

The Project on Sustainable Livestock Development for Rural Sindh

Project Description

Background of the Project

The Project for the Master Plan Study on Livestock, Meat and Dairy Development in Sindh Province” was conducted by JICA and Sindh Livestock Department since July 2010, and the Master Plan (M/P) report was prepared in October 2011. In the M/P, the province is divided into 5 zones as shown in Figure 1, and the development directions and goals for each zone are recommended. Based on the M/P, the Project on Sustainable Livestock Development for Rural Sindh was launched in February 2014, by concentrating its activity on the Southern integrated livestock development zone.

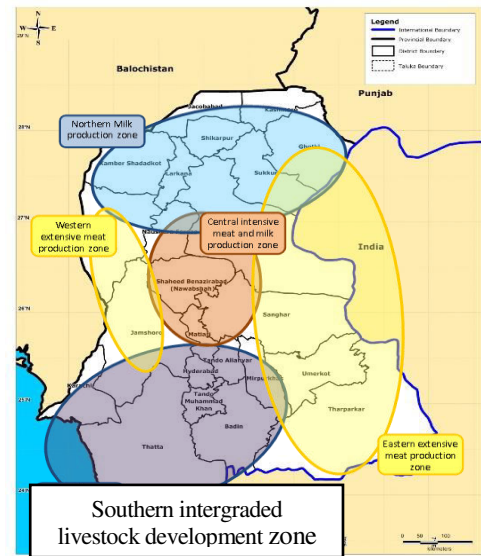


Figure 1 Livestock Development Zones

Long-term Objectives

The grand objective of the Project is to promote agricultural growth with high employment elasticity, reducing inter-regional as well as intraregional disparities, and to alleviate poverty, thereby the people of rural Sindh could contribute much more to the prosperity of Pakistan with pride and dignity.

The livestock development in Sindh should therefore be directed to contribute to the higher growth of the agricultural sector by way of improving productivity and quality standard of milk and meat with employment friendly manner.

Mid-term Objectives

To pursue the above-mentioned objectives, the livestock sector in Sindh faces a big challenge, in the necessity of shifting itself from traditional and subsistence to industrialized and market-oriented sector. Thus, among a number of the development options, the establishment of the development foundations, including human resources, technologies, and institutions, should be prioritized when the development plans by 2020 are formulated. When such foundations are established, the development activities could gradually be enlarged based on them.

Long- and Mid-term Development Goals

In the long run, the common goals for Sindh livestock development are to enhance productive capacity and productivity per unit of livestock (leading to increase of production of dairy and meat products), and upgrade quality standard and diversification (marketing improvement). Achieving such goals would eventually to realize self-sufficiency of dairy and meat products in Sindh against increasing population and demands, and meet various needs of the people such as high quality, hygiene, safety, tastes, etc., which would be diversified along with the increase of income per

capita. In foreign market, the long-term goal has been set that livestock products from the province is recognized as “Sindh Brand” which assures high quality and competitive price.

Project Features

Project Purpose

The project purpose is that “the development foundations of Sindh livestock sector is built up in the pilot districts”. The “development foundations” means technologies, human resources, and institutions that would be the bases of long-term development of the livestock sector.

Project Area

The Project concentrates on the Southern intergraded livestock development zone, and the pilot districts of the Project are Badin, Hyderabad, Matiari, Tando Allahyar, and Tando Muhammad Khan.

Main Target Group of the Project

The Project intends to mainly assist small farmers who regularly raise less than six heads of livestock as the main and direct beneficiaries. Small farmers include tenant and landless farmers, and non-farmers. In addition, the Project intends to involve large and middle farmers since their cooperation is strongly needed to achieve the project purpose, particularly improvement on animal productivity such as livestock reproduction and genetic improvement, and on product quality of meat and milk.

Project Goals

The Project goal is that “twenty (20) % of the target group of the Project use the appropriate technologies regularly.

The target farmers of the Project, the farmers to whom appropriate technologies are disseminated, is estimated at about 7,500 in the 5 districts. Extension workers who will be trained will be 25.

Implementation Period

The Project will be implemented for 5 years from 2014 to 2019.

