

Report of the Stakeholder Workshop on the India-Bihar Smallholder Dairy Value Chain: Challenges, Opportunities and the way forward Patna, India, 1-2 August 2014

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Acronyms

Acronym	
BAIF	Development Research Foundation
BRLPS	Bihar Rural Livelihoods Program Society
CGIAR Agricultural Research	Consultative Group on International
COMFED	Bihar State Milk Co-operative Federation Ltd.
CRP	CGIAR Research Programs
DST	Department of Science and Technology
ICAR-RCER	Indian Council of Agricultural Research – Regional Centre for Eastern Region
NAAS	National Academy of Agricultural Sciences
NABARD	National Bank for Agriculture and Rural Development
NCAP	National Centre for Agriculture Economics and Policy Research
NDDB	National Dairy Development Board
NDRI	National Dairy Research Institute

Background

India is one of the nine countries where the CGIAR Research Program (CRP) on Livestock and Fish is being implemented. The overarching goal of this CRP is to increase productivity of small-scale livestock and fish systems so as to increase availability and affordability of meat, milk and fish for poor consumers and, in doing so, to reduce poverty through greater participation by the poor along animal source food value chains. This will be achieved by improving the performance of targeted smallholder animal source food value chains. The activities would focus on identifying and addressing key constraints and opportunities across the value chains. This focus is made in order to effectively implement the Program's innovative R4D approach and to maximize impact. In India the program focuses on the smallholder dairy value chain. Bihar State has been selected following a criteria aimed at achieving appropriate targeting of the program. One of the key features of the CRP is building partnerships with relevant research and developmental agencies in achieving its objectives. To initiate this collaboration, a stakeholder workshop was organized in Patna, Bihar on the 1st -2nd of August 2014. A wide range of stakeholders were invited for the workshop and were engaged in discussions about constraints, opportunities and the way forward for the smallholder dairy sector in Bihar.

The main objectives of the workshop were to:

1. Communicate and validate the livestock and fish CRP's intervention logic, clearly identifying the roles of the different stakeholders in the dairy value chain.
2. Question and clarify program's potential for achieving impact and map out the key risks and assumptions made by the program.
3. Begin to lay out the building blocks for designing a framework for subsequent program monitoring, evaluation and learning in the value chain.
4. Select sites for eventual program implementations.

In the following sections of this report we document the approach followed and the key outputs of the workshop.

Structure of the workshop

The workshop was structured in four sessions (refer to annex for workshop program).

Session I was an inaugural session largely focused on providing and reviewing the contextual background for the Bihar dairy sector. About 5 keynote speakers were invited from various stakeholder institutions to capture varying perspectives of the sector. The session also included a presentation and review of an ILRI commissioned Bihar value chain situational analysis. **Session II** was aimed at introducing stakeholder to participatory impact pathways analysis that would be used, in combination with the background information presented in the first session, to lay a long term framework for developing the value chain. **Session III** was aimed at developing a long term vision for Bihar dairy value chain and describing potential interventions. **Session IV** mainly focused on mapping out the way forward for the value chain. It mostly focused on selecting sites for future engagements of the program and its stakeholders.

Session I: The inaugural session

The workshop began with welcome remarks by Vamsidhar Reddy. He made a brief presentation about ILRI, its work in the region, the CRP on Livestock and Fish and its approach (all presentations are available from http://livestock-fish.wikispaces.com/india_ipworkshop_aug2014).

He mentioned that the CRP's implementation strategy was conceptualized around building partnerships, integrated delivery teams and working with the whole value chain. He then ended with the presentation of the workshop objectives and the expected outputs of the workshop. He introduced all note speakers and then handed over to the chairman of the first session, Dr. R.K.P.Singh, the former advisor to the Farmers' Commission in Bihar. After introductory remarks by the chairman, all Keynote speakers delivered their lectures.

Presentations from keynote speakers: Shri. Ranjith Kr. Das, Chief General Manager, NABARD

The title of his presentation was "Taking rural India forward. The speaker emphasized that there has been historical and important inter-linkages between cattle and communities. He presented several interesting statistics about smallholder dairy situation in Bihar which all pointed at challenges/limitations faced by the value chain. Among the key limitations included low productivity, poor consumption of dairy products and the market's inability to consume marketable surplus and therefore the need to open up new market opportunities. He particularly emphasized the feed costs constituting a significantly high proportion of the production costs and suggested the need to focus on cereal based ingredients to reduce feed costs. He emphasized the need to identify those small but important intervention points that can deliver significant impacts. He argued for the need to ensure synergy between grain production and cattle rearing.

Presentations from keynote speakers: Dr. A.K.Kulkarni, General Manager, COMFED

While introducing his organization, the speaker highlighted that their focus was not only on milk collection but about also rural development aiming at building capacities of smallholder farmers.

He narrated their decades of efforts invested in promoting cross-bred cattle in Bihar, which has traditionally been a buffalo-based cattle farming area. The speaker touched upon several issues including inconsistent exotic blood-level control in dairy cattle, the growing importance for Desi cows vis-à-vis cross-bred cows, lack of markets due to the lower urbanization of Bihar requiring them to export milk to other states, the glamorization of cattle farming to attract youth, etc. The speaker emphasized the low exotic composition of dairy animals and the inconsistent and incorrect feeding of animals as major causes of low productivity. He also cited the lack of market linkages and decried the increasing cost of labour as youths migrate to cities.

Presentations from keynote speakers: Dr. Dharmendra Sinha, Regional Director, Animal Husbandry Department, Government of Bihar

His presentation covered a wide range of issues concerning smallholder dairy production in Bihar, ranging from developing a minimum support price for milk, planning for inclusive

growth, leveraging the high population density, etc. He challenged researchers to develop appropriate methodologies for improving milk production, processing and quality control.

Presentations from keynote speakers: Dr. K.K.Singh, Chief Project Coordinator, BAIF

Whereas the speaker agreed with most of the issues raised by his predecessors, in his presentation he mostly provided some potential avenues for addressing these issues. He mentioned that the cow continues to be the entry point to fighting the high incidence of poverty in Bihar. Nonetheless, he also mentioned that poor conception rates, poor feeding and the lack of integrated approaches for improving livestock production were outstanding bottlenecks for the sector. He specifically cited land scarcity, inadequate access to vaccinations, and poor markets as major limitations to the potential of dairy entrepreneurship. He argued for the need for comprehensive livestock development strategies and synchronization of efforts of large number of actors in the smallholder dairy. For instance, prioritization of data base systems, constant monitoring and regulation, enhancement of farmers' entrepreneurial capacities and combining artificial insemination delivery with other services.

