

**Community Action in Integrated and Market
Oriented Feed-Livestock Production in Central
and South Asia Project**

**Third Annual Work Plan
1 January 2009 – 31 December 2009**

PAKISTAN

Theme 1: Socioeconomics

Rainfed and irrigated research sites

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- **Activity 1.1:**
- **Assessment of Feed Livestock Production Technologies introduced at Feed Livestock Project Sites for Improvement of Fodder and Livestock feed**
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Objectives

- To examine the compatibility of project interventions with the farm situations and cropping patterns.
- To understand farmers' perceptions of the adoption of project interventions.
- . To provide feed back to the concerned scientists and development departments.
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Methodology:

- The list of the farmers hosting research trials for technology validation will be provided by the collaborating research scientists. Data will be also collected from participating and non-participating farmers to solicit their perceptions about the technology validation process, technology preferences and constraints and prospects in the adoption of these technologies. Farmer's perceptions about the compatibility of technologies to the farm resource situations will be established to improve the relevance of the technologies. Detailed survey will be conducted in collaboration with the researchers involved at all the project sites for technology validation. Different set of questionnaires will be developed for each technological intervention and data will be collected from the host and fellow farmers to record their perceptions. Descriptive analysis will be carried using SPSS.

Activity 1.2:

- **Economic Analysis of the Experimental Data of the Feed Livestock Interventions at the Project Sites**
- **Objectives:**
 - . To determine economic viability of tested technologies
 - . To estimate the production and other economic impacts for wider adoption of these technologies
 - . To provide feedback about the results to the collaborating research and development institutions for making necessary adjustments in their programs.

Methodology

- Methodology developed by CIMMYT 1988 for economic analysis of the experimental data will be followed. The data will be provided by the research scientists from the beginning of the project. The information about prices of inputs and outputs along with market constraints will be collected by the social scientists.

Theme 2: Forage production

- **Rainfed research site, Lodhay village**
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- **Activity 2.1a (on-going): Evaluation of winter cereal-vetch mixtures for fodder yield and quality under rainfed conditions.**

Objectives

- . Master student will complete his thesis and has two years data to be published in scientific journal.
- . To disseminate and demonstrate the latest best improved package of winter forage mixtures
- . Complementary practical on-farm participatory training and capacity building of researchers and farmers.

Activity 2.1b (ongoing):

- **Mixed cropping of non traditional winter legumes and oats for sustainable forage productivity.**

Activity 2.1c (ongoing):

- **Evaluation of summer cereal-legume mixtures for fodder yield and quality under rainfed conditions**
- **Objectives**
 - . To evaluate the performance of different summer cereal-legume forage crops for confirmation of previous results.
 - . To test the quality (crude protein) of different forage crops and their mixtures.
 - . Master student will complete his thesis and has two years data to be published in scientific journal.
 - . To disseminate and demonstrate the latest best improved package of forage mixtures.
 - . Complementary practical on-farm participatory training and capacity building of researchers and farmers.

Activity 2.1d

- **Evaluation of oat-vetch seeding ratio for fodder yield and quality.**
- **Objectives**
 - . To determine the appropriate oat-vetch seed mixture for higher forage yield and quality.
 - . To test the quality (crude protein) of oat-vetch with and without mixture.
 - . Complementary practical on-farm participatory training and capacity building of researchers and farmers.

Activity 2.1e:

- **Effect of cutting stages and post cutting intervals on HCN contents in sorghum forage**
- **Objectives**
- . To determine the HCN level of sorghum forage at different growth stages and post cutting intervals for safe feeding to livestock.
- . Complementary practical on-farm participatory training and capacity building of researchers and farmers.

Activity 2.2:

- **Seed production of improved winter and summer fodder crop / varieties.**
- **Objectives**
- . To promote the potential fodder crop species among the farming community to replace the traditional ones.

Methodology

- No. of farmers = 4-6 for each crop
- Area for each crop = 2-3 kanals/farmer/season
- Winter crops: Oat (cv. PD2LV65)
- Summer crops: Millet (cv. MB-87); Sorghum (cv. Chakwal Sorghum); Guar (cv. BR. 99)

Activity 2.3:

- **Development of green forage selling enterprise using dug-well irrigation**
- **Objectives**
 - **to increase green fodder availability in the lean periods in the project area**
 - **to raise income of the farmer through fodder selling enterprises**
 - **to minimize cost for concentrates and hence costs of milk production by providing green fodder during lean periods.**

Methodology

- The feasibility and profitability of fodder selling enterprises will be tested with 5-8 interested farmers. The farmers will be trained in improved agronomic practices. Maize will be sown in spring (March) and berseem & oats in winter (October) for fodder production. Improved varieties of maize, berseem and oats will be planted using improved agronomic practices.