Outputs of the Project

To achieve the project purpose mentioned above, the Project aims to produce the following four outputs:

OUTPUT 1: Appropriate technologies and management for livestock development are developed through on-farm application at the pilot farms with gender consideration. The following 7 technical subjects are focused: (1) farm management, (2) marketing, (3) feeding management, (4) fodder, (5) reproduction, (6) animal health, and (7) genetic improvement

OUTPUT 2: Methods for utilizing livestock resources, i.e. salvation of buffalo calves and recycling of dry buffaloes, are verified.

OUTPUT 3: The verified appropriate technologies and the methods for utilizing livestock resources are disseminated in the pilot districts.

OUTPUT 4: The capacity of the Livestock Department for project planning, management, and coordination is strengthened.

Project Activities

1. Activities related to the Output 1

Selection of Pilot Farms

For the first two years, technologies are developed and verified at pilot farms. There will be 25 pilot farms in total in 5 districts (15 pilot farms in the first year, and 10 more pilot farms in the second year).

Pilot farms are selected from the following categories of livestock farms:

(1) Animal-holding

Category	Criteria
Small livestock holders	Farmers who own large animal up to 5 Animal Unit (AU)
Medium livestock holders	Farmers who own large animal more than 5 AU up to 10 AU

Note: Animals include buffaloes and cattle only, and AU is given to each animal depending on its age and sex.

(2) Land-holding

Category	Criteria
Medium landholders	Farmers who own more than 5 up to 20 acres of land
Small landholders	Farmers who own more than 2.5 up to 5 acres of land
Marginal landholders	Farmers who own up to 2.5 acres of land
Tenants	Farmers who don't own land but rent land for agriculture
Non-farmers	Persons who work as agricultural labor and who work for non-agriculture activities such as shop keeper, artisan, business, services, etc.

Appropriate Technology Development Checklist

To understand the current status of technology which livestock farmers have generally adopted, and set the project goals to what extent the Project should improve it, the Baseline Survey is to be conducted. As a result, the "appropriate technology development checklist" is prepared in the following manner.

No.	Technology	Answer	Present situation	Project target	Target rank
1	What kinds of record on farm management are you keeping?	Purchase of agricultural materials	10%	30%	A
		Purchase of livestock materials	10%	40%	
		Sales record of milk	15%	50%	
		Sales record of livestock	10%	50%	
		Vaccination	10%	50%	
2	Do you have a shade for animals?	Yes (Kacha/Pakka roof)	40%	50%	A
		No			

Technology Development and Verification

Basing at the pilot farms, livestock technologies are tested and verified from the viewpoints of 7 technical subjects.

Products

When technologies are identified as "appropriate", they will be summarized as the "Guideline for Appropriate Technology". The first draft will be prepared by January 2015, and the final version will be completed at the end of the 4th year.

2. Activities related to the Output 2

1) Calf salvation and utilization plan

At cattle colonies in Karachi and Hyderabad, it is assumed that in total 175,000 male calves and 100,000 female calves are slaughtered in a year immediately after their birth. The Project intends to develop an economically and socially feasible system to salvage and utilize these livestock resources effectively.

The Project will select 3 farms from Hyderabad cattle colony, and measure milk volume of every buffalo once a month to grasp milking capacity of mothers, and purchase calves from mothers with high capacity. Those calves will be reared by the Project, and distributed to farmers after 45 days.

To rear suckling calves requires daily and careful observation. The Project will install 10 calf hatches at the farms and introduce 80 buffalo calves in total (early weaning in 45 days with a milk replacer, 8 cycles a year), and necessary training is given to care-takers of calves.

Farmers will be selected, who are strongly interested and responsible to rear calves, and the calves will be distributed to them. In principle, the farmers will receive 3 female buffalo calves to take care, and return one or two heads when they are matured. The Project will identify more realistic and cost effective distribution system through the trials.

2) Dry buffalo recycling plan

At cattle colonies, only 20% of dry buffaloes avoid culled at present as they are considered to have high milking capacity. The Project intends to save and make a half of the remaining ones (40%) available for recycling so that farms at cattle colonies can obtain a milking buffalo much cheaper than purchasing a new one. The Project intends that the dry buffalo recycling becomes economically viable and commercialized.

