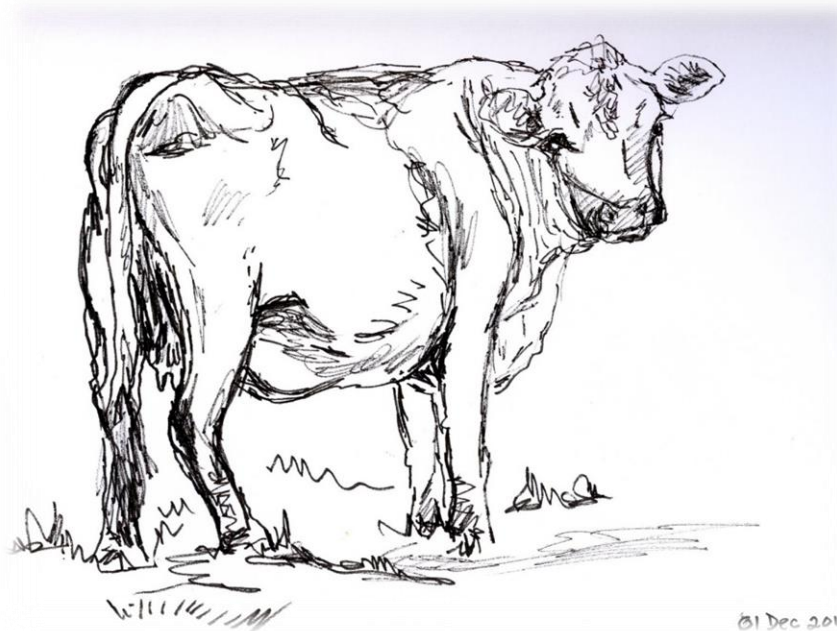


Intervention Model in Dairy Value Chain



“The significant problems we face cannot be solved by the same level of thinking that created them.”

Albert Einstein

Pakistan Dairy Sector Map

The 3rd Largest Milk Producing Country

Annual Milk Production 41 billion liters

Animal Herd Size 57 million (Cows/ buffaloes)

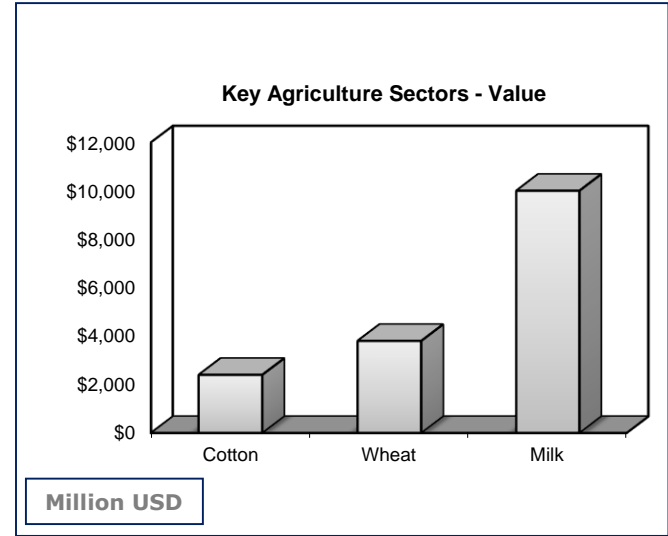
10 million Farming Families impacting 60 million people