Theme 3: Livestock productivity

- **Rainfed research site, Lodhay village**
- **Activity 3.1: Evaluation of different fodder crops (hay) and improved concentrates on milk yield in buffaloes & cows and meat production in buffalo and cow calves.**

Treatments

- Feeding Regimes
- a) Summer Cereals-legumes
- Cereals: sorghum/millet + guar hay + strategic concentrates
- b) Winter Cereal-legumes
- Cereal: Oats + 15% berseem hay + old concentrate

Activity 3.2:

- **Quality and Value Addition to Milk**
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- **Activity 3.2a: Mobilization and awareness with special focus on women and small/poor farmers for clean milk harvest through induction of teat dips and good hygienic practices.**

Methodology:

- Interested farmers and their houses wives / women, willing to participate in this activity, will be imparted information on clean milk production and hygiene including methodology of proper milking and precautionary measures. They will be trained by practical demonstration and hand-on training on the use of teat dips and CMT. The herd, on individual animal basis, will be evaluated for presence of clinical and sub-clinical mastitis with CMT test kit.

Activity 3.2b.

- **Substituting expensive / commercial teat dips and consumables of CMT kit with alternate economical supplies available in local market**

Objectives:

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- To give awareness and impart training on how to prepare and substitute economical dips etc to participating farmers /household for sustainable mastitis control program and clean milk harvest.

Methodology:

- Educated farmers and their houses wives / women, will be imparted information and training / methodology how to prepare the cheap substitute. They will be trained by practical demonstration and hand-on training on the formulation of teat dips and CMT supply.

Activity 3.2c

- **Adding quality and value to milk by skill enhancement on dairy product preparation.**
- **Objectives:**
- **Mobilization and awareness on role of value addition in poverty reduction.**
- **Training on raw milk handling, its processing and dairy product preparation.**
- **Skill enhancement on organizing small scale dairy product business.**

Methodology:

