we will describe the approaches followed in the first, preliminary assessment of environmental and Decent Work and the subsequent VCD exercises. This will be followed by the key findings and proposals that resulted, which will present the findings of the first study in separately. The proposals for interventions will be presented next, followed by "what actually happened" in the month

following the exercise. We will conclude by considering the above issues and lessons learned with respect to promoting Green Jobs through value chain development.

2. The assessments in the Jabalpur dairy cluster

2.1. Introducing the Jabalpur dairy cluster

India is the largest producer of milk in the world with annual production of 107 million tons. At the macro-level, the gross domestic product (GDP) from livestock is estimated at about US\$ 19.5 billion at current prices, contributing about 22% to the agricultural gross domestic product (GDP) and about 5.5% to the national GDP (CSO, 2001). The livestock sector alone provides employment to 18.4 million people in principal/subsidiary status, constituting about 5% of the total workforce (GOI, 2002).

Jabalpur is a medium-size city in the state of Madhya Pradesh. Its 210 dairy farms have some 35,000 animals, 95% of which are buffaloes. The daily milk output is estimated to be in the 125,000 to 150,000 litre range. The annual buffalo sale for slaughter is in 30,000 to 40,000 tons range. The annual buffalo dung output is 250,000 to 300,000 tons. The sale of young calves is estimated at around 20,000 per year. The industry turnover is around Rs. 2,000 million/year. The industry experienced rapid growth during 2002-05, levelling off since then, and has received generous bank credit; classified as agricultural credit.

2.2. The preliminary Green Jobs assessment

In February 2009, the ILO conducted a first assessment in the cluster using a draft Green Jobs Assessment Tool. The tool was used as the basis of unstructured interviews and focus group discussions, as well as secondary research. It included a scan of the macro-environment, green jobs funding and green technologies, mostly through secondary research. The primary research conducted by the TARA Livelihood Academy (TLA) and an ILO consultant focused on assessing the sector support organizations and the sector value chain, through interviews and discussions with important players in the chain. The focus was on environmental issues and to a lesser extent different aspects of Decent Work.

A 4-day field trip was made to collect the primary information. Activities included:

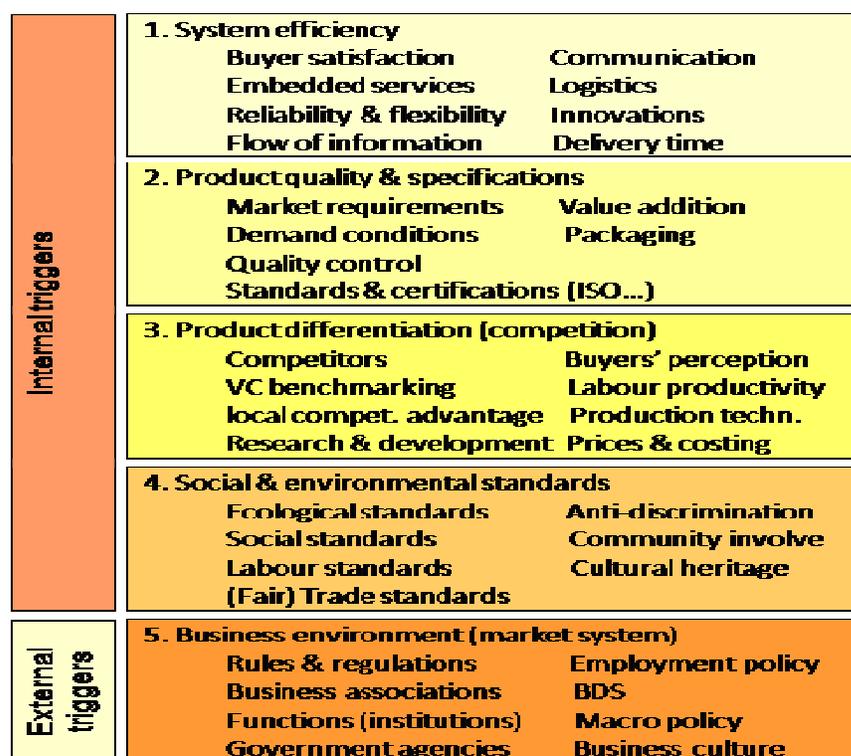
- Visits to 3-4 units and interviewing of the owners of these units
 - One to one interaction with a few men and women workers at each location (farmers were not in favour of allowing open access)
 - Focus group interactions with the members of the Dairy Farmers Association
 - Interviews with service providers
 - technology/technical service providers
 - financial services – banks
 - raw material suppliers
 - wholesalers/retailers
 - Interviews with enforcement / regulatory agencies e.g., the state government and relevant government line departments
 - Interviews with representatives of potential training and financing institution with national and regional presence.
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2.3. Local Value Chain Development methodology

The second exercise used a Local Value Chain Development methodology developed by the Enter-Growth, a SIDA-funded ILO project in Sri Lanka. This is a participatory approach combining local economic development (LED) with value chain development (VCD). The objective is to integrate local micro, small and medium enterprises (MSMEs) into markets and thereby strengthen the sector's overall competitiveness.