Presentations from keynote speakers: Dr. Gopichandran, Director, Vigyan Prasar

The presenter highlighted the need to adopt an appropriate communication strategy. He suggested ideas such as identification and application of the 'lowest hanging fruits' of technological solutions to existing problems, creation of a collection of locally adapted solutions and packaging of scientific evidence in understandable ways to farmers. This discussion highlighted several challenges faced by the smallholder dairy in Bihar and suggested useful ideas to improve the situation. He emphasized the following 12 key areas of intervention:

- ◆ Developing a communication strategy based on Locally Adapted Knowledge Systems and Human Resources (LAKSH).
- ◆ Compliance Assistance Program (CAP).
- ◆ Setting clear and achievable goals.
- ◆ Setting realistic targets.
- ◆ Developing local level advanced regulation systems.
- ◆ Using the leap frogging approach to developing the value chain.
- ◆ Abiding by India's scientific temple and ensuring that all farmers receive information.
- ◆ Creating compendium of locally developed solutions.
- ◆ Developing a Technology and Economic Assessment Panel (TEAP) which could be a panel that has the best of science to advise on livestock production.
- ◆ Developing efficient messaging mechanisms.
- ◆ Presenting very clear scientific evidence which is packaged in an understandable way.

The chairman then invited Dr. C.K.Rao a consultant from InterCooperation Social Development-India to present the findings of a Situational Analysis of Smallholder Dairy in Bihar which was funded and commissioned by ILRI. This study was implemented by ILRI as a first step towards understanding the context of Bihar dairy sector. There were several

discussions raised by the audience that critically reviewed and validated the analysis and its inferences. It was apparent from the discussions of the Situational Analysis that its weakest points lay in the study's choice of only 2 sites. The number of study sites was found to be inadequate for reflecting on the whole Bihar state.

After vote of thanks by Vamsidhar Reddy, the workshop broke for Lunch. Several discussions continued during the lunch time.

Session II: Review of smallholder dairy situation in Bihar

This session started with a presentation by Dr Michael Kidoido. He presented the concepts of Theory of Change and Impact Pathways to set a stage for developing a long term planning framework for the value chain. He described the application of these tools in planning, implementation, monitoring and evaluation of projects and programs. His presentation was followed with a brain storming and validation of contextual information presented in the first session. In a plenary, participants highlighted the following as issues that seemed to be given less coverage in the background session probably due to their low prioritization at the policy level:

- ◆ Share livestock rearers (*poshiaye*) were not mentioned or given any priority in the discussion and yet, a large number of cattle keepers do not have land and give their animals to those who own land.
- ◆ The potential implications of changing cropping-livestock patterns were less covered, especially in the Situational Analysis.
- ◆ How we build our capacity to adequately and correctly understand farmers' needs was not handled.
- ◆ The presentations did not analyse the effect of moving from our current production scales to more commercialized scales. In other words, what are the effects of scaling up of activities in light of the most limiting factors such as increasing labor scarcity as youths migrate to urban areas, increasing land scarcity, lack of knowledge and significant customs/taboo-based limitations?
- ◆ The presentations did not tackle the extent to which current strategies are handling the empowerment of women to be more engaged in commercialized dairy production.
- ◆ There was less mention of what has been done to tackle the widespread lack of synergy among agencies and stakeholder in the dairy sector.

Participants, in a plenary, were asked to reflect on the first session information and come up with the most limiting issues/constraints faced by the Bihar dairy sector. The issues below were emphasized:

- ◆ The lack of close linkages among value chain actors:
 - ✓ farmers are weakly linked with traders and mostly sell to traditional traders,
 - ✓ and there are even weak linkages between farmers, credit and insurance services providers.
- ◆ High cost of production especially accruing from the high cost of animal feeds.
- ◆ Inadequate access to livestock husbandry knowledge.
- ◆ Poor access to feeds/fodder particularly among the smallholders, share rearers and the landless.
- ◆ High post production losses.
- ◆ Wide spread animal infertility and poor breeding practices.

- ◆ Lack of social organizations/institutions or cattle owners/rearers.
- ◆ Inadequate access to inputs, output markets, services and knowledge.

In the subsequent discussions, participants were asked to group these issues under broader and more encompassing topics. In this exercise 5 broad issues-topics were identified:

- 1) High postproduction losses.
- 2) Lack of robust knowledge systems (platforms and networks).
- 3) Lack of sustainable institutions of cattle rearing farmers.
- 4) Large scale dairy animal infertility and poor breeding practices.
- 5) Missing linkages between key actors in the value chain.
- 6) High cost of production largely due to high costs of feeds.

Participants were thereafter asked to self-select into 5 groups based on the five identified issue-topics. Each group was asked to identify the central issue, underlying causes of the central issue, key actors and how they are linked with the issue and the underlying causes, and highlight some priority interventions around the issue. Members of each group discussed and prepared charts to capture the points mentioned above. These were presented in the subsequent plenary. The following sessions present key highlights from each groups' presentations.

Issue I: High post-production losses

The group that worked on the issue of high production losses identified lack of technology, lack of policy support, lack of infrastructure and lack of knowledge as the underlying causes of this issue. They identified several actors for each of the underlying causes as presented in figure 1.