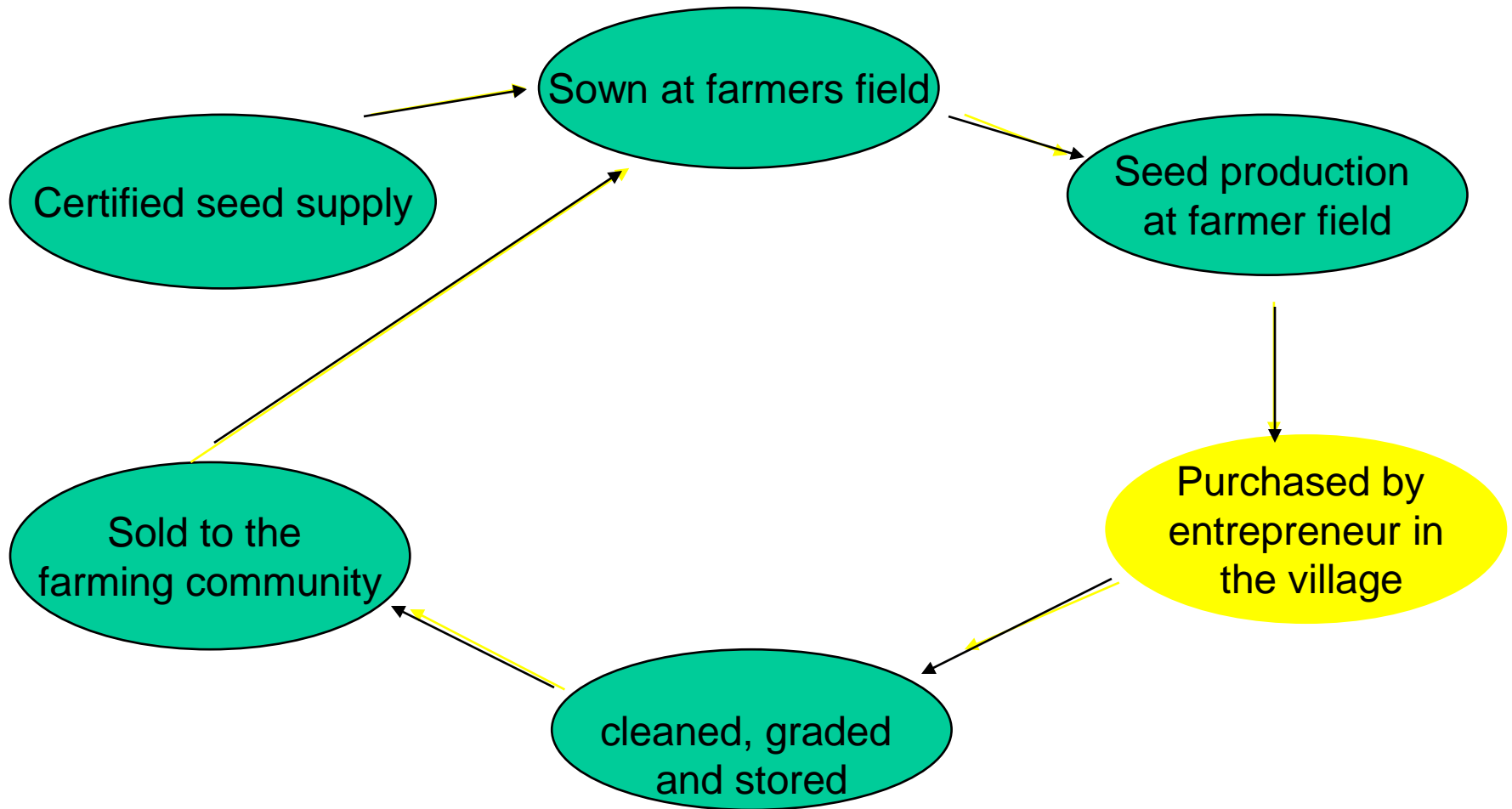
- Community of small holders / poor farmers and their housewives will be mobilized on value addition and quality consciousness. The interest group will be trained in improved methods of milk handling, preservation and processing milk into pasteurized milk, cheese and yoghurt etc. Women will be specially focused for their skill enhancement in product preparation at house hold level to capture potential market niche at village level. Use and maintenance of cold chain / low temperature will be emphasized and technical knowledge will be provided for better utilization of household facilities such as refrigerators and freezers etc. On overall basis the members of the community will be motivated to capture benefits from the value added processes, bargaining empowerment and improvement in commercial and marketing links.

Theme 2: Forage production

- **Irrigated research site, Chak No. 74/SB and Chak No.105/SB**
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- **Activity 2.1: Sustainable seed production of fodder crops**
- **Proposed strategies for sustainable seed production**

PROPOSED STRATEGY FOR SUSTAINABLE SEED PRODUCTION

Strategy THROUGH LOCAL ENTREPRENEURS



Activity 2.2:

- **Conservation of fodder crops through hay making**

Activity 2.3:

- **Evaluation of improved fodder crop varieties sole and in mixture comparing with local fodder crops for yield and nutritive quality**
- **Treatments**
- **Winter season: Berseem + Oats; Berseem (overlapped with farmers for seeds); Oats (different farmers)**
- **Summer season: Sorghum + Pearl Millet + Maize + Cowpeas; Sorghum; Pearl Millet; Maize; Cowpeas**
- **All different farmers**
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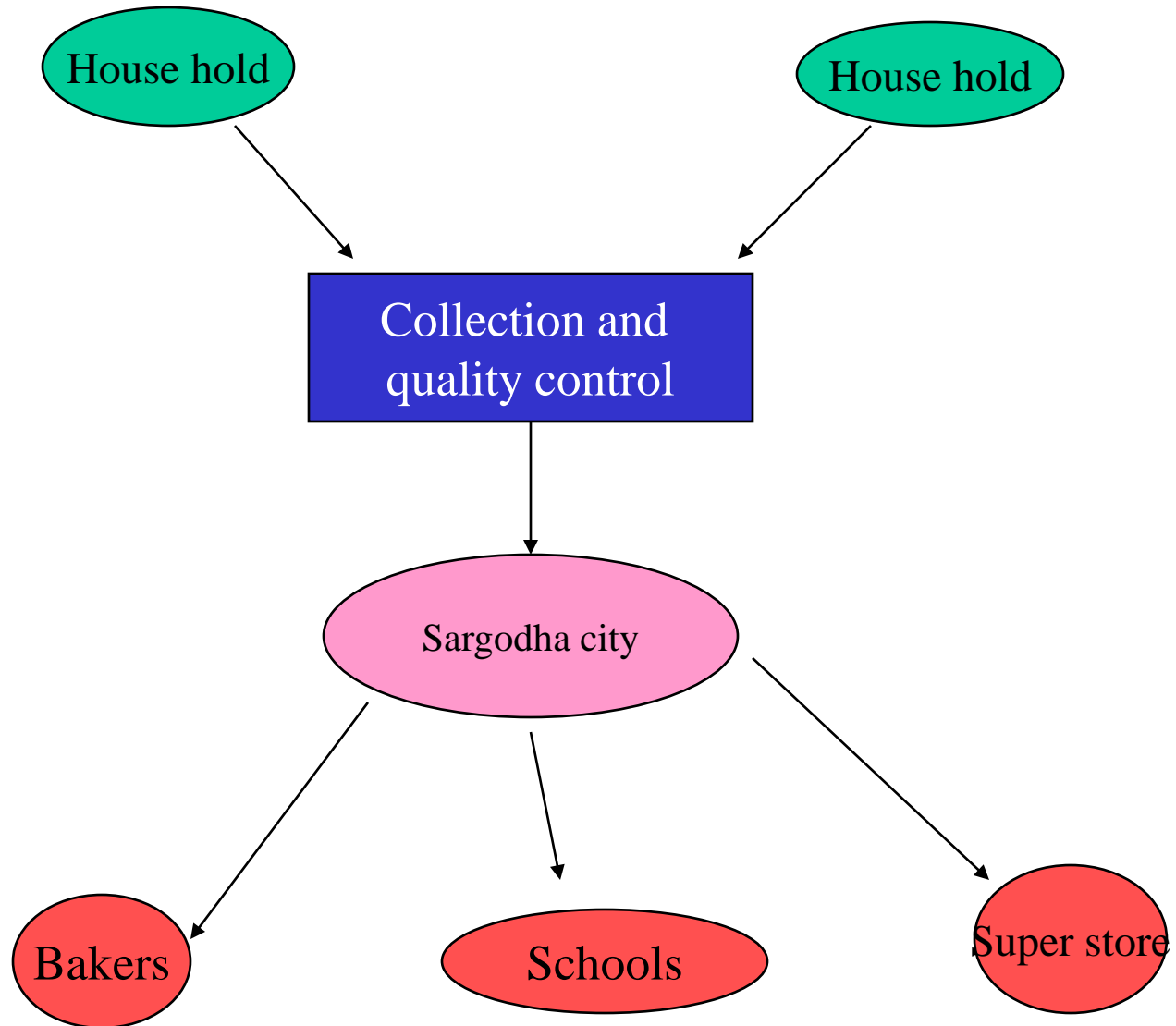
Theme 3: Livestock productivity

- **Irrigated research site, Chak No. 74/SB and Chak No.105/SB**
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- **Activity 3.1: Evaluation of different feeding regimes in lactating and meat animals**

Activity 3.2:

- **Marketing options study for value added products produced in the village**

Market linkage development for dairy products prepared by women association



Theme 4: Knowledge Exchange

- **Rainfed and Irrigated Research Sites**
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- **Activity 4: Enhancing knowledge exchange for increased feed and livestock production**

**Budget of the project “COMMUNITY ACTION IN INTEGRATED AND MARKET ORIENTED
FEED LIVESTOCK PRODUCTION IN CENTRAL AND SOUTH ASIA PROJECT”
(Irrigated Site, Sargodha)**

Object	Theme-1 (Socio- Economic Group)	Theme-2 (Forage Production Group)	Theme-3 (Livestock Nutrition Group)		Theme-4 (Knowledge Exchange)	Total (Rs.million)	\$ US
	Activity-1.1, 1.2 (Rs.million)	Activity-2.1 (Rs.million)	Activity-3.1 (Rs.million)	Activity-3.2 (Rs.million)	Activity-4.1 (Rs.million)		
Honorarium	0.035	0.110	0.035	0.035	-----	0.	
Travel	0.050	0.150	0.075	0.100	0.050	0.	
Equipment	0.000	0.000	0.050	0.050	0.060		9667
Operational cost	0.060	0.250	0.110	0.070	0.100	0.	0
Field days Labor cost	0.020	0.060	0.020	0.020	0.040	00	
Workshops/ Training	-----	-----	-----	-----	0.050	0.	
Total	0.165	0.570	0.280	0.275	0.300	1.600	2000 0