The approach builds on practices of the Participatory Appraisal of Competitive Advantage (PACA) methodology developed by Mesopartner¹. However, it looks more at how MSMEs are integrated into markets and value chains and the analysis goes more in depth to identify the underlying causes of constraints in the market system of which the value chain is part. Compared to the PACA, the VCD methodology places less emphasis on "quick wins", i.e. interventions that can be carried out successfully over a period of a few months. Systemic interventions are considered more important, though "quick wins" play a key role in building commitment and credibility among stakeholders.

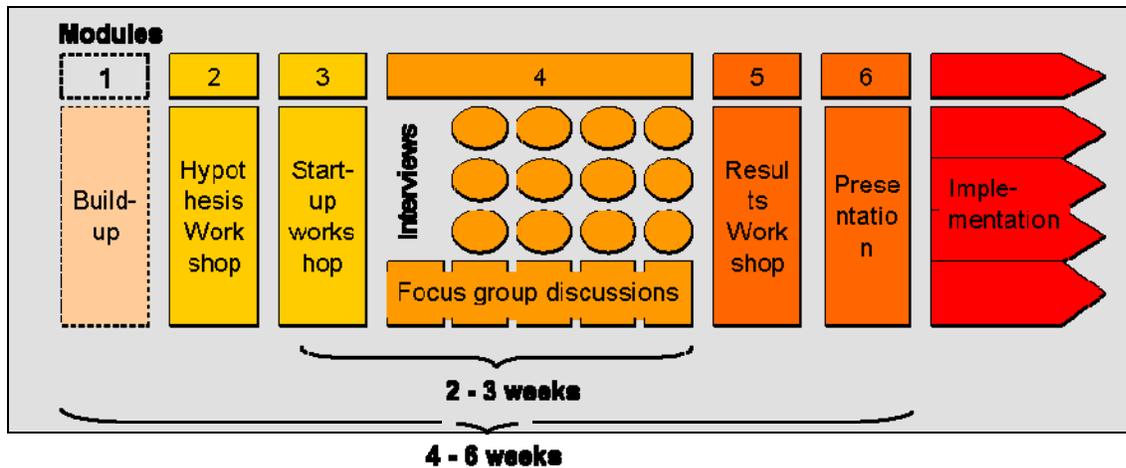
Given the different objectives, the analytical framework used in the methodology also differs from PACA. Among other things, it focuses on identifying constraints and opportunities with regard to five triggers of value chain development, as in this diagram.



As can be seen, Decent Work and environmental factors are an integral part of the analytical framework. The team that managed the exercise made changes in the data collection instruments and the way information was analysed to ensure that these factors would in this case be covered more in depth than is the case usually. The findings of the preliminary assessment carried out by the TLA were also brought into the different forums the exercise and taken up in the analysis.

¹ A German consultancy firm, see www.mesopartner.com.

In terms of process, the approach consists of a series of workshops and interviews, in which all value chain stakeholders connected to the local target sector are included. This participatory approach is complemented by secondary research on information and data to underpin the findings through facts and figures. The approach consists of the following modules:



The exercise was carried out according to this process, but over a compressed period, due to time constraints. The first 6 steps were conducted over two weeks in October 2009, in tandem with the training of local VCD facilitators, who, together with the VCD consultants, formed **the VCD team** that conducted the exercise.

The approach includes the development of a detailed action plan, called Intervention Framework, and, if stakeholders so wish, establishment of a Steering Group that will facilitate and guide implementation. This also happened in the present case. For a good understanding of the approach it is crucial to realise that in the end it is the stakeholders who decide which proposals for action should be prioritised and implemented. They are then expected to take the required action themselves, sometimes but generally not with support from the ILO.

Crudely put, if stakeholders do not consider an environmental issue to be important, no action will result. This risk was minimized in this case because the preliminary assessment had prioritized clusters where environmental and Decent Work enhancement opportunities were present.

2.4. The key findings

In this section we will report mainly on the findings of the second assessment, the VCD exercise, while we provide the findings of the first assessment on Decent Work and environmental aspects for comparison, in a separate box. This is not to say that the first assessment did not cover the institutional environment, but for the purposes of this report it is useful to see to what extent its findings on the environment and Decent Work were reflected in the VCD exercise.