11% Contribution to GDP

95% undocumented loose milk economy

Less than 5% processed & documented dairy industry

Demand and Supply gap 1.5 Bn Liters and growing

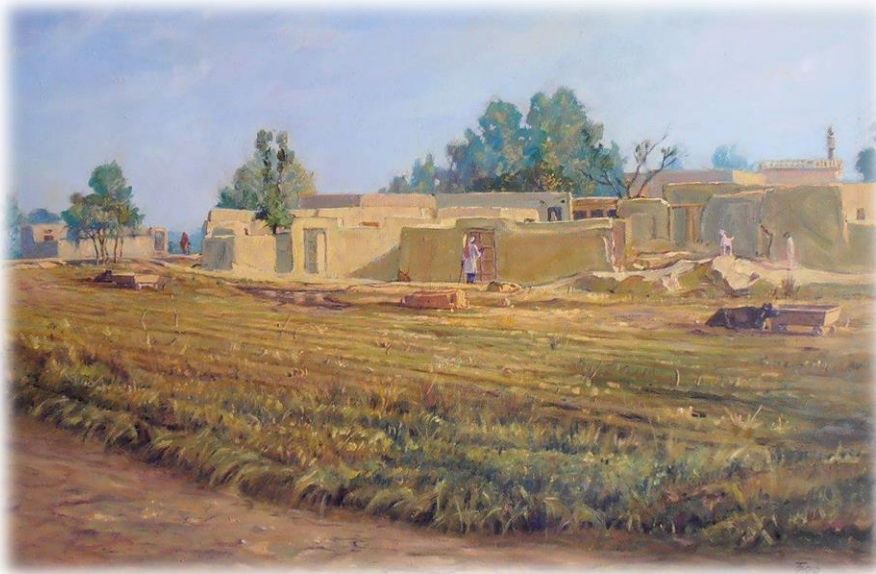


Data source: Agri statistics of Pakistan 2006-07 MINFAL, federal bureau of statistics Karachi, Federal bureau of Statistics (National Accounts) at constant factor & PDDC "White revolution paper"

Pakistan Dairy Sector Map

- Subsistent dairy farming (average 3-5 animals/household)
- Low animal fodder availability
- Lack of infrastructure & commercial dairy culture
- Low productivity (1400-1600 litres avg. per lactation)
- Less awareness & training (farmer & corporate)
- Informal milk marketing channels (loose city milk, sweets)
- Processors share only 5-6% from all milk produced