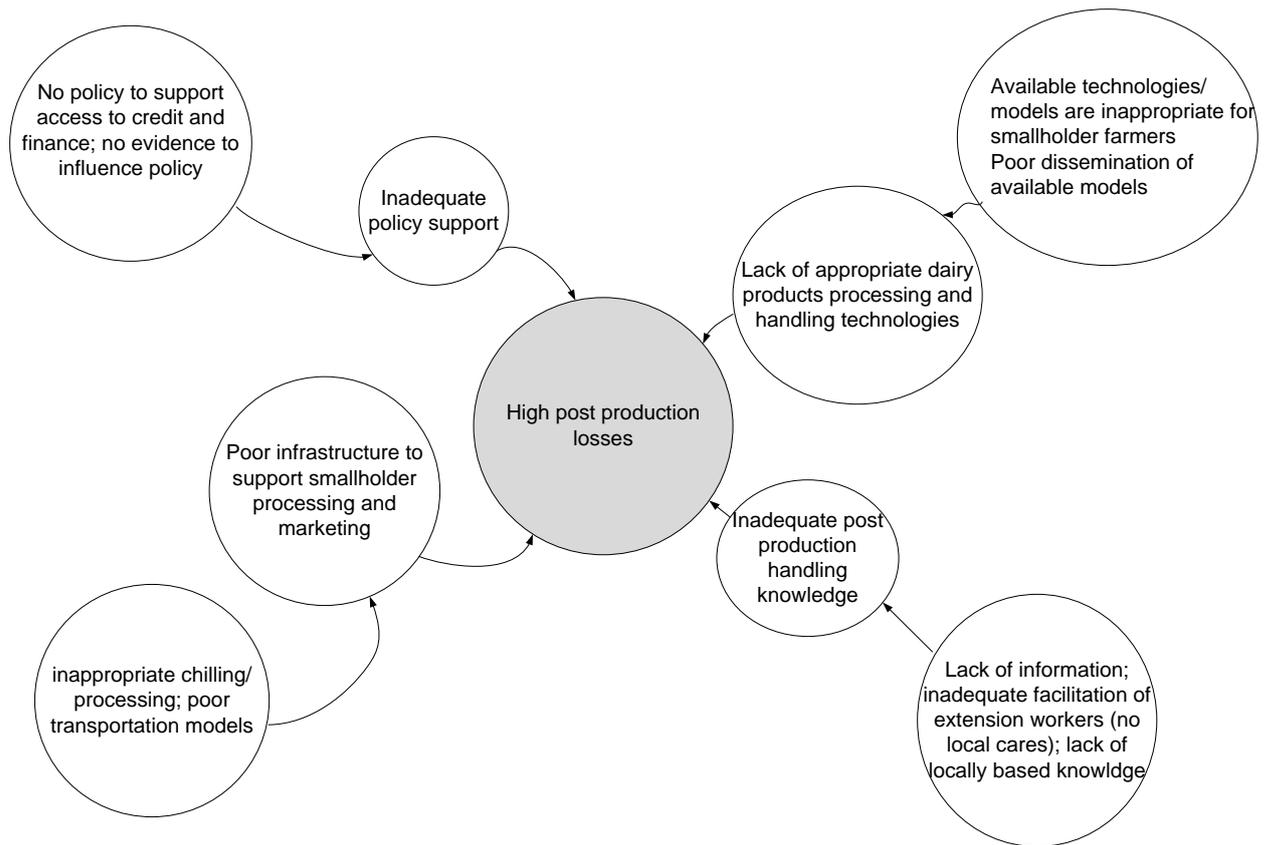


Figure 1: The underlying causes of high post production losses in dairy production in Bihar

The group identified the following actors and how they are linked with the issue:

- ◆ For the lack of appropriate dairy processing and handling technologies key actors need to be piloting action research, piloting potential technologies and influencing policy. Key actors include:
 - ✓ National Dairy Development Board (NDDDB) and COMFED researchers
 - ✓ Researchers including such as ICAR-RCER, Patna; NAAS, Delhi; NCAP Delhi; ILRI; NDRI; Planning Commission; Bihar Veterinary College; Sanjay Gandhi Institute of Dairy Technology; DST.
- ◆ For the inadequate post production handling knowledge the group identified the Dairy Development Department (DDD); NRIM BRLPS; NGOs (are having limited reach); Sanjay Gandhi Institute of Dairy Technology, as key actors.
- ◆ For poor infrastructure to support smallholder processing and marketing identified actors at this node include government; financial institutions; private entrepreneurs; NABARD.
- ◆ For inadequate policy support actors were identified as planning commission; financial institutions; civil societies influencing policy makers; government; NABARD.

Questions and discussions arising from the presentation

- ◆ It was mentioned that even the available appropriate technologies are not adequately disseminated.

Issue II: Lack of robust knowledge systems (platforms and networks)

This group worked on lack of knowledge systems and the absence of sustainable institutions of cattle rearers. For the lack of robust knowledge systems, the group identified the knowledge systems' failure to be relevant to the local contexts and not having clear strategies for translating into action as the major underlying causal factors (figure 2).