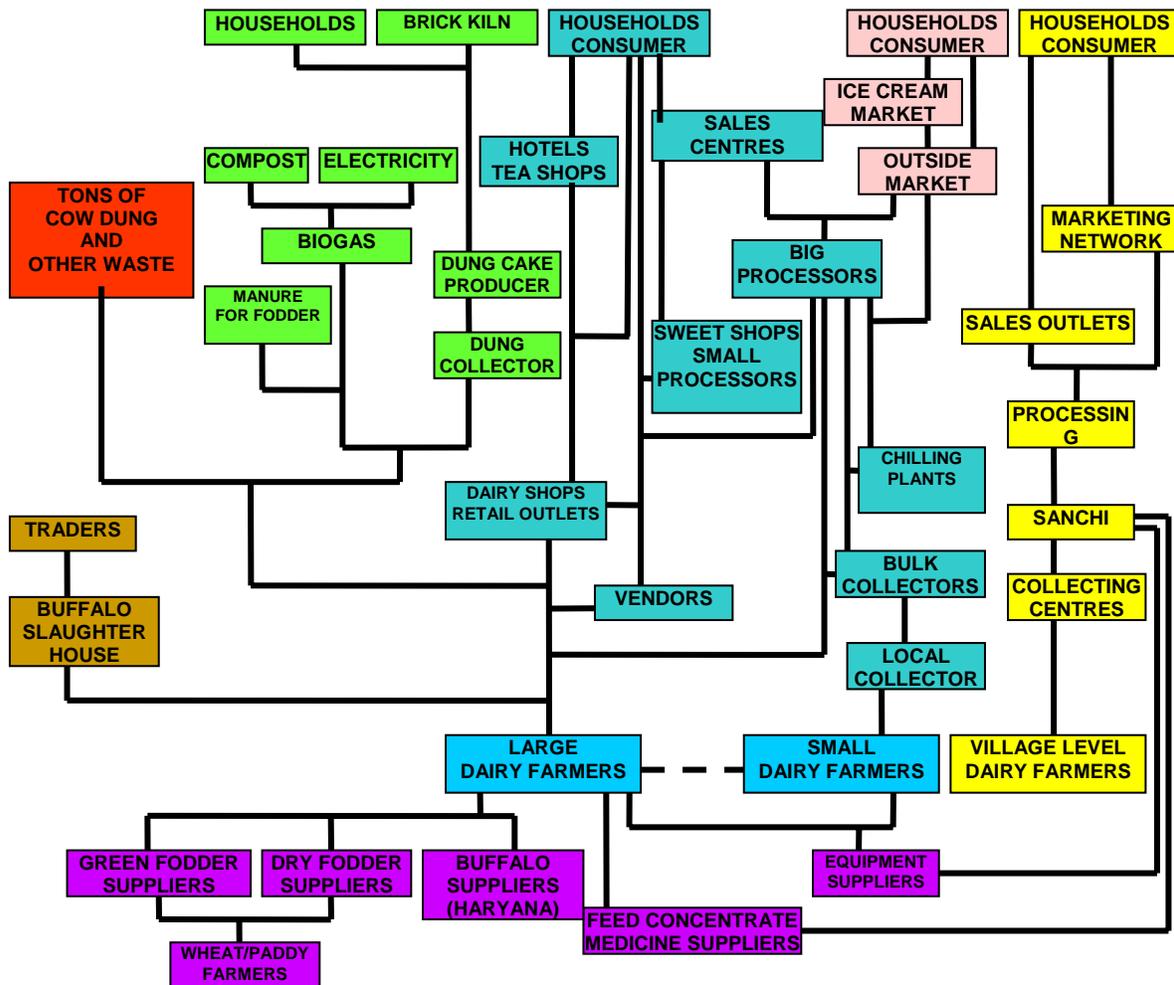
2.4.1 The value chain map

Four layers can be identified in the main dairy value chain in the Jabalpur cluster:

1. Input supply
2. Dairy farms
3. Collection and distribution
4. Milk processing

Two short chains are connected to the main value chain. These are involved in disposal of dung and slaughtering of unproductive animals.

A graphical illustration of the chains is given below, with the main dairy value chain in the right half.



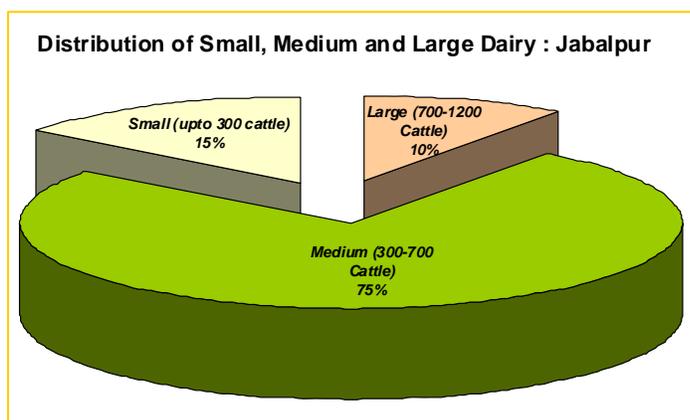
The **input suppliers** can be divided into two groups:

1. Farm input suppliers: livestock (buffaloes), farm equipment and utensils, milking machines, refrigeration, cow sheds, animal feed (concentrates, minerals, ready-made mixes, etc.), pharmaceuticals, green and dry fodder.

2. Processing input suppliers: processing machines and technology, utensils and equipment needed for production of various milk products, refrigerators, ingredients, packaging, and other equipment.

Suppliers are based locally. Dry fodder traders buy mostly from local farmers, while some buy from other parts of the country. Green fodders supply is seasonal and there is a shortage, as growing other crops is more profitable. Due to late harvesting the nutritional value is low. There are no associations among suppliers, although there is some coordination between green fodder growers to set prices.

The **dairy farms** in Jabalpur number 210, of which 171 are member of a Dairy Farmers Association. They can be divided into small, medium and large farms, most being medium in size. The Jabalpur farmers do not grow their own fodder or breed their own buffaloes. Instead, high yield Murah buffaloes are obtained from the state of Haryana which is about 1,000 Km away. The average production is about 2,000 litres per lactation (6 litres per day) though this breed is capable of producing over 3,000 litres.



There are thousands of small village level farms (up to 10 animals) in rural areas around the cluster. Most village level farmers rear their own buffaloes. These are local or cross breeds, whose productivity is low, at 2 -3 litres of milk a day. The majority are attached to the government milk cooperative "Sanchi". It groups 440 primary dairy cooperatives at the village level.