Herd Size	Animal %
0-5	80%
5-10	12 %
10-20	5%
20 & more	2 %

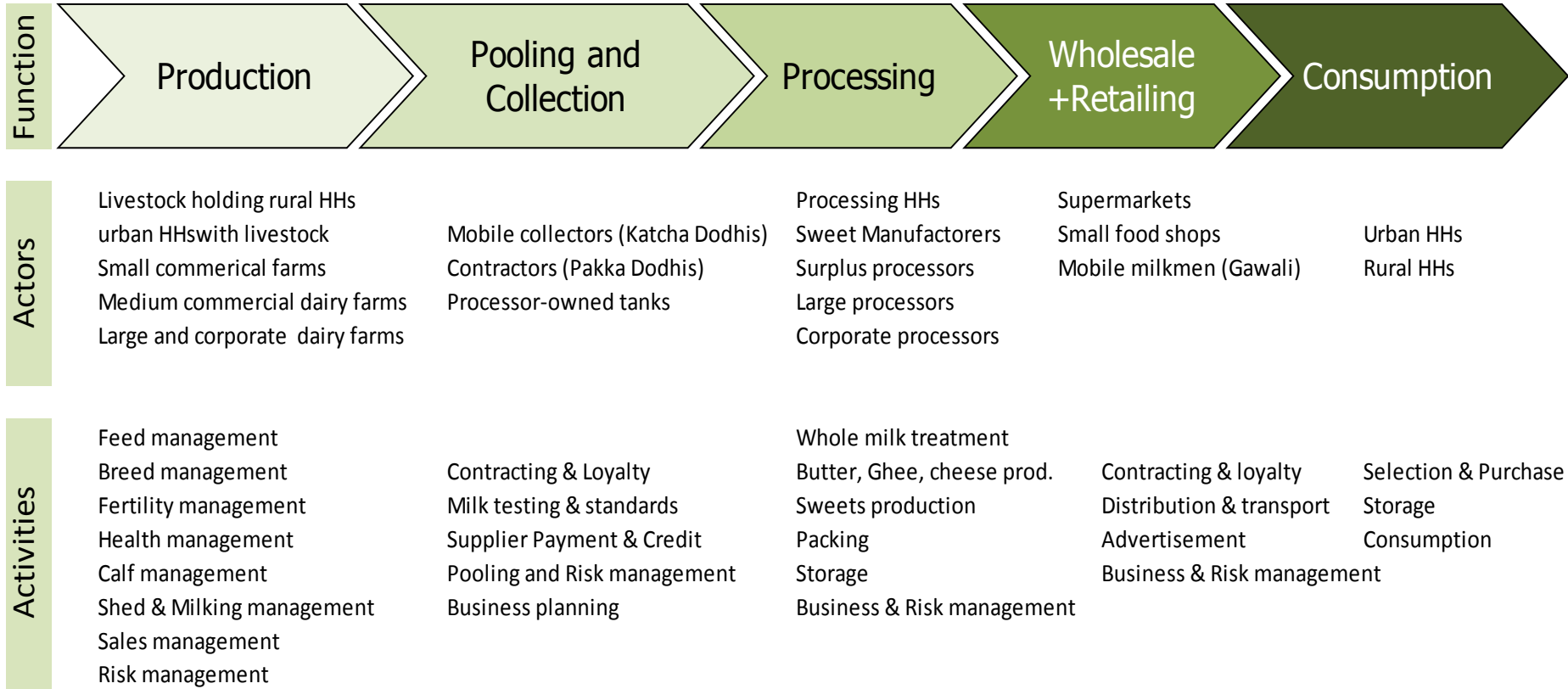


- 41 Bil Ltrs of Milk Production
- Over 28 Mio Animals kept by 8-10 Mio households
- 40% rural income derived from livestock
- 50% share of Buffalo Milk
- 71% consumed at source
- 29% for urban areas (shared between Gawala & Processors)