If conception period and rate of buffaloes are improved, their recycling rate at farms will rise relatively easily. Conception rate can be improved through reproduction diagnosis at 45 days after delivery and appropriate treatment, and this was already verified through the trial during the M/P study.

The Project will conduct first verification of dry buffalo recycling at the same 3 farms as the calf salvage plan. The Project will carry out pregnancy diagnosis and if a buffalo is found pregnant but its owner has no intension to keep, the Project will utilize it for the recycling plan.

3) Application of livestock sharing and revolving methods for the calf salvation and dry buffalo recycling

Livestock sharing has been traditionally practiced in various forms in Sindh since it meets the needs of owner of livestock and farmers who take care of them. The Project will verify economically and socially appropriate distribution methods through calf salvation and dry buffalo recycling trials, respecting traditions of rural Sindh. In addition, there are various forms of revolving animals traditionally as well, and the Project will verify different livestock revolving methods useful for calf salvation and dry buffalo recycling.

3. Activities related to the Output 3

The Project intends to establish an extension system through which appropriate technologies are effectively disseminated to farmers. It should be sustainably functional even after the Project is completed.

Extension Staff

The staff, especially the Stock Assistants (SAs) allocated in the district offices of the Livestock Department, are the core of the extension services under the supervision of the district veterinary officers (VOs). Such VOs and SAs will be newly recruited by the Livestock Department to be intensively engaged in extension activities of the Project, and expected to become regular staff of the Department after the Project. The experienced staff in NGOs or those who were trained as extension workers will be involved in the extension activities of the Project.

Dissemination of Technologies and Provide Training

The Project will verify ways to disseminate technologies, and at the same time, provide training to extension-related staff and farmers as shown in Figure below.