Expanding existing dairy farms in Jabalpur seems not feasible due to lack of space. During the last few years the annual growth rate was 10 -15%, but it has now stagnated.

Dung cake producers buy from the farmers. It is largely a family undertaking. The dung is stored in front of the dairies or beside public roads, where the cakes are made. Dung cakes are sold to households (40%) and brick kilns (60%) as a substitute for fire wood. There are only few **compost producers** in the area. Uptake of small **biogas** plants for thermal use has been very low, as Government subsidies for LPG limit its profitability.

Three types of **milk collection and distribution** can be identified in the value chain:

1. Small scale collection and distribution (milk vendors / milkmen)
2. Medium scale collectors and bulk collectors
3. Village level collectors

There are a large number of small scale milk collectors and distributors, who collect from dairy farms and distribute to household consumers and tea shops. There are some medium scale milk collectors who have own collection centre in the city. They collect the milk from the dairies and small vendors and sell through their retail outlets in the city. They handle 1,000 to 4,000 litres per day. There are two bulk collectors who have their own collection centre, chilling point and packaging facility in the city. They sell the milk to local consumers, to the small scale dairy products producers as well as outside the city. They

purchase the milk from large scale farmers, village level collectors and small vendors. They handle about 8,000 to 10,000 litres of milk per day.

A major portion of the milk produced by small village level farmers is sold to and consumed by village households. There are three collection systems at this level:

1. Collection by the Sanchi milk cooperative, which handles some 35,000 litres per day
2. Collection by a large scale processor (Reliable Dairy)
3. Agents of large scale collectors

Overall, over 80% of the milk is consumed as fresh milk by local consumers. The balance goes to three types of **milk processors**:

1. Small scale processors,
2. Large scale processors,
3. Sweet shops.

There are many small processing units in the area which produce different milk products such as curd, paneer, cream, and khoa. They sell in the local market. There is a one large scale private sector processor, who produces about 20 different products. The firm sells through its own outlets and other retail shops. The Sanchi cooperative's processing plant produces various types of dairy products which are sold through its own retail outlets in main cities of Madhya Pradesh and a few other cities in other parts of the country. There are dozens of sweet shops that produce hundreds of varieties of milk based sweets. They purchase milk from dairy farms or from regular suppliers. The products are sold to local consumers through own retail outlets,

There are several **Government support schemes and services** to promote and support dairy as a livelihood. They target small village farmers and families below the poverty line. Schemes include grants to rear calves and set up biogas units, and low interest group loan schemes. Uptake is low, partly due to low awareness. The Department of Animal Husbandry provides artificial insemination and veterinary medical services to village dairy farmers. The relationship between dairy farmers and the local Agricultural University and Veterinary College is very weak. There are a few **private sector consultants** and consultancy companies who provide consultancies on biogas technology, business planning, compost manufacturing and dairy farm management software. The use of these services by dairy farmers is very limited.

Rules and regulations relevant to the dairy sector include labour legislation and environmental regulations. However, most are not in applied in the sector. Most of the dairy farms, even the large scale farms, function in an informal manner. However, there have been pressures such as maintaining the milk price low and claim against polluting the river by cow dung.

2.4.2 Strengths, Weaknesses, Opportunities and Threats at different levels of the value chain

The following table summarizes Strengths, Weaknesses, Threats and Opportunities (SWOT) that were identified as a result of the VCD exercise for every level of the value chain. Although the sector has different market channels, the table below provides a simplified picture that only considers the different levels (or categories of stakeholders) in the chain. It is however important to keep in mind that the sector comprises individual

marketing channels that differ from each other in the way they are governed and function (see the value chain map above).

Value Chain level	Strengths & Weaknesses	Opportunities & Threats
Input supply	<p><i>Strengths:</i></p> <ul style="list-style-type: none"> • Availability of established input supply network • Good supply of Murah buffaloes from Haryana 	<p><i>Opportunities:</i></p> <ul style="list-style-type: none"> • to supply calves to village level, small dairy farms • to expand green fodder cultivation using organic manure • to use government waste land for green fodder cultivation • increase nutrition value of dry fodder
	<p><i>Weaknesses:</i></p> <ul style="list-style-type: none"> • shortage of high yield buffaloes at village level farms • Seasonality in green fodder and dry fodder supply • Shortage in green fodder supply • Increasing price of inputs • Lack of breeding in Jabalpur 	<p><i>Threats:</i></p> <ul style="list-style-type: none"> • more wheat and paddy straw going out of the district for paper production
Dairy Farming	<p><i>Strengths:</i></p> <ul style="list-style-type: none"> • strong skills and experience of farmers • a strong dairy farmers association • Availability of land, water & labour • Agriculture university & Veterinary college • Availability of services of the Department of Animal Husbandry and Veterinary Service 	<p><i>Opportunities:</i></p> <ul style="list-style-type: none"> • to increase productivity of farms through further improved farming practices • to increase labour productivity and reliability through more effective practices • huge potential for additional revenues from dung (biogas plants, carbon revenues and composting) • strong potential to expand the sector and local economy
	<p><i>Weaknesses:</i></p> <ul style="list-style-type: none"> • lack of sufficient space for expansion of large dairy farms • poor work place and working conditions in dairy farms and high labour turnover • poor waste management practices 	<p><i>Threats:</i></p> <ul style="list-style-type: none"> • possibility of a government order to relocate the farms in less populated areas • risk of entrance into the market of large national level players.
Collection & distribution	<p><i>Strengths:</i></p> <ul style="list-style-type: none"> • an established distribution network 	<p><i>Opportunities:</i></p> <ul style="list-style-type: none"> • potential to promote collection and chilling centres in villages to maintain steady supply and quality • bulk collectors can provide embedded services to milk producers for higher productivity and quality in the whole dairy sector