*Data source: Agri statistics of Pakistan 2006-07
MINFAL*



Value Chain Actors & Activities

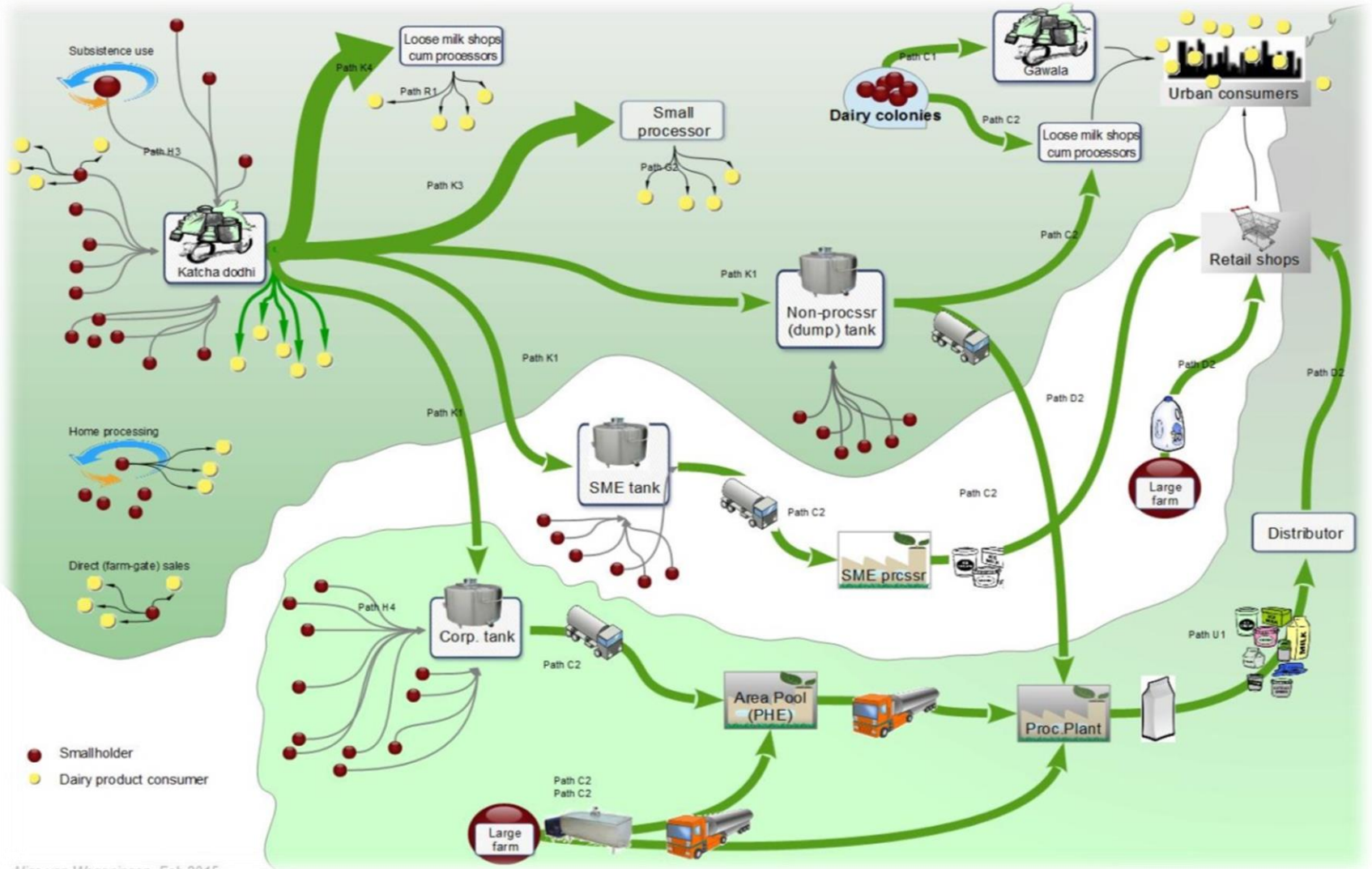


Service-providers, Regulatory environment

Concentrate feed suppliers AI centres, breeding farms Informal lenders & Banks Food safety-involved offices
 Livestock markets Veterinarians & Pharmacies Production advisors Research and Training centres



Value Chain Flow



Nico van Wassenhove, Feb 2015



Value Chain Key Challenges

Dairy Farmers

- ❑ Low yield per animal
- ❑ Less lactation days
- ❑ Lack of Knowledge & Skills
- ❑ Lack of landholding
- ❑ Lack of access to formal markets
- ❑ Difficulty of selling milk in winter
- ❑ Financial limitations
- ❑ Lack of Agri-services availability in villages
- ❑ Lack of good livestock genetics
- ❑ Lack of emergency management funding
- ❑ Reliance on informal credit and vicious cycle

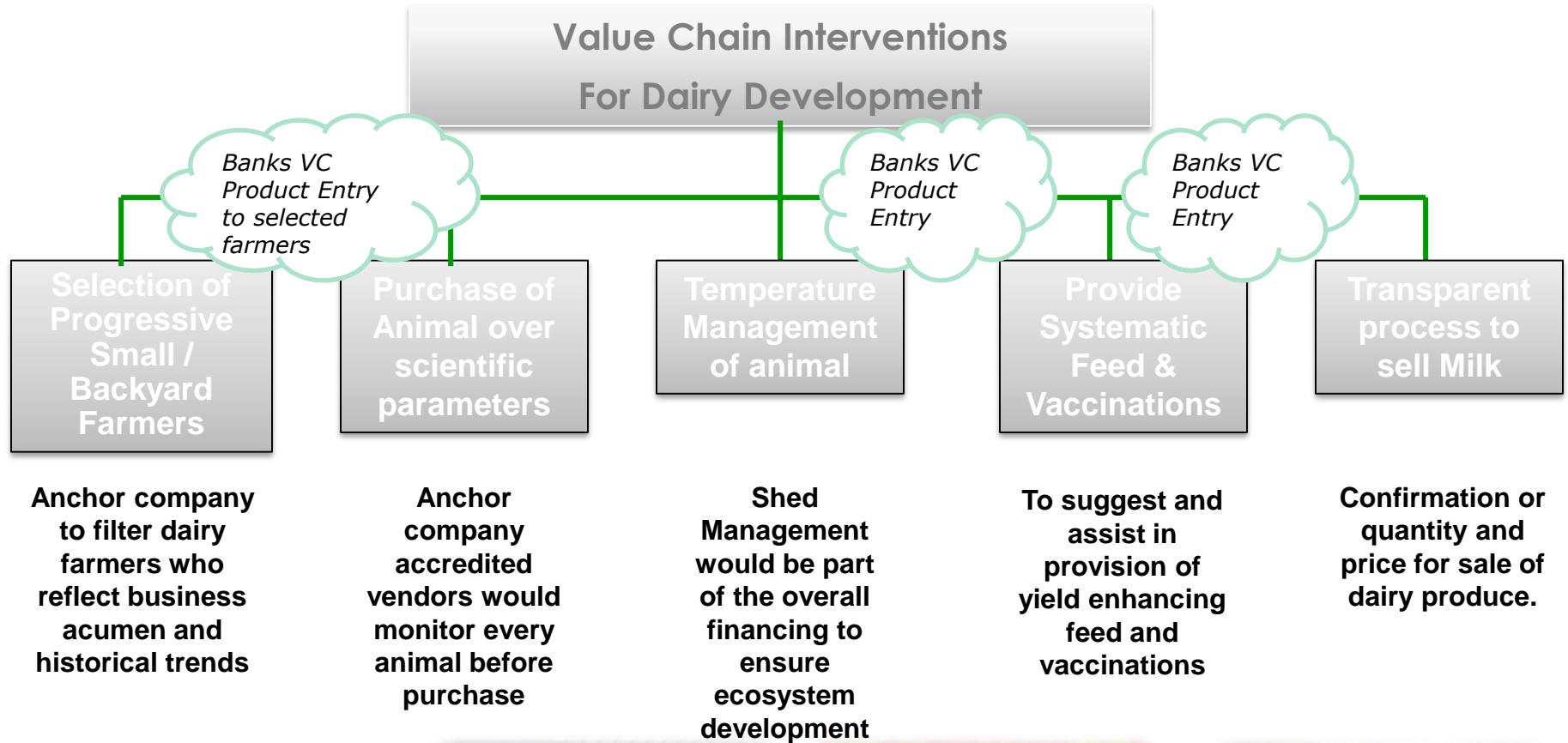


Value Chain Key Challenges

Dairy Processors

- Chilled collections
- Low milk density per km
- Ever increasing raw milk prices
- High over heads – cost of collection
- Optimal utilization of expensive infrastructure
- Low milk quality
- Adulteration by middlemen
- Extreme seasonality.