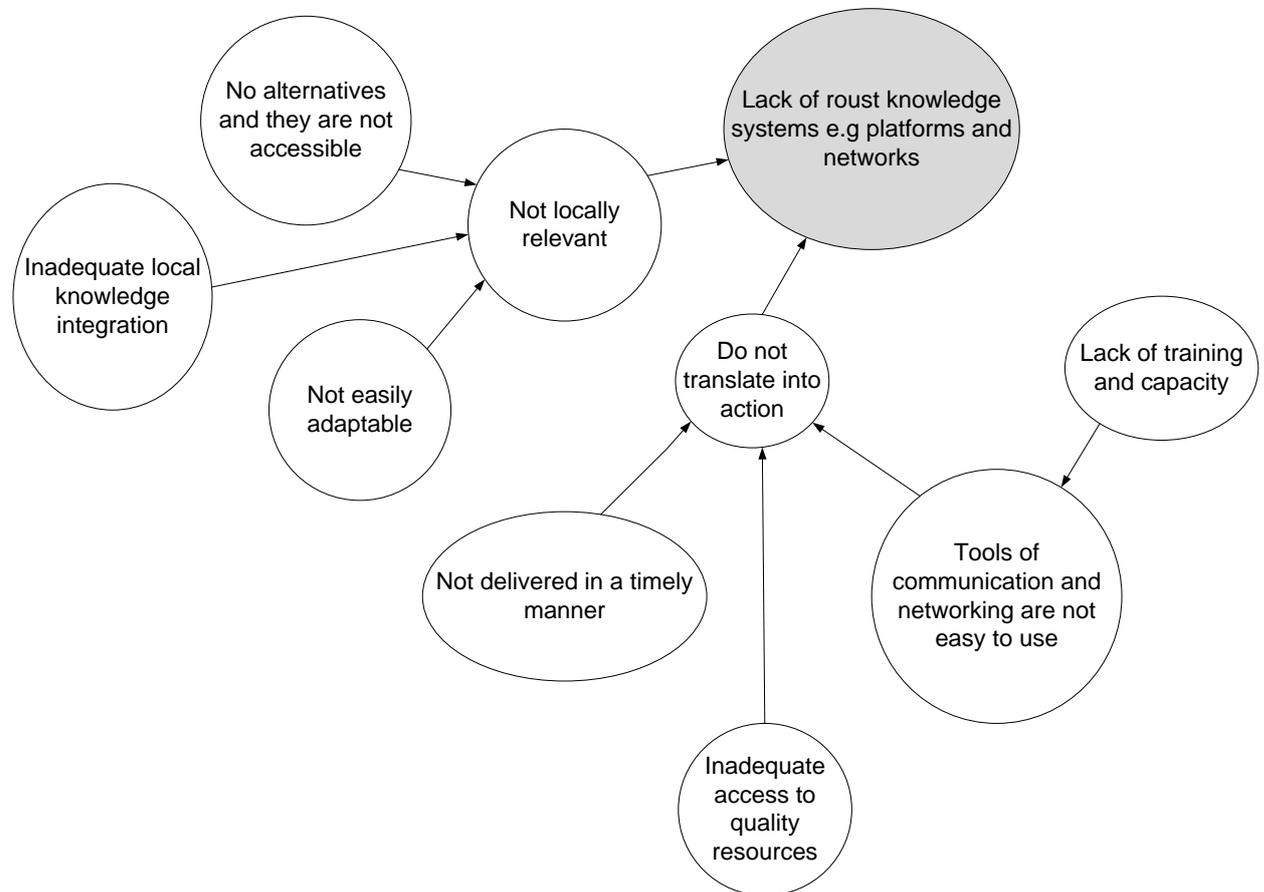


Figure 2: Underlying causal factors of absence of robust knowledge systems

The group identified several actors and how they were linked with the absence of these systems. Smallholders particularly the share livestock rearers, research institutions, regulators, financial institutions, communities of practitioners, were the key actors identified. They argued that these actors should at the moment be appraising the current situations in terms of the biological, physical and chemical aspects of the knowledge base. Areas of focus should include 1) assessing the limitations/constraints to dairy production, 2) analyzing the rights and responsibilities of all stakeholders and 3) assessing the influence of the contextual issues on the performance of the value chain.

Issue III: Lack of sustainable institutions of cattle rearing farmers

This group argued that the central issue is resulting into farmers' inadequate access to knowledge and inputs and services was the lack of sustainable institutions of cattle rearing farmers. The group argued that this was largely a result of cohesiveness and collective action among farmers, fragmented product marketing and the over dependence on vendors (figure 3).

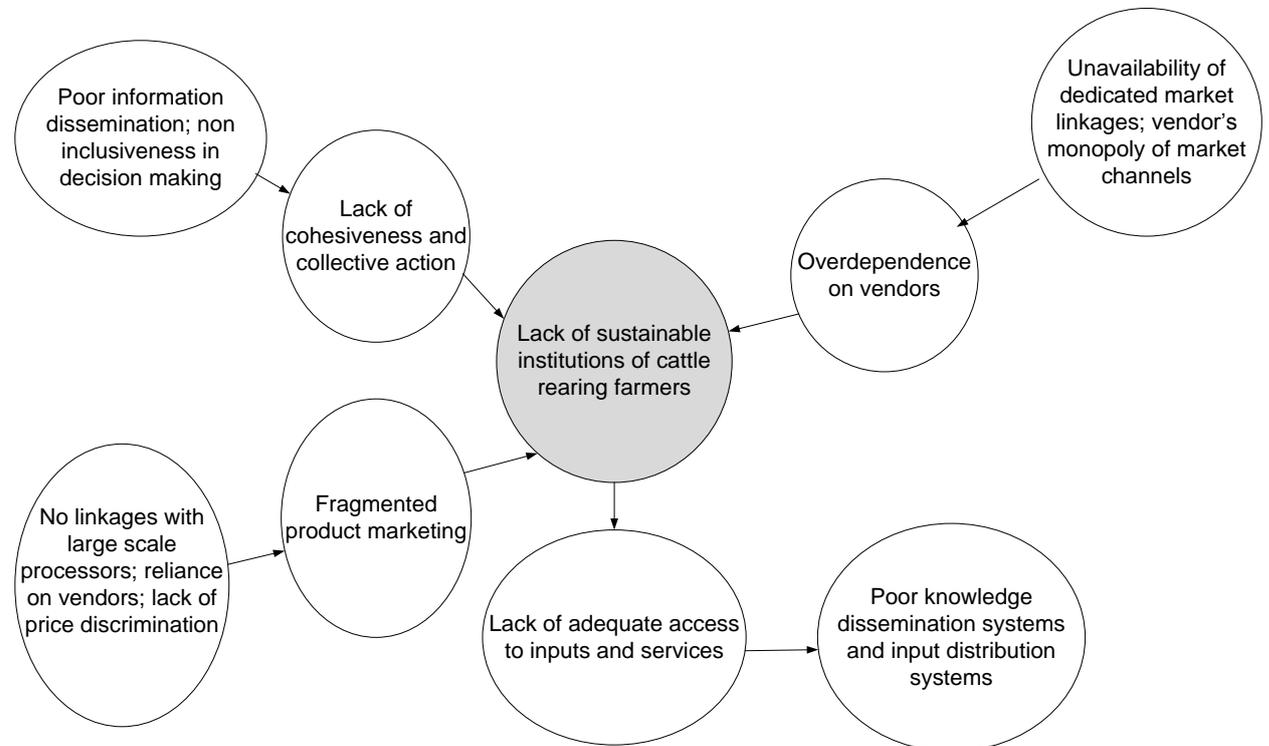


Figure 3: Underlying causes of lack of sustainable institutions of cattle rearing farmers

The group identified the following as the key actors:

- ◆ At the lack of cohesiveness node, it is mainly the farmers and leaders of existing farmer institutions who are associated with these issues.
- ◆ At the node of overdependence on vendors, it is mainly farmers, vendors, researchers and dairy development boards and departments that should be able to influence the issue.
- ◆ At the lack of quality inputs and services, the key actors include input suppliers, farmers, extension departments, researchers and dairy development boards
- ◆ At the fragmented product marketing node, it is largely large-scale processors, vendors and farmers.

The group also identified the following areas as potential interventions points:

- ◆ Facilitate the formation of inclusive, democratic and legally structured institutions of cattle farmers.
- ◆ Facilitate the creation of market linkages with cattle farmer institutions for product disposal and access to inputs.

- ◆ Capacity building and training stakeholder (farmers), particularly on animal husbandry, breeding, cattle production as a business, feeds and fodder production and animal health management.
- ◆ The farmer institutions should be linked with the knowledge management system for correct and timely availability and dissemination of knowledge.

During the plenary discussion of their presentation the following issues were also mentioned:

- ◆ These institutions of cattle rearers would largely be micro-level organs that feed into the macro level nodal agency.
- ◆ There exists some farmer co-operatives e.g. COMFED however these have not evolved organically. They have been developed through more of a top-down process that makes them less democratic and sustainable. They have also killed competition since they are the monopoly.

Issue IV: Large scale dairy animal infertility and poor breeding practices

The group that worked on the central issue of animal infertility identified diseases, inadequate implementation of the breeding policy and poor feeding as the underlying causes. They further explored and identified that lack of knowledge and resources as the reasons for poor feeding practices. Indiscriminate breeding and lack of knowledge were identified as the factors resulting from the poor implementation of the breeding policy. Lack of clean farm practices and natural breeding were identified as the issues causing diseases resulting in infertility. The issue of the breeding policy was further explored to identify farmers, service providers, policy and infrastructure as the underlying causes. For each of these underlying causes, actors and their behaviours were identified (Figure 4).

