**First stage of Best Bet Selection**

Useful data has been generated in the past one year through

1. Literature review,
2. Deliberations in a stakeholder workshop (http://livestock-fish.wikispaces.com/file/view/Report_Workshop%20on%20Small-holder%20dairy%20transformation%20in%20Bihar%20%282%29.pdf/525939342/Report_Workshop%20on%20Small-holder%20dairy%20transformation%20in%20Bihar%20%282%29.pdf),
3. Several rounds of discussions with key informants and stakeholders
4. Situational analysis (https://cgspace.cgiar.org/bitstream/handle/10568/35469/PR_pr_sturation_analysis_India_print.pdf?sequence=10),
5. Value chain assessments (http://livestock-fish.wikispaces.com/file/view/A%20Report%20on%20Dairy%20Value%20Chain%20Assessment%20in%20Nalanda%20District.pdf/553460688/A%20Report%20on%20Dairy%20Value%20Chain%20Assessment%20in%20Nalanda%20District.pdf),
6. Study on policy bottlenecks (https://cgspace.cgiar.org/handle/10568/67182),
7. Agrarian system analysis,

This provided insights into several issues to be addressed for small-holder dairy value chain transformation/ upgradation in Bihar. The key ones include:

1. Unavailability of low cost feed and fodder of appropriate quality
   Resulting in higher cost of milk production; lower milk productivity; balanced or better feed provided only to the lactating animals and thus affecting the health, productivity and reproduction capabilities of non-lactating animals
2. Insufficient animal husbandry service delivery
   Poor disease diagnosis, reporting and cure; uncontrolled AI resulting in repeat breeding and inbreeding,
3. Inefficiencies and exploitation in the formal and informal milk value chain
   Farmers complain about lower milk price; processers complain about irregular supply; consumers complain about adulteration of milk and milk products,
4. Insufficient livestock extension services
   New and appropriate knowledge is not adopted by farmers and other value chain actors,
5. Policy incoherence
   Inappropriate policies; inefficient implementation of policies; lack of level-playing-ground for private sector

To address these issues the following technological, process, institutional or social innovations (a.k.a. Best Bets) are listed, which are gathered from literature, discussions with key informants, etc.

The next steps include a participatory and transparent process (stakeholder consultation), these would be analysed and ranked for the next stages of best-bet selection.

**Best bets for India Dairy VCT**

- **Food-Feed crops**
  These dual-purpose crops are appropriate in the Bihar context where farmers are reluctant to allocate land for fodder crops, due to poor land holding and fragmentation of

agricultural land. <u>The research will focus on field-testing of appropriate dual purpose rice, wheat and maize crops.</u>

- **Affordable feed**
  Reducing the cost of feed, along with awareness about correct feeding practices would encourage farmers feed their lactating and non-lactating animals appropriately. <u>The research will focus on scientifically developing and testing of feed/ concentrate produced based on locally available raw materials.</u>

- **Low-cost milking machines**
  Experts suggest that 'quick milking' is beneficial for the farmer and the animal. <u>The research will focus on identifying/ developing (?) and field testing low-cost milking machines for small-holder/ landless farmers</u>.

- **Rapid Disease Diagnosis Kits for major diseases**
  The research will focus on identifying/ developing (?) and field testing these kits for their efficacy.

- **Bio-security measures for disease management**

- **Technologies for animal diseases**
  The research will focus on establishing prevalence of diseases, assessing the risk factors and economic importance of diseases. Field testing of control options for the major diseases

- **Local, semi-processing of milk by women/ women groups**
  This is to address inefficiencies and exploitation in the value chain. <u>The research will focus on the appropriate approach and models for establishing local, semi-processing of milk.</u>

- **"Collective Cattle Farming" by small/marginal/landless farmers**
  This is to address the inefficiencies in cattle rearing through small herd sizes and avail benefits through larger scale of operations. <u>The research will focus on the models and the appropriate approach for operationalizing the concept.</u>

- **"Innovation Support Facility" / multi-agency innovation platform (at State/ District levels)**
  This is to address the policy incoherence, engage with policy makers and to provide a platform for policy advocacy. <u>The research will focus on how to operationalize this concept, which form, who anchors, etc</u>.

- **Village-level dairy entrepreneurs federated at block/ district/ state levels**
  This is to ensure appropriate monitoring and support system for these large number of village level para workers that are being promoted by different agencies. <u>The research will focus on identifying the correct approach for this, capacity needs assessment, capacity development modules.</u>

- **Communities of Practice of AI practitioners**
  This is to have a much-needed monitoring and control for the large number of AI practitioners and support them appropriately. <u>The research will focus on the model and the approach</u>.