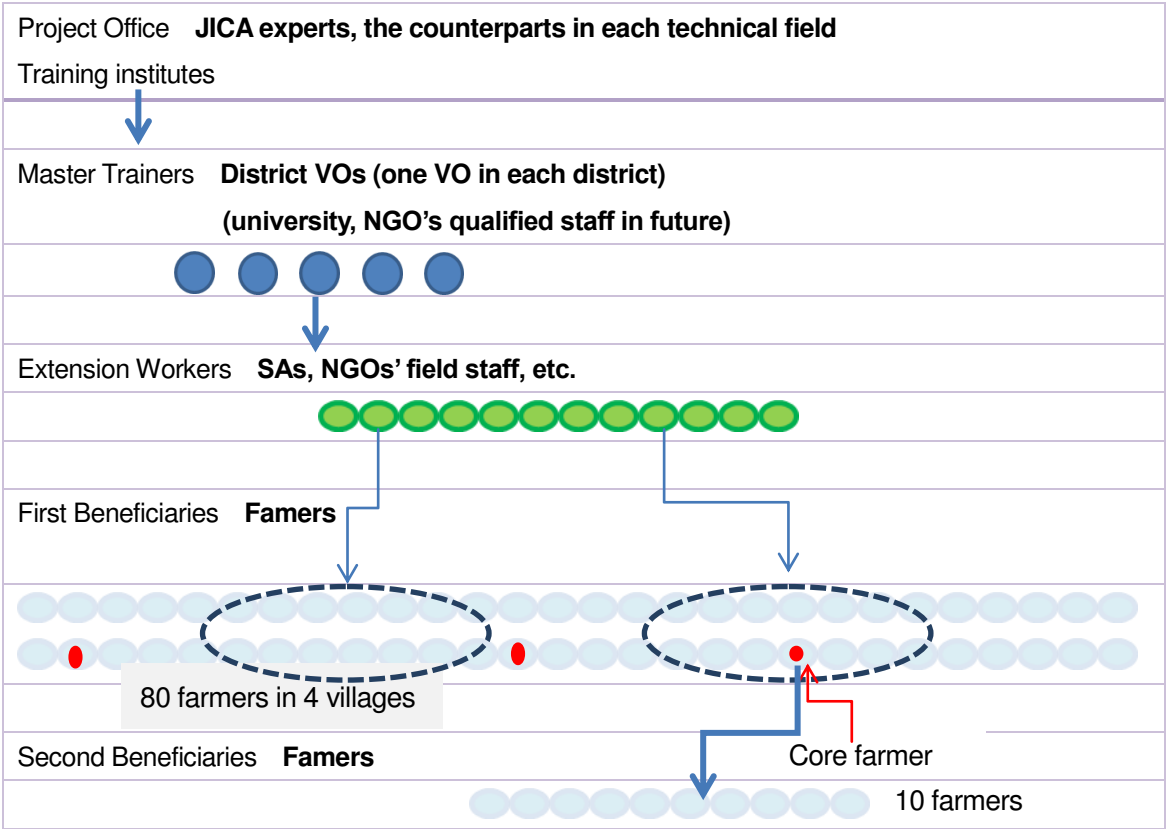


Figure: Proposed Extension System

Expected Number of Farmers Benefitted by the Project

Through the proposed extension system as shown above, around 7,500 farmers in the 5 districts will be trained during the project period.

4. Activities related to the Output 4

The Project intends to strengthen the capacity of the project C/P for project management, and also contribute to strengthen the capacity of the Livestock Department for project planning, management, and coordination. The Project will conduct training and several workshops and meetings as follows:

Non-technical (Management) Training

The Project will provide non-technical, i.e. management training to the C/P and the other staff of the Livestock Department by an external training institute. The basic contents of the training are as follows:

Theme	No	Main contents
project management	1	- Project Management Basics
	2	- Project Management Method
	3	- Information Management
leadership	4	- Leadership
	5	- Conflict Resolution
	6	- Communication/Mentoring/Listening
by category	7	- Establishment and Strengthening of Farmers' Organizations
	8	- Social Mobilization
	9	- Gender Consideration
	10	- Entrepreneurship Development
	11	- Rural Society (including PRA method)

For the first year, the training on each of the above themes will be conducted for 1 to 3 days as a pilot. The training will be conducted at full scale from the second year. The estimated number of the trainees is 15 to 20 for each theme.

Workshops and Meetings

The Project plans to hold the workshops and meetings as indicated in the Table below.

Topic	Main contents	Frequency
Regular meeting and monitoring	- Regular meeting	Every week
	- Regular monitoring	Every 6 months
Project evaluation	- Project Annual Evaluation - Evaluation Workshop	Once a year (January)
Activity planning for next year	- Planning Workshop	Once a year (at project evaluation in January)
Other main meetings	- Project Steering Committee Meeting	Once a year
	- Livestock Development Platform Meeting	Once a year
	- Consultation Meeting with all directors	Every 3 month

Training on Livestock Technology

The Project will conduct the following training to develop the capacity of the project C/P and the other staff of the Livestock Department.

1. Country Specific Training in Japan on Livestock Technologies

The Country Specific Training for the Project focuses on genetic improvement, animal reproduction, and livestock disease diagnosis which have shown remarkable outcomes in Japan. The training will be conducted in the 2nd and the 4th year of the Project.

Table 3-4 Country specific training in Japan designed for C/P

Area	Period	Training institutions	Training contents
Genetic improvement	5 weeks	The Holstein Cattle Association of Japan, Livestock Improvement Association of Japan, and others	Breed registration project, livestock appearance examination, liner examination
Animal reproduction	5 weeks	Association of Livestock Insurance Scheme Chiba, and others	Theory and Practice
Animal health	5 weeks	National Institute of Animal Health at National Agriculture and Food Research Organization, Institute of Animal Health Iwate and others	Theory and Practice at laboratory

2. Country Specific Training in Japan on Livestock Policy

The Project will conduct the County Specific Training in Japan on livestock policy in the 2nd and the 4th year of the Project as well for around 1 week respectively. The participants will be the manager-class, and be able to deepen understanding on livestock policy and related systems in Japan and may also learn organizational management.

3. Third Country Training in India

The Third Country Training in India will focus on 4 topics: farm management: marketing, feeding management, and fodder which will accumulate useful information for the C/Ps, and therefore, a 2 week training in India will be conducted in the 2nd year.

4. Invitation of the Third Country Expert

The Beef Meat Improvement Program was implemented in Bolivia from 1995 to 2003 as the JICA technical cooperation project. This project trained diagnosis technology of andrology for bull cattle to Bolivian technicians. The Project will invite a Bolivian skilled technician trained under this JICA technical cooperation project.