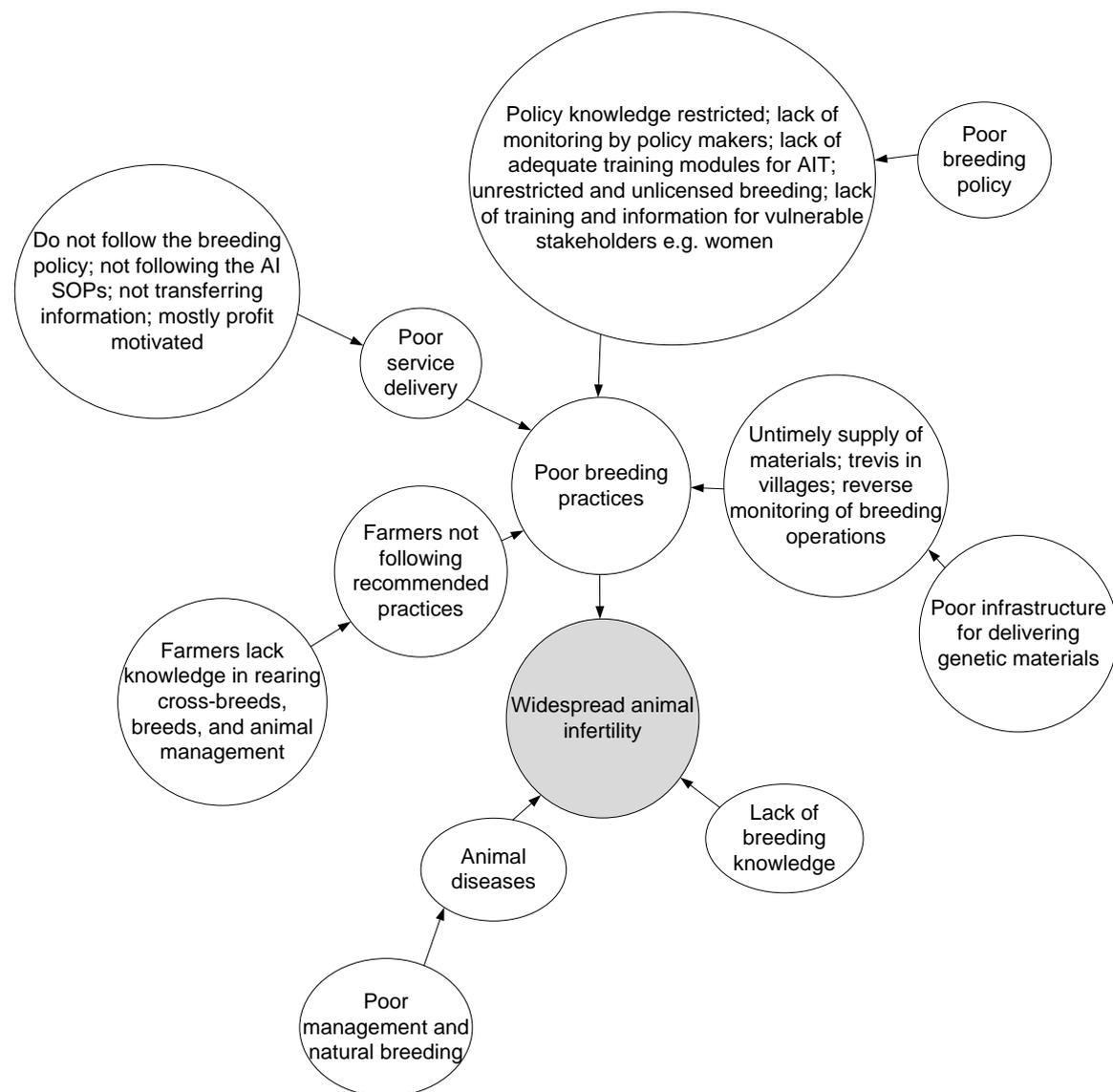


Figure 4: Underling causes of widespread animal infertility

The following additional points were mentioned during the plenary session:

- ◆ Transmission of diseases increases with natural breeding.
- ◆ Infertility is especially common with the improved/cross bred animals.
- ◆ Private providers of breeding materials, especially AI, are mostly motivated by profits and do not mind the state of the animals before they undertake the servicing.

Issue V: Missing linkages between key players in value chain

The group that worked on the issue of lack of linkages argued that insufficient linkages exists among government institutions, private sector, NGOs, cooperatives, traders, vendors, financial institutions, people’s organizations, research institutions and other allied agencies dealing with dairy by-products. They argued that the lack of linkages among agencies was leading to duplication of efforts, core specializations, competencies, human and input

resources are greatly under-utilized and frictions/constraints among regulatory mechanisms and the disputes/grievances among agencies are inadequately handled/resolved. They proposed that a Nodal Agency, of the form presented in figure 5 below, should be promoted to link people's organizations with different service providers. Figure 5 below is a model organizational structure of the institution that would enhance linkages among actors.