Value Chain level	Strengths & Weaknesses	Opportunities & Threats
	<p><i>Weaknesses:</i></p> <ul style="list-style-type: none"> • inadequate supply of milk in off season • poor handling of milk and dilution • weaknesses in collection of evening milk from village farms 	<p><i>Threats:</i></p> <ul style="list-style-type: none"> • contamination of milk • rejection by consumers
Milk processing	<p><i>Strengths:</i></p> <ul style="list-style-type: none"> • good demand for milk products • two well established large scale processors 	<p><i>Opportunities:</i></p> <ul style="list-style-type: none"> • massive use of milk for many products in India and abroad (sweets, paneer, cheese, milk powder, etc) • large market for dairy products and room for newcomers • potential to market milk products outside Jabalpur district
	<p><i>Weaknesses:</i></p> <ul style="list-style-type: none"> • high incidence of power failures • lack of sufficient milk supply • shortage of skilled workers for sweets manufacturing 	<p><i>Threats:</i></p> <ul style="list-style-type: none"> • possible entrance into the market by large national level companies.

The first assessment, carried out by TLA, focused on environmental and decency of work related issues. For comparison with the VCD exercise's SWOT analysis, here is a summary of what it found.

What the first study found

Working Environment: In small and medium units there is inadequate space for the workers to perform their tasks. There is little use of properly designed tools, implements, machines and other drudgery reducing solutions. Most of the units are poorly lit. Workplaces have no basic amenities like toilets and safe drinking water facilities. Women workers are badly exposed to urine and dung. Workers perform long shifts in uncomfortable postures. There is no awareness of policies on occupational health and safety.

Social Security of workers: Workers were either on contract or on daily wages. They did not enjoy any kind of social security like insurance, health care benefits, or provisions for leave. Workers may not receive minimum wages and women may be paid less than men.

Association, dialogue: No workers' union or associations exist in the cluster and there is no dialogue or collective bargaining on working conditions. There was no indication that workers participate in decision making.

Energy Usage: Most of the activity is manual so electricity use is relatively low. Energy consumption is likely to increase substantially in the future, though, due to mechanization.

Dung management and disposal: Extremely ineffective and inefficient dung management and disposal were the major issue of concern in this sector and the primary cause of greenhouse gas emissions, methane in particular. Many units dispose the dung in nearby river. The 25 km stretch of the Parihat river looks like a river of dung, which poses a grave threat to the ecosystem. During the rainy season dung washes away everywhere and there is no production of dung cakes. Just two farms operate small biogas plants.

Waste water management: The dairies use huge quantities of water for cleaning and drinking, which is mainly sourced through bore wells. The waste water is disposed into the river. There is no waste water treatment mechanism in place and there is no drainage system.

Abrupt use of Oxytocin: Oxytocin is a hormone that is used extensively in Jabalpur. While the environmental and health effects of Oxytocin are still being researched, it is a banned drug and its use on such scale definitely constitutes cruelty to animals.

Enforcement issues: The environmental monitoring and enforcement of environmental laws lies under the purview of the Madhya Pradesh Pollution Control Board. Due to protests from some activists the Board has served notices to some of the dairy units. However, there has been no adjustment of the units' practices. Activists have brought some cases to court.

3. Jabalpur Dairy Value Chain Development proposals

Based on the analysis and suggestions from stakeholders, the VCD team and stakeholders developed proposals and activities for their implementation, which will improve the integration of local MSMEs into the value chain and make the sector more competitive and so have a positive impact on growth of the sector. There will also be a positive impact on the communities in which the farms are located, in terms of a better environment and working conditions.

It is important to note that for the development of the proposals the different individual market channels within the sector have been taken into consideration. It would be a mistake to assume that the sector consists of only a single value chain. Instead, there are many individual marketing channels, with different stakeholders and buyers, which are

governed in different ways and have different modes of business operation. Some of the proposals below therefore apply only to a specific market channel within the overall (generic) value chain.

The following were the main proposals to address the constraints and make use of the opportunities identified.