Project Implementation Structure

Project Office

The Project is implemented by the project office, composed by C/P at the provincial and district levels of the Livestock Department with the Japanese experts. At the provincial level, there will be 13 counterparts. At the district level, there will be 5 SAs to be supervised by a veterinary officer and the project district coordinator in each district.

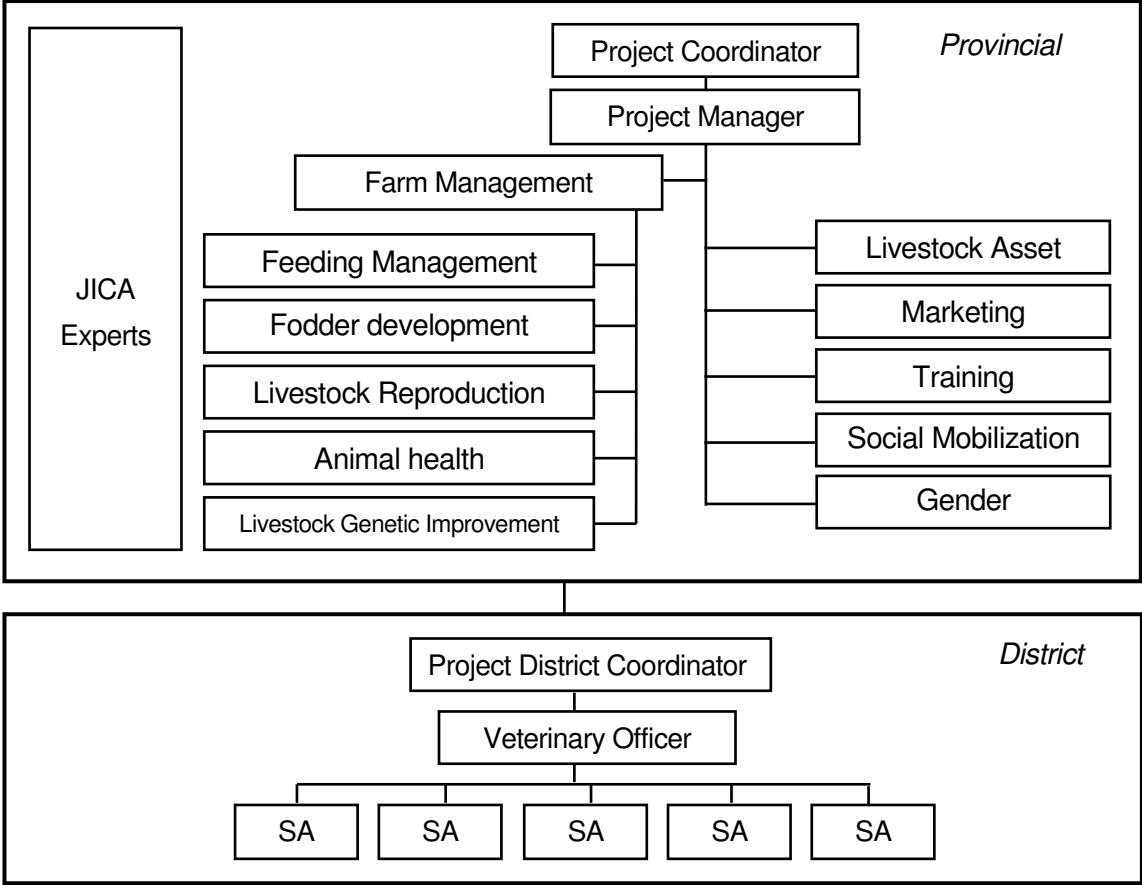


Figure Project Implementation Structure

Steering Committee

The Project will have the Steering Committee (SC) to be chaired by the Secretary Livestock. Main roles of the Steering Committee are to guide the Project in right direction, supervise and approve the project activities. The project steering committee meeting will be held once a year.

Livestock Platform

The Livestock Platform will be organized by major stakeholders of livestock development, including the Secretary, the Director Generals, and the directors of the Livestock Department, the representatives of the Project, universities, private sectors, NGOs, other livestock-related projects, and progressive farmers. The major roles of the Livestock Platform are to discuss on the directions of the livestock sector development, coordinate activities of the members including donors, and provide necessary advice/support to the Project. The Livestock Platform meeting will be held once a year.