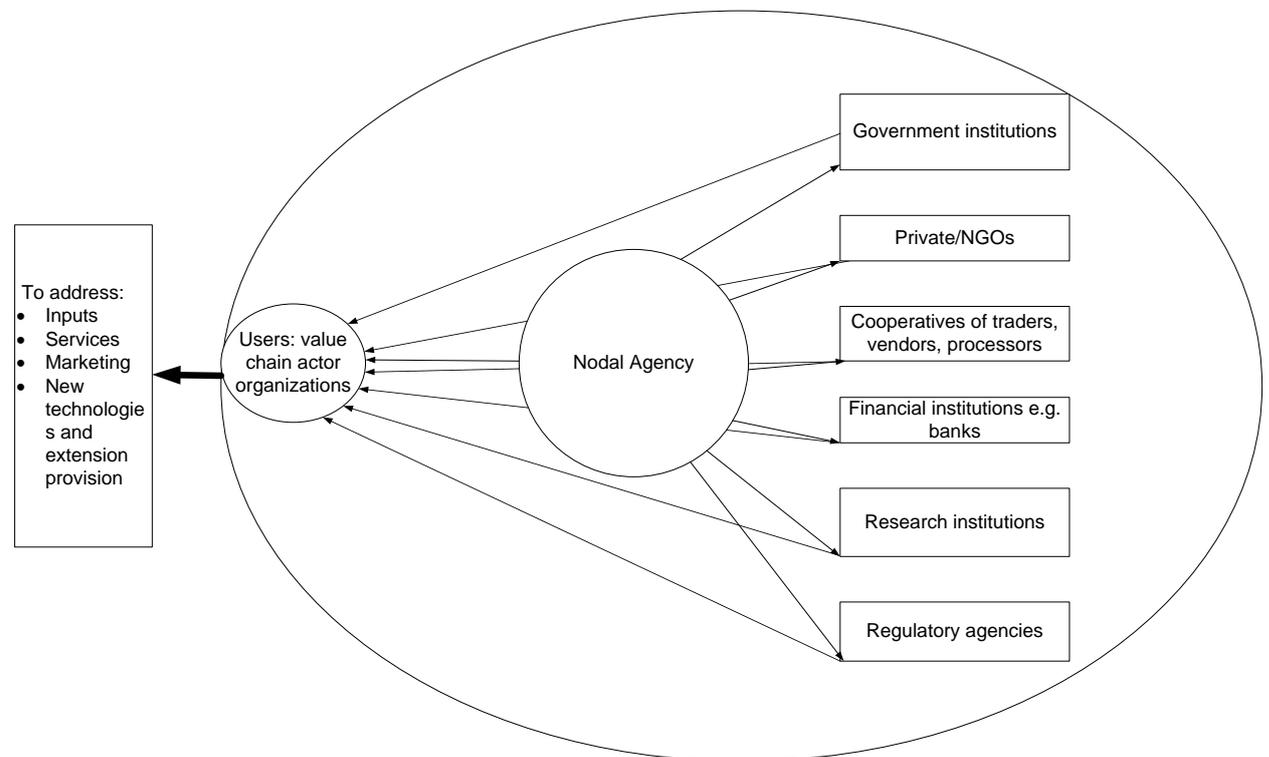


Figure 5: Model organizational structure of institutions to enhance linkages among value chain actors

The following issues rose during the plenary discussion of the model structure:

- ◆ Several issue centered on the form of the institution, its functions and who would be responsible for maintaining it.
- ◆ Having a platform for dispute resolution among value chain actors is an important component of the efforts to develop the value chain. The program could therefore invest time and efforts in building institutional linkages as an important goal for its long term strategy in the Bihar dairy value chain.
- ◆ The idea would be to build a nodal agency that would be responsible for building these linkages and it would be sustained out of a shared vision among actors.
- ◆ An additional responsibility for this nodal agency would be to ensure that it disseminates evidence to influence policy.

Issue VI: High cost of production largely due to high costs of feeds

This group argued that high cost of production was largely a result of high feed costs, inefficient allocation of resources by farmers and the lack of appropriate low cost technologies (Figure 6).

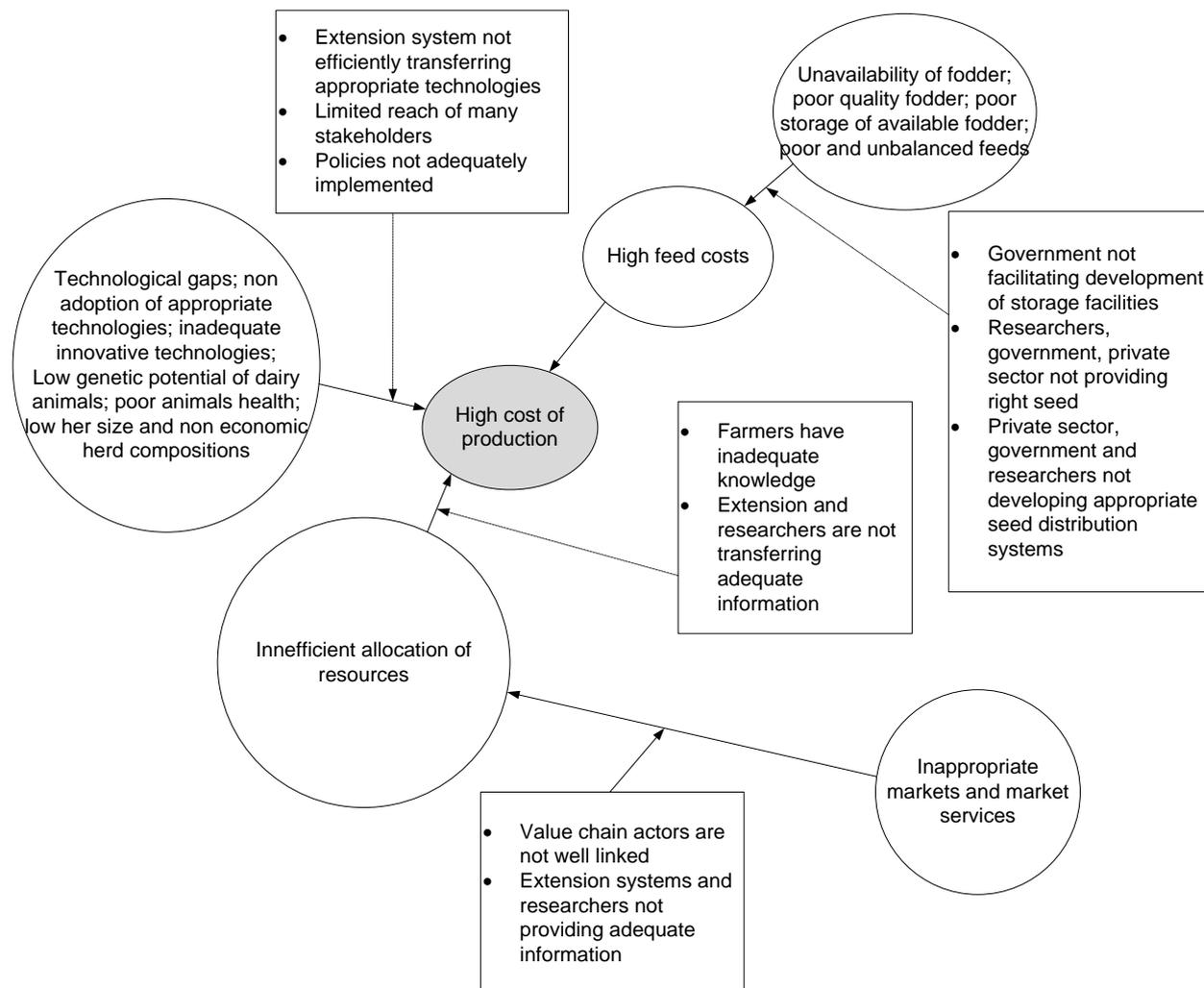


Figure 6: underlying causes of high cost of production in dairy production

Discussions in the plenary also reflected on the following:

- ◆ The program needs to focus on production of quality evidence of innovative and alternative low cost technologies, models or methods that farmers can adopt to improve productivity.
- ◆ Extension agents are not transferring appropriate information largely because most of them do not possess up-to-date information about new technologies and methods. It is therefore important that extension agents are continuously updated of new technology developments. But, again they are also less motivated because of poor remunerations and other causes. So the retooling of Trainers of Trainers (ToT) should also tackle the emotional needs of extension agents.