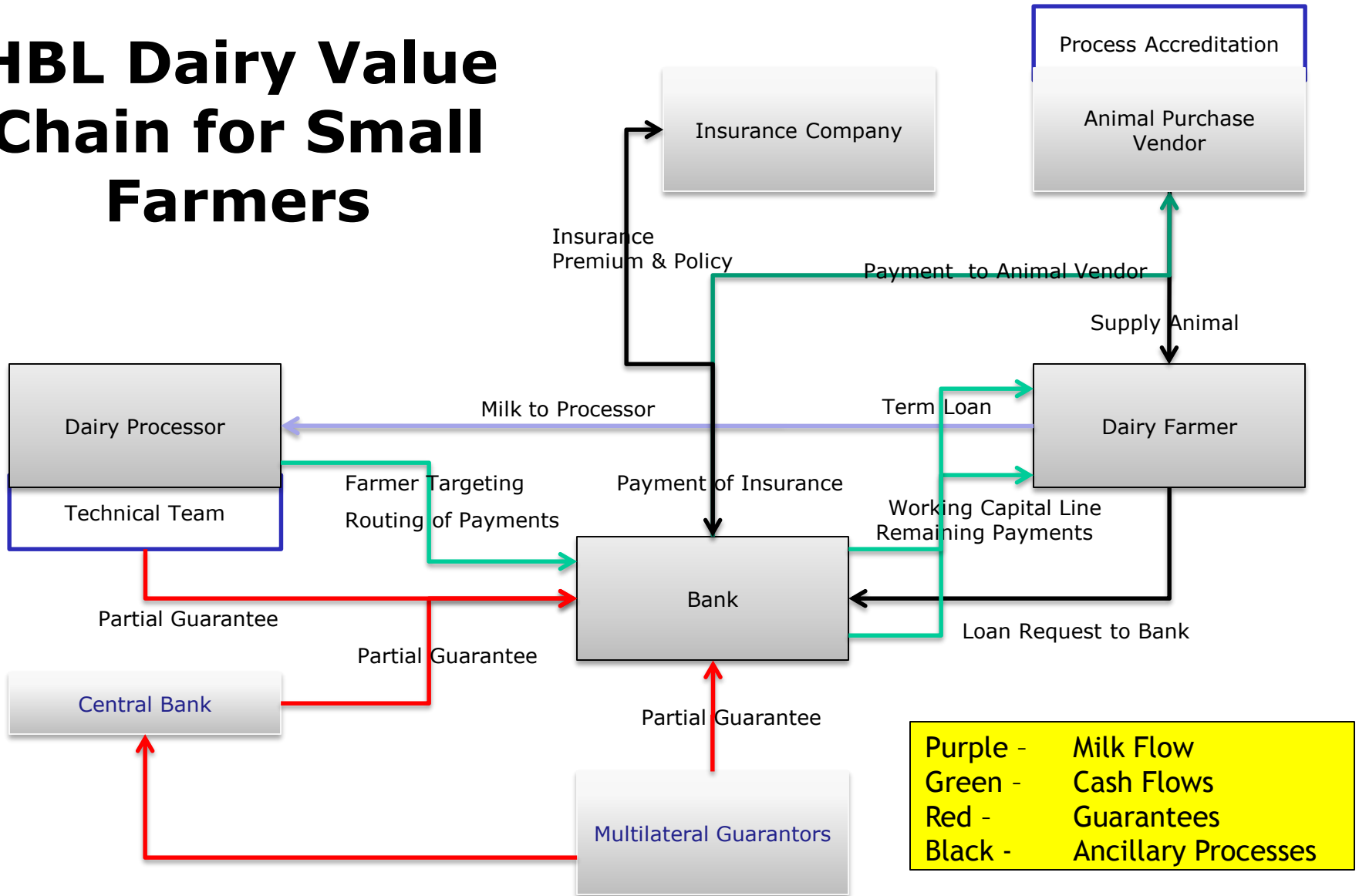


Banks Role in VC Intervention

- 1 Extension of Credit to Non-Bankable:** The bank in cohesion with guarantors would extend loans to progressive yet previously non-bankable farmers who traditionally sought informal loans at extortionate terms.
- 2 Enhancement of Limits/ Head:** The credit would be geared with enhanced limits per animal through accredited animal supply vendors to maximize the milk yield
- 3 Enhanced Product Offering:** The bank would increase the coverage of the loans to include shed development, feed and vaccination requirement and any other cutting equipment they may require
- 4 Reduced Markup:** The bank would offer significantly lower markup on the said financing to the small borrowers to ensure that they have the capacity to repay.



HBL Dairy Value Chain for Small Farmers



Key Benefits

- 1 **Enhanced outreach** levels by extending credit to contract farmers including landless/marginalized small farmers who lack capital and insufficient collateral to qualify for financing from formal channels.
- 2 **Product Development** Facilitate the Bank to refine financing products (Exposure, Markup, Tenor, Frequency) develop lending capacity in that area and generate diversified loan portfolio of agri. financing.
- 3 **Enhanced Product Offering:** Cater to the unmet demand of small farmers (Shed, Cutting Equipment, Feed & Vaccinations.)
- 4 **Security Augmentation:** Mitigating the risk of banks by utilizing & strengthening the existing farmers-processor relationship by introducing alternative operational controls.



Key Benefits

- 5 **Cash Flow Improvement:** Provided short term cash flow assistance to processors and guarantors during procurement season.
- 6 **Economy of Scale:** Provided possibility of bulk purchasing at discounted rates by the processor which can offer better rates and selected raw inputs to the dairy farmers
- 7 **Transparency & Sustainability:** Provide sustainable financial services, mutually beneficial for farmers, processor, and the Bank by reducing cost of doing business and post disbursement monitoring.



Impact on Livelihood

- Adopting dairy as primary source of income having optimum size of farm, share of per family income from dairy will increase from present 40% to 65%.
- Poverty alleviation - farmers family will have major source of family income from the dairy farming.
- Promotion of small entrepreneurs for farm input supplies (Feed, vaccination, fodder seeds, farm equipment etc)
- Skill enhancement of conventional farmers to adopt better farm practices

Data source: Partner Dairy Processor



Impact on Livelihood

- The project has the potential to enhance per capita income from present Rs 25000/ month to approximately 50,000/ month.
- It can amplify farm efficiency by optimum utilization of input resources and adopting best farm practices that is 2 Lit. / Animal Milk will increase which is approximately 30% of his existing production i.e. 1.2 million /year worth of Rs 48 million.
- Increase in herd size will provide the opportunity to improve genetic pool through applying selection pressure.
- Farmers will act as role model to disseminate message to surrounding community to bring the positive cultural change in dairy farming.

Data source: Partner Dairy Processor



Main Lessons

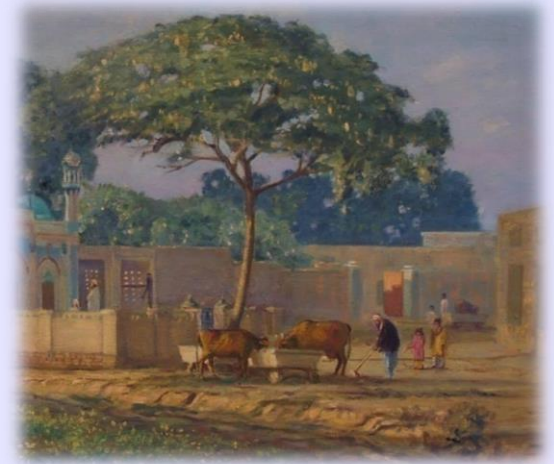
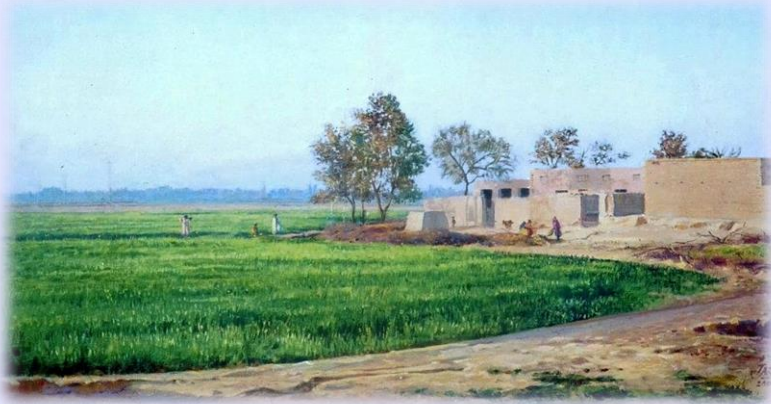
- ❑ The processor plays a pivotal role in assisting the bank for selection of those small farmers which through their consistent supply of milk and the health of their animal herd reflect progressive behavior. The bank otherwise had to rely on estimates with no way of cross checking of facts
- ❑ Processors of any size who consistently purchase milk from small farmers and have basis of recording the supply source and quantity can act as the VC anchor company
- ❑ This project requires of all players the will to execute all arrangements at all levels of the institution. The players also need to have an appetite for risk to cater to the requirements.
- ