

Enhancing livelihoods through livestock knowledge systems (ELKS)

A partnership between the Sir Ratan Tata Trust & its Allied Trusts and the International Livestock Research Institute

Activities and progress Report 1

April 2011

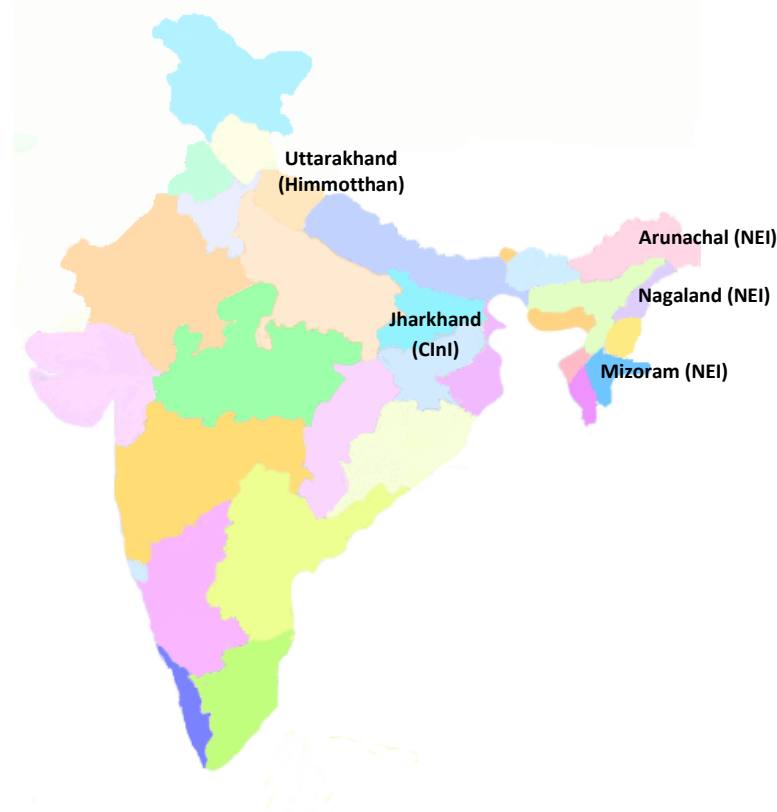
Tata-ILRI Partnership Programme:

Enhancing livelihoods through livestock knowledge systems (ELKS)

Overview:

Enhancing livelihoods through livestock knowledge systems (ELKS) is a partnership programme funded by Sir Ratan Tata Trust & its Allied Trusts and the International Livestock Research Institute (ILRI). This is an ambitious initiative to put the accumulated knowledge of livestock research directly to use by disadvantaged livestock rearing communities in rural India.

ELKS aims to support SRTT & its Allied Trusts and their partners to enhance their capacities to improve livestock based livelihoods in the hilly /tribal areas in Nagaland, Mizoram, Arunachal Pradesh, Uttarakhand and Jharkhand by (1) conducting research to fill technical knowledge gaps (2) strengthening institutional mechanisms and (3) facilitating pro-poor policies.



ELKS is a five year programme initiated in May 2009. ILRI's support in this programme is extended through three of the Trusts' initiatives such as the North East Initiative (NEI), Himotthan Pariyojana (HM) and Central India Initiative (CInI). The support includes:

- Field testing an integrated piggery service delivery package (North East)
- Piloting nutritional innovations for market oriented pig production (North East)
- Facilitating development of effective mechanisms for swine fever control (North East)
- Developing a model for breed improvement in the hills (Uttarakhand)
- Promoting cost effective feeding technologies (Uttarakhand)
- Formulating sustainable goat production models (Uttarakhand, Jharkhand)
- Developing integrated pig production programme (Jharkhand)
- Identifying policy gaps and facilitating policy dialogue to scale up successfully tested models

Support to North East Initiative

1. Development of piggery model. Drawing lessons from the ILRI supported NAIP project and NEPED experience in Nagaland and other successful experiences in the neighbouring states, an integrated pig development model has been proposed (See Box 1) for implementation by NEI. In this context, ILRI will provide necessary support to NEI when they develop and implement a comprehensive project for “livelihood improvement through piggery” in Nagaland and Mizoram.

2. Service delivery pilot. A service delivery model has been formulated for field testing in 20 villages in Nagaland and Mizoram. As per this model, a village based youth selected by the community and trained jointly by ILRI and Veterinary Department will provide minor veterinary services to the community. The services will include vaccination, supervision of piglet production, arranging feed supplements & planting materials, linking credit, insurance & market agencies and conducting training to pig producers. This ‘Livestock Service Provider’ will work in the field backstopped by the Department. S/he will be paid an incentive based on performance. In the rural areas, during the first year the service provider’s incentive will be paid by the project. But in subsequent years farmers are expected to make the payment (2nd year 50% and 3rd year onwards 100%) based on the services received (the amount to be paid for each service will be decided in consultation with the community). The basic idea of the programme is to position a well trained resource person in the village that can be easily accessed by the pig rearers. It is expected that after the project period, farmers’ knowledge and skill in the pilot villages will be enhanced to a desirable level such that they will be able to reduce external dependence.

Box 1: Model piggery project

The following components may be considered while developing a model piggery project:

- Awareness building and motivational training in the selected villages
- Formation of Pig Rearer Groups (PRG)
- Train Village Service Providers, provide first aid kit & link them to local veterinarian
- Training of PRG members on pig management & feeding
- Selection of 1st line and identification of the 2nd line beneficiaries
- Selected farmers construct a pigsty using locally available materials
- Procurement of (16kg, vaccinated) improved piglets from identified breeders
- Supply each 1st line selected farmer with (16kg, vaccinated) 2 ♀ (or male) piglet units
- Make arrangements for vaccination with the support of local veterinary institution
- Make arrangements for regular supply of feed supplements (through tie up arrangement with feed factories or setting up small scale production units) Arrangement (credit) for feed purchase
- Supply planting materials of good quality forages (maize, sweet potato, stylosanthes)
- Facilitate supply of piglets to second line beneficiaries (by the first line)
- Promote strategic supplementation (feeding at advanced stage of pregnancy, Iron supplementation at 3 days and 11 days of age).
- Formation of a Federation of Pig Rearer Groups for market based interventions (transparent mechanism for buying & selling, market information, transportation to remunerative markets, bulk purchase of medicines, feed, credit & insurance arrangement, lobbying to remove policy and institutional barriers etc.)

The 20 villages to implement the model have already been selected. Other activities such as community level meetings, selection of candidates and training will be completed in the next quarter after strategic discussion with the Veterinary Department. Extension material (for farmers use) on “care & management of pigs” has been prepared and its translation into five Naga (Tenyidie, Ao, Lotha, Sumi and Rengma) and one Mizo tribal languages is in progress.

3. Pig Nutrition pilot. This activity is to field test implementation of a nutritional package in the 20 villages (selected for pilot testing the service delivery model) by producing /mobilizing feed supplements containing the most limiting nutrient/s that constrain (market oriented) pig production. This pilot will be started only after positioning the 'Livestock service Provider' in the 20 villages. However, a first level consultation with ICAR and other local researchers has already been planned to generate ideas to initiate the activity. Extension material "feeding of pigs" has already been prepared and its translation into local languages is in progress.



4. Swine fever control. A study to assess the current status of classical swine fever (CSF) in the North East has already been started. The study is expected to come out with the following outputs:

1. Status on manufacture, availability & efficacy of swine fever vaccine and its import policy
2. Effectiveness of vaccine delivery including availability of cold chain facilities.
3. Gaps and limitations in the current attempt to control the disease including import policy of live pigs, quarantine measures, surveillance and disease reporting mechanisms
4. Incidence of CSF and estimates of its impact on livelihoods
5. Suggestions on effective mechanisms for prevention and control of the disease in North East (including institutional and policy elements)

The incidence and impact of CSF will be undertaken using participatory epidemiology methods. This will commence with training on "Participatory Epidemiology (PE)", scheduled from 30th May to 6th June at Guwahati. Following this, three teams (each with a representative from ILRI, V&AH and NEI partner) will be formed to carry out a PE survey (focus group discussion + key informant interviews) in 60 villages of three states (Assam, Nagaland, Mizoram).

It is likely that active cases of swine fever will be encountered during the survey because the timing of the study coincides with the period when outbreaks of CSF are expected to peak. The project will establish linkages with the local veterinary labs that would facilitate sample collection and diagnosis, hence the CSF diagnosis obtained in the survey can be verified.

On the livelihood impacts of CSF quantitative data will be collected mainly at the household level; an attempt will also be made to include other value chain actors in this assessment. This implies that mortality and morbidity (including delayed maturity, production) costs as well as those associated with the disease control can be determined. Matrix scoring technique will be used for collecting information on the qualitative livelihood impacts,

Once all the above activities are completed, the conference on Swine Fever Control will be organised as planned, with the information produced in 1-5 above forming inputs to the discussion. Extension material "prevention and control of pig diseases" has already been prepared and its translation into six tribal languages is in progress.

Support to Himmotthan

1. Dual purpose crops. Discussions were held with scientists and various institutions on potential dual purpose food-feed crops that are suitable for Uttarakhand agro-climatic region. The institutes consulted include the GB Pant Nagar Agricultural and Technical University, Vivekananda Parvatiya Anusandhan Sansthan, Palampur Agricultural University, IGfRI-Palampur etc. The crops identified comprise wheat, barley, mustard and cow pea. These crops were subjected to primary analysis based on available information such as additional green fodder yield, penalty on grain yield, impact on crop duration etc (see below).

- Wheat: Compared to local varieties, the dual purpose varieties (VL 829 and VL 616) are found to produce significantly higher grain and straw yields with a considerable amount of additional green fodder (6-7 MT/ha). A third variety 'Saptdhara' is reported to produce much higher grain and straw than the above two varieties. But growing period of this variety is 90 days more than the local one.
- Barley: Though there is an yield penalty of 500 kg grain and 500 kg straw, the additional green fodder yield is reported to be considerable (20 MT at 70 DAP) in the case of dual purpose varieties (BH 169 or HBL 276).
- Mustard: The dual purpose variety has yield penalty in terms of grain and haulm yields compared to local variety. Further, the area under cultivation of this crop in the region is limited and additional green fodder that can be produced seems to be insignificant.
- Cow pea: Dual purpose cow pea varieties produce an additional fodder yield of 35-40 MT /ha after pod harvest, which is significant. But there is a reduction of grain yield to almost half.

As the next step, it is planned to have a researcher-farmer interface to discuss other technical, economic, social and institutional aspects of crop production to evaluate the likelihood of adoption of these crops in the hilly context (the above results are pertaining to the plains). This will also provide an opportunity to clarify with farmers on:

- willingness to make adjustments in the cropping pattern
- availability and willingness to spare labour (for harvest, manure application)
- the value they attribute to fodder during the time of harvest (vis-a-vis grains)
- lactation stage of the animals at the time of harvest and impact on milk yield & income
- additional costs towards labour, manure /fertiliser (vis-a-vis additional benefits)

After the above discussion, a research protocol will be developed and the short listed crops will be tested in field trials in the next season (Nov-Dec).

Fodder Gene bank: Information was collected on five fodder crops suitable for Uttarakhand for inclusion in Himmotthan's ongoing fodder development activities (see Table below):

Name	Timothy (Variety Claire)	Setaria (Variety PSS 1)	Blue Panic	Coix	Winter Vetch
Type	Grass	Grass	Grass	Grass	Legume
Source	Bhainswada Farm, Almorah	HP Palampur University	Bhainswada Farm, Almorah	IGfRI Palampur	IGfRI Palampur

2. Promotion of feasible nutritional technologies. Lack of availability and access to good quality feed is a major constraint to increasing dairy animal productivity in Uttarakhand. Conventional approaches for increasing feed supply have tended to focus on finding technical solutions. This has included, for example, promotion of new varieties of fodder crops (grasses,



legumes, trees) and application of technologies to improve the nutritive value of crop residues such as urea treatment. Despite these efforts, most attempts to deal with the feed scarcity issue have failed. The availability of and access to feeds and fodder is no longer a mere technological issue, although new knowledge on fodder continues to be important.’ In addition to technologies it is essential to consider other ‘enabling factors’ that are required for successful adoption.

In this context it is planned to develop a method to evaluate a range of potential feed technologies from various dimensions (productivity, economic, social, labour, gender) aiming to select the most appropriate option in a given context. This will be done as part of a global exercise involving ILRI project partners in different countries. Once the method is developed, it will be used to select the best bet technologies for promotion in Uttarakhand

3. Breed development in hilly areas. A model for breed development in hilly areas has already been formulated in association with the Uttarakhand Livestock Development Board (ULDB). According to the model, breeding services will be provided to two clusters of villages (in Ghansali and Gangolihat regions covering about 10 villages) through trained paravets. In the above hilly regions, first the local cows will be bred with pure Red Sindhi /Jersey depending on farmers’ choice (subsequent generations with 50% Red Sindhi / Jersey). Buffaloes will be upgraded with Murrah breed.

The paravets are selected and are currently undergoing training at ULDB. ILRI and Himmatnagar will provide the paravet a remuneration of Rs 5000 per month (Rs 3000 and Rs 2000 respectively) in the first year towards AI (Rs 4000) and other allied activities, namely castration, extension classes, record keeping etc. (Rs 1000). In the second year this will be reduced to Rs 4000 and third year Rs 3000. In the first year farmers are expected to pay 25% of the AI charge, second year 50% and third year 100%. It is expected that from the 4th year onwards the paravet will run the business with no external support.

Extension materials (flip chart and leaflet) on “breeding for more milk” have been developed and are under printing. Once the paravet completes the training, the breeding programme will be launched in the two regions.

4. Sustainable goat production. The study conducted on various goat development models in Jharkhand (see page 6) will be extended to Uttarakhand in the next quarter. The results will then be presented to a stakeholder group in Uttarakhand. Utilising the feedback a model for ecologically sustainable goat production in Uttarakhand will be formulated.

Support to Jharkhand

1. Model for goat development. A study on various goat development models implemented in Jharkhand (BAIF model, NEEDS model, PRADAN model) and in neighbouring states (Rajasthan) has been completed (see recommendations in Box 2). A stakeholder workshop was organized in Ranchi in association with the Birsa Agricultural University to discuss the findings and formulate a model appropriate in the hilly /tribal areas of Jharkhand. Consequent to this, a team of CInI partners has scheduled a visit to the BAIF goat project area in West Bengal to get first hand information from the farmers. Following this, a small group supported by ILRI will prepare first draft of the CInI proposal for submission to the Tata Trusts.

2. Piggery model. Various piggery models implemented by different organizations (SUPPORT, BAU, NEPED, NAIP) have been studied and documented. The study findings were presented in a stakeholder workshop and feedback received. Before starting to preparing the proposal on “livelihood improvement through piggery in Jharkhand”, a small group will carry out (scheduled on 2nd May at Ranchi) an economic /feasibility analysis of the various piggery models studied. This will be followed by writing up of the proposal by a designated group supported by ILRI.

3. Enterprise budgeting. Enterprise budgeting (EB) is part of market value chain analysis of any commodity. It looks at how much value (returns minus costs) is added at every stage of the market chain, who benefits and what are the variables that affect the margin of each actor. ILRI supported two of TATA's TAS trainees to do the EB of goater and piggery enterprises in Jharkhand (Table 1 and Figure 1 below taken from the EB study in Deoghar show distribution of revenue across goat value chain). Enterprise budgeting allows identification of technical and institutional options along the chain to improve overall performance of the chain. Findings of this study will contribute to the value chain analysis planned towards the later part of this project.

Box 2: Model Goat project

The following suggestions may be considered while developing a model goat project:

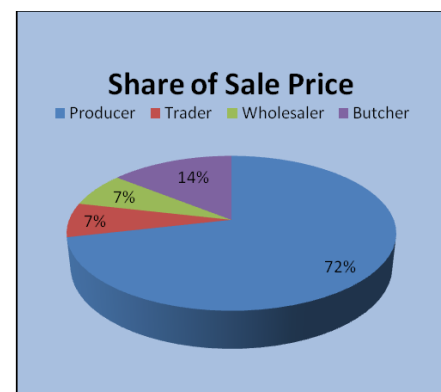
- Formation of Goat Interest Groups
- Training of Village Service Providers and linking them to local veterinarian (define incentive system)
- Arranging health camps (vaccination, deworming) with the support of local veterinary institution
- Breed improvement: Selection of breeding bucks from local population through performance recording OR procure bucks selected from original breeding tract and supply to buck keepers. Castrate scrub bucks and male kids at 3 months age
- Promotion of fodder trees in own or village common lands giving user rights (make it non-negotiable for project beneficiaries to avail continued services from the project)
- Form Federation of Goat Interest Groups for market based interventions (transparent mechanism for buying /selling, market information, transportation to remunerative market, lobbying to remove policy /institutional barriers etc.)

Table 1: Revenue distribution across goat value chain

Values in INR	producer	trader	wholesaler	Butcher
Feed	400	10	10	10
Transport	10	10	20	10
Labor	20	0	10	10
Animal health	40	0	0	0
Taxes and levies	0	40	40	0
Maintenance cost	50	0	0	20
Total	520	60	80	50
Purchase prices		2000	2200	2400
Sales prices	2000	2200	2400	2800
Profit (Rs)	1480	140	120	350

Source: Harish, 2011

Figure 1



Cross-cutting activities

1. Capacity strengthening

The training activities and exposure visits (identified in the last phase based training need assessment) will be initiated once the North East Initiative, Himmatthan and CInI secure funding from the Trusts. The training subjects will include technical and non technical topics that contribute to project outputs. ILRI will identify appropriate institutions /consultants for the training /exposure visits.

2. Knowledge Management

All site specific research components initiated in the current phase to address specific issues that constrain livestock production in the hilly /tribal areas involve a number of vibrant activities such as study group meetings, workshops, trainings, discussions, field visits etc. These research linked activities are highly process oriented, interactive, participatory events which, among other things result in valuable “knowledge exchange” among the partners in the respective states.



The new knowledge and experiences generated through specific research activities (for example, research on dual purpose crops, nutrition pilot, service delivery model, pig /goat value chain development etc.) is planned to be properly captured in different forms (case studies, videos) and used to influence policies /programmes with a purpose to scale up /out the successfully tested models /pilots in the states concerned (KM₄Results).

The experiences captured (case studies, videos) in each state will also be exchanged with the other states through (1) circulation of documented case studies and videos (2) face-to-face meetings and (3) partners' websites. This will also help in retaining the knowledge generated in the project within the partner institutions.

3. Monitoring and Evaluation

A training on "Monitoring & Evaluation" for the ELKS programme partners has been scheduled from 2nd to 6th May, 2011 at the Birsa Agricultural University campus in Ranchi, Jharkhand. Two of ILRI's M&E experts (Dr Pamela Pali, and Dr Jane Poole) will deliver the training in a participatory mode. About 20 participants representing various Tata-ILRI partners are expected to participate in the training programme. As part of the training a framework for the baseline study will be developed in consultation with the partners. The base line survey in randomly selected project villages will be started after the training.

Programme management

The activities scheduled for the year 2011 are progressing as per the approved work plan (Annexure 1). Signing of MoU between ILRI and various state governments for fruitful collaboration to implement various livestock based programmes (including ELKS) in the respective states has been initiated in Nagaland. The same model will be used in the other states in due course.

In Uttarakhand, based on the suggestion of Himmatthan, recruitment of a new senior livestock officer has been put on hold as they expressed their interest to continue utilising the service of Dr Sapna Jarial, Research Associate (designation has been changed as Special Project Scientist) for the ILRI-HM project activities.

In Jharkhand, 25 applications have been received for the position of Senior Livestock Officer. Short listed candidates will be interviewed shortly. It is expected that the selected candidate can be positioned once the CInI proposal for goat and piggery project has been approved by the Trusts.

In the North East, as proposed, Dr Ram Deka (Scientific Officer and North East Coordinator, ILRI) is providing 40% of his service for ELKS activities. In addition Ms Kenivole Richa, Research Associate (designation changed as Scientific Officer) provides 100% of her time. This arrangement will continue until NEI's planned proposal for a larger comprehensive piggery project is ready for implementation.

ILRI started implementing an IFAD supported goat development programme (imGoats) in India (Jharkhand, Rajasthan) and Mozambique, which mainly focuses on development of goat market value chain. Wherever possible, we are trying to pool resources and foster synergy between these two programmes for mutual benefit.

ELKS Phase-II

Annual Work Plan (2011, Year 1)

[illegible]

[illegible]

[illegible]

No	Activity	Time frame												Milestones
		Qtr 1			Qtr 2			Qtr 3			Qtr 4			
		J	F	M	A	M	J	J	A	S	O	N	D	
	CROSS CUTTING (five states)													
63	Capacity strengthening (Budget: 2.52 SRTT + 00.56 ILRI =3.08 lakh)													
64	Preparation of training plan													1.Training plan 2.Training report
65	Arranging training programmes as per the plan													
66	Training on Monitoring and Impact assessment													
	Knowledge Management (05.75 lakh SRTT+ 01.87 ILRI= 7.62 lakh)													
67	Provide KM technical input to HM, CInI, NEI and their partners based on demand													1.NING Platform 2.ELKS blog under ILRI website 3.Report on Annual Knowledge Retreat
68	Finalise content of the central Knowledge Sharing hub (NING platform) and its launching													
69	Capture experiences from the project and share electronically to ELKS partners and ILRI audience through (1) ILRI website (2) NING platform													
70	K-sharing through Annual Knowledge Retreat													
	Monitoring & Evaluation (02.76 SRTT+1.68 ILRI =4.45 lakh)													
71	Set up M&E (for ELKS and partners in 5 states)													1. M&E framework & baseline report in five states 2. Base line report
72	Base line study													
	COORDINATION													
	Staff costs (Budget: 40.50 SRTT+0 ILRI = 40.50 lakh)													
	Travel Expenses (Budget: 14.54 SRTT+0 ILRI =14.54 lakh)													
	Delhi office expenses (Budget: 5.52 SRTT+0 ILRI=5.52 lakh)													
	Overheads (12.05 SRTT+12.05 ILRI=24.11 lakh)													
	GRANT TOTAL (165.76 SRTT+19.12 ILRI= 184.88 lakh)													