The group identified the following areas as priority intervention points:

- ◆ Develop low cost and locally available feed rations.
- ◆ Develop and make available improved quality fodder seeds.
- ◆ Facilitate the development of innovative and sustainable fodder distribution and delivery systems.
- ◆ Increase and enhance the capacity of primary animal health centres.
- ◆ Facilitate the development of low cost and easy to use disease detection kits
- ◆ Development of thermal stable vaccines.
- ◆ Facilitate the development of adequate fodder banks.

During the plenary discussions similarities with regards to the underlying causes, actors and their behaviours across key issues and they would act as entry points for building synergies across interventions.

Session III: Developing an overarching vision for smallholder dairy in Bihar

This session started with introductory remarks by the chair of the session, Dr K.K.Singh the Chief Program Coordinator, BAIF. He stressed upon the need for synergistic actions by different agencies working for the same clientele. After this introduction, the facilitator asked participants to go back to their respective groups and discuss about who are the key value chain actors around each of the issues, what they would like to see when the situation is improved, who are the wider value chain actors around each of the issues and how would they ensure the involvement of the wider value chain actors. Aim of developing the objective statements generate statements that would resonate with immediate and development outcomes of the program. Unfortunately, due to time limitations participants mostly covered the first part of the exercise in detail.

Objective statements/outcome statements

Issue I: Reducing high post production losses (issue I)

Actor	Objective/outcome statements
Smallholder farmers	<ul style="list-style-type: none"> ✓ Using suitable/appropriate technologies to reduce post production losses ✓ Will be accessing credit and other financial services to acquire suitable technologies and infrastructure ✓ Farmers are accessing knowledge on post production losses reduction
Government	<ul style="list-style-type: none"> ✓ Developing infrastructure to reduce post production losses
Institutions	<ul style="list-style-type: none"> ✓ Developing appropriate/suitable technologies for reducing post production losses

Issue II &III: Sustainable institutions of cattle rearing farmers (issues II &III)

Actor	Objective statement
Farmers	<ul style="list-style-type: none"> ✓ Are part of a decentralized system under a single umbrella of an institution, with dedicated supply chain linkages, access to knowledge, access to services, information dissemination, and efficient in production of by-products and value added products
Service providers	<ul style="list-style-type: none"> ✓ Have built the capacity within the community and enhanced farmers timely and proper access to services and inputs
Policy makers	<ul style="list-style-type: none"> ✓ Ensuring that existing and future policies are directly linked with institutions and issues identified by stakeholder
Block level knowledge systems	<ul style="list-style-type: none"> ✓ Efficiently providing timely and appropriate information and knowledge to farmers

Issue IV: Reducing large scale dairy animal infertility and use of poor breeding practices

Actor	Objective statement
AI service providers	<ul style="list-style-type: none"> ✓ At block level are actively communicating and sharing knowledge of animal management and breeding
Policy makers	<ul style="list-style-type: none"> ✓ Engendering awareness and extensions services to farmers in the field of breeding and animal management, access trained AI trainers and ensuring that service delivery is monitored at all levels
Farmers	<ul style="list-style-type: none"> ✓ Actively participating and receiving feedback regarding animal breeding ✓ Correctly using recommended breeding practices
Government	<ul style="list-style-type: none"> ✓ Supporting timely supply of quality breeding inputs through evenly managed supply chains with a scope of reverse monitoring by users

Issue V: Building linkages between key players in value chain

The group developed the following broad mission statement and goal:

Vision statement: creating/leveraging 100% linkages between service providers with sustainable and capacitated farmer groups.

Goal: Improved production and appropriate market access and support system.

Actor	Objective statements
Producer/user groups	<ul style="list-style-type: none"> ✓ Collectivization of farmers in structured groups based on interventions ✓ Platforms for addressing issues reached, access to inputs, output markets, and services formed
NGOs/Private organizations	<ul style="list-style-type: none"> ✓ Actively mobilizing and building capacities of stakeholders ✓ Creating awareness and capacity ✓ Facilitating and regulating access to inputs ✓ Developing monitoring and evaluation systems to track impact
Government institutions	<ul style="list-style-type: none"> ✓ Efficiently providing technical know how ✓ Facilitating regulatory mechanisms ✓ Leveraging government and development systems ✓ Facilitating action research on a wide range of issues
Input suppliers and output market linkages	<ul style="list-style-type: none"> ✓ Efficiently facilitating inputs and output delivery

	<ul style="list-style-type: none"> ✓ Linking input access to several other services ✓ Also providing demonstrations of input/technology appropriateness
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Issue VI: Reducing high cost of production largely due to high costs of feeds

Actor	Objective statement
Research institutions	<ul style="list-style-type: none"> ✓ Actively involved in documentation, refinement and development of appropriate technologies to reduce cost of production and increase productivity, and generating evidence on feasibility of interventions
Government	<ul style="list-style-type: none"> ✓ Formulating appropriate technologies regarding animal health, breeding, feeding, and institutional development
Extensions systems/NGOs	<ul style="list-style-type: none"> ✓ Efficiently disseminating knowledge about efficient/cost saving technologies through innovative extension systems
Private sector	<ul style="list-style-type: none"> ✓ Delivering/supplying quality inputs and services at the door steps/ villages to reduce costs of accessing inputs
Farmers	<ul style="list-style-type: none"> ✓ Forming collective groups to harness the benefits of scale increase their bargaining power

Session IV: Site selection

This session started with introductory remarks by the Chairman, Dr A.K.Kulkarni, General Manager, COMFED. He provided an overview of dairy in different districts of Bihar and highlighted differences between different districts from his perspective. After this introduction, a presentation was made that captured the approach adopted for site selection by the CRP. The rationale for site selection, multi-stage site selection process, spatial analysis for Bihar, the layers used and pre-selected departments were presented. This presentation also provided some ideas for selecting the soft criteria and ranking the districts based on the soft criteria. Discussing the fact that selection of the districts is based on the two-point-criteria of high poverty and high bovine density, the participants suggested adding of other criteria such as agro-climatic zones, irrigation potential, etc. At this stage, they were informed that this criterion is used in the other countries where the CRP is being implemented and it has been agreed to follow the same criteria across different countries. In the subsequent large-group facilitated discussions, the participants discussed and identified the following soft criteria to be used for ranking districts.

Soft Criteria for ranking districts:

1. Partners' strong presence: Presence of potential partner agencies was considered to be important to undertake work under the CRP.
2. Connectivity/ reachability: In order to ensure easy access to program sites, better connectivity and reachability was considered as important factor for efficient implementation of activities.
3. Existence of networks/ dairy infrastructure: The presence of dairy infrastructure/ network of service providers was considered as an important factor in ensuring relevant support services to producers, so that they are motivated to put into use any new knowledge through the CRP intervention.
4. Level of agricultural development: The participants proposed this as criteria with the argument that a developed agricultural system would ensure fodder and also compliment in livestock production.
5. Communities are organized/ social capital is adequate: When communities are organized and social capital has been created, the CRP interventions could be implemented to achieve impacts at scale.
6. Presence of large proportion of indigenous cattle: The Indian Government has strong focus on indigenous cattle development in the coming years. The crossbreds have been facing several issues including infertility, etc. Due to all these reasons, the participants proposed it as a criterion for ranking districts.

Although some other criterion such as reputation of a district with regards to adoption of new ideas, presence of naxal problem, etc. were suggested by some participants, the others did not agree to add them. Against the criterion – 'reputation of a district with regards to adoption of new ideas' – the participants argued that sufficient information might not be available to facilitate unbiased ranking. Against the criterion – 'presence of naxal problem' –

the participants felt that it might not be big deterrent to undertake work that helps poor people.

It was agreed to use the range of 1-10, with 1 being the most preferred for selecting the site for the CRP. The ranking process included completing ranking of all the districts for a single criterion before moving on to the next criterion. Each of the districts was readout for participants to agree on a number (rank). An excel sheet was projected on the screen, in which the list of districts with high poverty were placed in the vertical direction (column) and soft criteria were placed in the horizontal direction (row), for the participants to get involved in the ranking process. It was very common during this step that different participants called-out different numbers, but agreed on a number after some discussion. There was never an instance where they did not agree on a common number.

After the site selection discussions, the session was closed with concluding remarks by the Chairman. He thanked ILRI for bringing together such a diverse group of stakeholders and organizing the workshop in an effective manner. He hoped for follow-up actions in the coming months to take forward the ideas discussed.

In the subsequent vote of thanks session, the participants were gratefully acknowledged for their active participation in the workshop and sharing of their knowledge. They were assured that there would be follow-up actions after this workshop. They were informed that the next stages include – a ‘ground-truthing’ exercise to finally select the sites for the CRP in about a month, value chain assessments and a workshop in about 6 months in which lessons from the value chain assessments and discuss intervention points.

Annex 1: Agenda

Day one: 1st August 2014

Time	Activity	Responsible
10:00-10:30	<i>Registrations</i>	<i>Roma Oli</i>
10:30-10:45	Welcome – Objectives of the workshop	Vamsi Reddy
Session 1 Inaugural session Chairman: Dr B.P.Bhatt, Director, ICAR-RCER		
10:45-12:00	Key speaker 1: Shri Ranjit Kr. Das, CGM, NABARD Key speaker 2: Dr Gopichandran, Director, Vigyan Prasar Key speaker 3: Dr A.K.Kulkarni, General Manager, COMFED Key speaker 4: Dr Dharmendra Sinha, Regional Director, Department of Animal Husbandry, Govt of Bihar Key speaker 5: Dr K.K.Singh, Chief Program Coordinator, BAIF Message by the Chairman	Chairman
12:00-12:45	“Smallholder Dairy Value Chain in Bihar- A Situation Analysis”	Dr CK Rao
12:45-13:00	Vote of Thanks	Vamsi Reddy
13:00-14:00	<i>Lunch and Photo session</i>	<i>Roma Oli</i>
Session II Review of smallholder dairy situation in Bihar		
14:00-14:45	Introduction to Theory of Change (ToC) and Impact Pathways and their use in planning, implementation, monitoring and evaluation of project/programs.	Michael Kidoido
14:45-15:00	Review of presentations regarding the dairy sector - What seems not right and what are the reasons? - What has not been said about the sector (issues, actors, data, etc) - What do we need to know more about? - What are important assumptions being made about the sector?	Michael Kidoido / Vamsi Reddy
15:00-15:15	<i>Coffee break</i>	<i>Roma Oli</i>
15:15-15:45	Group work: Identification of critical issues for intervention in small groups: - Identify a maximum of 6 issues - Mapping out issues, stakeholders, key information - Identify what more we need to know - Identify critical assumptions and suggest possible intervention areas	
15:45-16:30	Plenary: Review of Maps: Finding common areas (issues, actors, assumptions, intervention areas); Piecing together map	Michael Kidoido / Vamsi Reddy

16:30-17:00	Review and day's wrap-up	Dhiraj Singh
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Day two: 2nd August 2014

Time	Activity	Responsible
10:00-10:15	Recap of yesterday's session	Roma Oli / Vamsi Reddy
Session III Developing the overarching vision for smallholder dairy in Bihar Chairman: Dr K.K.Singh, CPC, BAIF, Patna		
10:15 -10:45	Group work: Setting an overarching vision for the value chain; <ul style="list-style-type: none"> - Who are the key value chain actors around the critical issue (mention a maximum of 8)? - What would these actors want to see happen when the program is successful? - Who are the wider value chain stakeholders around this issue (mention maximum of 8)? - What would attract these wider stakeholders to become involved? 	Michael Kidoido/ Vamsi Reddy
<i>10:45 -11:00</i>	<i>Coffee break</i>	<i>Roma Oli</i>
11:00- 11:30	Group work: setting objectives choosing broad objective statements around issues (maximum of 5 statements)	Michael Kidoido/ Vamsi Reddy
11:30-12:15	Group work: for each issue/group what are some of the interventions/ actions needed to tackle the issues?	Michael Kidoido/ Vamsi Reddy
12:15-13:00	Plenary: presentation what needs to be done to achieve success	Michael Kidoido/ Vamsi Reddy
<i>13:00-14:00</i>	<i>Lunch Break</i>	<i>Roma Oli</i>
Session IV The Way Forward for smallholder dairy in Bihar Chairman: Dr A.K.Kulkarni, General manager, COMFED		
14:00-14:30	Introduce the selection of sites methodology and to use the soft criteria to zero down on the focal districts	Vamsi Reddy
14:30-15:00	Group work: Finalize the soft criteria	Vamsi Reddy
<i>15:00-15:15</i>	<i>Coffee Break</i>	<i>Roma Oli</i>
15:15-16:00	Discussion to finalize the districts; Plan of action to select the blocks	Vamsi Reddy
16:00-16:15	Wrap-up and close	Michael Kidoido/ Vamsi Reddy

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