- 1) Liaise with the District Rural Development Authority and "Panchayats" (local government) to use waste land for fodder cultivation.
 - advocacy to government to use waste land for fodder cultivation
 - promote use of organic manure for fodder cultivation in waste land, by linking up with government schemes for land development and soil regeneration.
 - 2) Share relevant research and information to increase production of fodder.
 - share research by the Agricultural University with fodder producers
 - obtain and share information on useful government schemes and financial resources for fodder cultivation
 - obtain and share information on increasing the nutritional value of dry fodder for better productivity of buffaloes.
 - 3) Rear and sell calves to village farms as additional source of income for large farms.
 - demonstrate the profitability of calf rearing and sale to village level farms
 - facilitate interaction between large and village dairy farmers for the buying and selling of calves
 - 4) Identify and establish links for marketing of organic compost.
 - train on organic compost production
 - contact organic farmers organizations and large traders to learn about the market for compost and establish links
 - 5) Facilitate the establishment of biogas plants for reliable power supply and carbon revenue.
 - link up dairy farmers with government schemes (for subsidies, assistance)
 - facilitate access to government schemes for biogas for rural small scale dairy farms
 - training on carbon trading and biogas technology
 - 6) Establish a steering group including all key stakeholders to lead the development of the dairy sector and further increase productivity of dairy farms.
 - enhance the economic development of the District through promoting dairy sector development and improving the business environment
 - prioritise, discuss practical details, initiate and support the implementation of the proposals that resulted from the VCD exercise, as well as monitor and evaluate implementation.
 - enhance the networking between relevant stakeholders in the dairy sector, and initiate a public-private dialogue with government institutions.
 - 7) Ensure quality standards in farming practices, quality of milk and milk products and promote a drive to excellence.
-

- organize a best dairy farmer competition, grading of farms (gold, silver, bronze), set standards
 - organize exposure visits to well managed farms (within the country / overseas)
 - organize a Dairy Fair in Jabalpur
- 8) Improve the dissemination of information and facilitate access to support schemes.
- link up large scale milk collectors with government schemes to set up chilling centres in villages powered by biogas
 - collect and share information on relevant schemes to set up small scale biogas units for thermal purposes
 - facilitate application by small scale farmers to such schemes
 - collect and share good agricultural practices in collaboration with the Agricultural University
 - collect and share information on available government schemes to start & improve small scale dairy farmers at village level
- 9) Facilitate entrance by small scale processors through better access to finance, technology and entrepreneurship training for newcomers to the processing sector.
- raise awareness on the available support schemes
 - coordinate between service providers and potential target groups
- 10) Promote Decent Work / Occupational Safety and Health practices in the dairy sector.
- awareness raising on increasing labour productivity through improved labour practices
 - produce a brochure on good work place practices (GWP) for dairy farmers
 - train dairy farmers on GWP
 - link this activity with the best farmer awarding campaign.

The recommendations of the first study are provided below, for comparison. Readers can observe that the VCD methodology has expanded the scope of recommendations with a systemic view, converted training-driven approach to facilitation approach, and made recommendations more concrete and ready-to-implement.

What the first study recommended

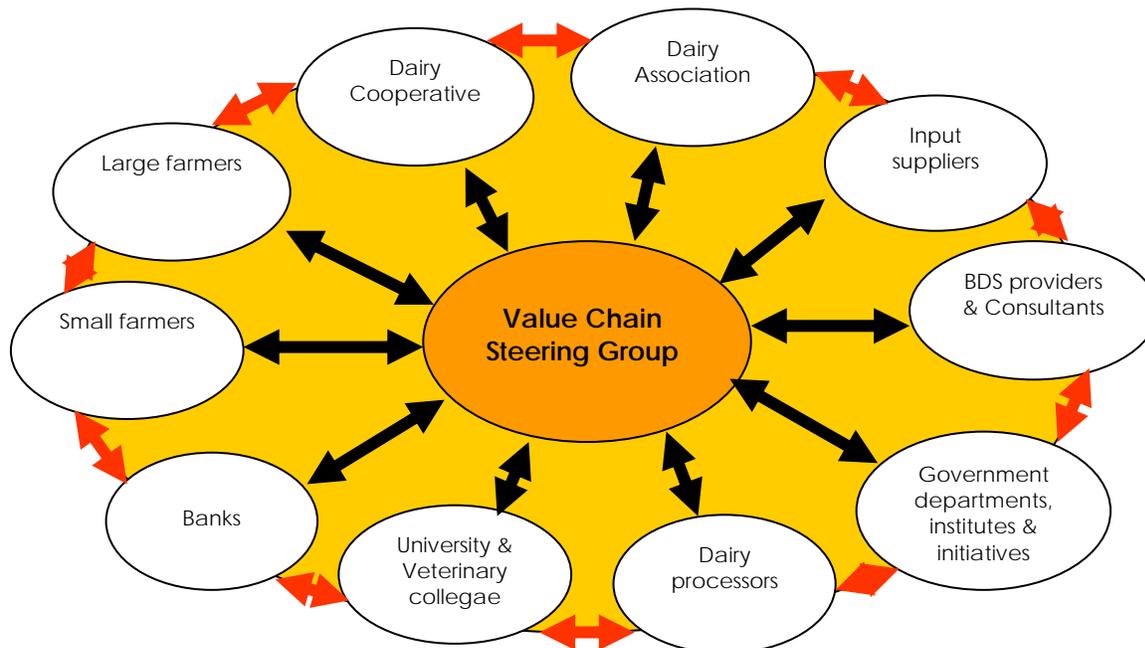
1. **Training/coaching of dairy staff in improved methods of material handling** through:
 - Introduction of simple tools, bins, etc.
 - This will result in better work routines higher task productivity and less wastage
 - Simple mechanization of sub-processes
2. **Training/facilitation (e.g. development of a business plan, project reports to obtain subsidies, etc.) on value addition through utilization of cow dung** by:
 - Producing compost that can be used on fodder land to make the feed more organic, and be packaged and sold as bio-fertilizer
 - Selling the cow dung to a planned large scale power plant
 - Producing electricity at the enterprise level for milk storage and processing into value added products.

This can be cluster-wide and/or at enterprise level. It would result in methane capture and additional income to dairy farm owners.
3. **Providing alternative energy to Reliable Dairy's milk collection and service centres**, through facilitating a tie-up between 'client' dairy farms (near the centre who deposit milk and can produce green power) and Reliable Dairy (needs power for chilling and is currently paying for commercial power).
4. **Participatory program to develop and implement a strategy to address the increasing cost of livestock feed.**
5. **Training on water conservation and recycling; facilitating access to suppliers of improved water management technology.**
6. **Training on basics of "Carbon Trading"** through the Dairy Farmers Association, facilitation of dialogue between the Association, Technology Supplier for bio-methanation based power production) and other state agencies to evolve viable "bundling" propositions and assistance in preparing validation documents to secure an ERPA (Emissions Reduction Purchase Agreement).
7. **Strengthening of the Dairy Farmers Association** with a focus on deriving maximum social benefits through convergence with Government Schemes; there is a need to supply information and facilitate dialogue with various agencies.
8. **Creation of a knowledge sharing platform** amongst dairy farm owners and establishing e-based knowledge links with other "communities of practice".
9. **Strengthening the marketing capacity** of the local Government supported milk marketing federation, "Sanchi" and enhancement of its services to small and marginal dairy farmers.

4. What actually happened

On 23rd of October 2009 the main findings of the VCD exercise and the above proposals were presented to business stakeholders as well as relevant public stakeholders. Over 75 participated. There was general agreement on the relevance of the proposals and the need to implement them. A dairy value chain steering group for the Jabalpur dairy sector was set up immediately (proposal 6). It will not replace any committees, organizations, or groups that exist already. It was set up initially for a period of one year. However, its members can eventually decide to maintain it for a longer period if it proves to be useful. The purpose of the dairy steering group is to prioritize, discuss practical details, initiate and support the implementation of the proposals made as a result of the VCD exercise. The steering group also intends to enhance the networking between relevant business stakeholders in the dairy sector, and to initiate a public-private dialogue.

Jabalpur Dairy Steering Group



The first, preparatory meeting of the Steering Group was attended by almost all the key stakeholders. One of the members, the Central Bank of India (a government-owned bank), provided the venue and other facilities which indicates a good level of local ownership. The District Collector (the highest level local official) will join the group after the elections of 20 December. The CEO of the District Rural Development Authority chaired the second meeting, on 25 November. The Dairy Farmers Association took the responsibility of being the convener of the meetings and a private company, Shriyans Technology, agreed to provide assistance in sending out invitations and preparing minutes. All the stakeholders are very positive about the initiative to bring them together. The meetings are business-like and focus on decision making and facilitating action with regard to the proposals that resulted from the VCD exercise.

The VCD team prepared an "Intervention Matrix" as the basis for the work of the Steering Group and the stakeholders more broadly. It plans and tracks the progress for each proposal. Most of the proposals have been taken up and some are already under implementation.

5. Conclusions and lessons learned

In these conclusions we will focus on the approach and the extent to which it is likely to result in action that will address environmental, decent work as well as other constraints in the dairy value chain. As mentioned in the Introduction, we will consider:

- the extent to which both "quick wins" and systemic interventions were decided on
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- the extent to which environmental and Decent Work issues were in fact identified and prioritized through the VCD exercise, leading to concrete proposals to address them
- the extent to which stakeholders have committed themselves to implementing these as well as other proposals

The first phase of the VCD exercise and the first round of follow up were successful. The VCD team involved in the exercise gained a good practical experience in the approach, and the collaboration between the VCD consultants and TLA was excellent. The participation and acceptance by stakeholders were high. Although perhaps none of the proposals can be characterized as a “quick win” in the sense that it will be showing an effect within a period of six months, several proposals can in fact be at least partly implemented in a relatively short time frame of six months and will have significant benefits within a period of a year. These include:

- Two proposals to increase the production of green fodder, through making available waste land, and through sharing of information. Both seem likely to be implemented.
- A proposal to promote the production and sale of compost. This is already being implemented.
- A proposal for large farms to rear high yield calves and sell them to village farms. This is already being implemented. Although benefits in terms of increased productivity at village farms will take time to be realized, the additional income for the larger farmers can be achieved within six to twelve months.
- Improving dissemination of information on support schemes. Implementation has already started.
- The establishment of a Steering Group for the value chain. This has been done and has already helped in coordinating implementation of the proposals.

Other proposals may take longer to be realized. These include:

- The proposal to promote more decent work at the farms. Its implementation depends fully on Government institutions, the Labour Department, Labour Education Department and Health and Safety Department. It is likely to take more time for these departments to take a decision and start implementation, and funding may be a significant constraint.
- A proposal to facilitate the establishment of biogas plants. As indicated by the experience with biogas so far, and the findings of the VCD exercise, the incentives for farmers to invest in biogas plants need to be built upon². There is also a need for stronger cooperation between the private sector (biogas plant providers) and government support schemes, which will take time to achieve and show results.
- A proposal that aims at improving quality. This will require collaboration between stakeholders at different levels in the value chain, which usually takes time to achieve. As the Dairy Farmers Association is taking the lead, the prospects for success are good, but it will require strong support from the Steering Group.

Several of the proposals are characterized by a high potential to result in changes in the market system of which the dairy value chain is part. This is the main aim of a systemic approach to VCD. These proposals actually include short-term as well as longer term

² To this end, and as part of ILO’s effort to produce an enhanced Green Jobs toolkit, the ILO and TLA are developing business cases for different technological options, which are to assess and compare their economic viability as well as their environmental and decent work impact.

interventions. More and better production of green fodder on waste land as well as larger farms rearing high yield calves and selling them to village farms would constitute significant changes in the market system and have a sustainable and broad impact. The same is true for the production and sale of compost and promotion of biogas, although these are likely to affect fewer farmers. Many of the proposals involve, and have already resulted in, more linkages between different players in the value chain and more collaborative action. The ILO's experience indicates that this is often a result of a participatory VCD exercise and that it can lead to lasting and wide reaching change in the way stakeholders function in the market system. The establishment of the Steering Group is of course in itself a significant step in this direction. It may result in a lasting forum for dialogue in the sector, but even if the group is dissolved after most of the proposals have been implemented, closer relations between stakeholders are likely to be a sustainable benefit.

This “mix” of proposals, some being relatively short-term and easy to implement, others longer term and more complex, and some being more systemic than others, is in line with the ILO's expectations when it started the VCD exercise, as explained in the Introduction. It is too early to say whether the momentum gained from implementing the short-term proposals will result in the longer term proposals being implemented as well. However, it is encouraging that relevant stakeholders have expressed interest and in some cases already taken the first steps to implement nearly all the proposals, short as well as longer term.

With regard to the extent to which Decent Work and environmental issues were covered, we can conclude that overall the participatory VCD approach of the ILO can be applied in Green Jobs initiatives. Most of the issues identified in the first assessment, which focused on Decent Work and environmental aspects, were also found in the VCD exercise. However, there is a clear difference in emphasis and detail, with the first assessment providing more in-depth information in these areas.. For a better participatory VCD approach to promote Decent Work and Green Jobs, it will therefore be necessary to further adapt the different VCD tools, particularly the Focus Group Discussion formats, interview guidelines and the Analysis tools. Separate tools may be required to ensure that Decent Work and environmental issues are investigated thoroughly, and these could draw on the formats used in the first study. This is part of the work-in-progress towards refining and enhancing the methodology and toolkit for Value Chain Development for Green Jobs.

For what concerns the nature of the interventions, the proposals resulting from the VCD exercise benefit from having a stronger emphasis in stakeholders' ownership and attempt to make more use of existing networks and private sector initiative, especially the Dairy Farmers' Association. In the VCD exercise an effort has been made to identify the incentives stakeholders could have for taking up proposals, which is one of the approach's defining characteristics and ingredients to its effectiveness, and longer run sustainability.\.

It can be concluded that the VCD approach has been largely successful at resulting in, and having stakeholders prioritize, feasible proposals that address environmental and Decent Work related issues. One weakness in the methodology in this regard is the lack of involvement of workers (although a trade union is part of the Steering Group) in the analysis as well as the participatory development and prioritization of proposals. This may be a general weakness of assessments of decent work given that the first study was given very little access to workers as well. Nevertheless, it is a concern that needs to be kept in mind, and users of a participatory VCD approach should seek solutions that are appropriate to the situation in which the exercise is being carried out. This could include

agreeing with employers (such as those organized in the Dairy Association) to conduct Focus Group Discussions with workers under certain conditions, and having some workers participate in the main events, such as the presentation of results. If workers cannot play an active role themselves, it should be ensured that departments of labour do so and that there are good opportunities to at least observe workplaces.

As already indicated above, first indications are that the participatory nature of the exercise has been successful at getting stakeholders on board, generating ownership, and motivating stakeholders to take responsibility for proposals. The exercise's emphasis on identifying the reasons why stakeholders would want to implement proposals has probably contributed to this. Environment as well as Decent Work related proposals are likely to be among those that will be implemented. Overall, the ILO's expectation that the participatory nature of the exercise would result in greater ownership over the analysis and the proposals and so result in stakeholders taking action themselves was therefore met and highly valuable field inputs have been provided towards an enhanced value chain development methodology for Green Jobs.

Finally, it may be concluded that this local VCD exercise in India is likely to confirm what was found in Sri Lanka, i.e. that value chain development and Local Economic Development (LED) can be combined successfully. One of the risks in VCD is that local interests, those of small producers in particular, are given low priority and the analysis is largely based on views higher up in the chain. The benefits to local economic development may then sometimes be doubtful. One of the risks of LED approaches, on the other hand, is that sometimes too narrow a view is taken of what is in the interest of the local economy, and market actors outside the local economy are not sufficiently taken into account. Without such actors, like large buyers, it is often difficult to achieve much. An approach to VCD that starts with a local economy and local stakeholders but that forces those involved to look beyond the locality can, in principle at least, avoid these pitfalls. In the case of Jabalpur, markets are actually largely local. However, the VCD exercise recognised the need to address quality issues given the potential threat of large national level players entering the market. It also looked beyond the cluster to the thousands of small village farms, and several proposals may benefit this group and strengthen their inclusion in the market system.
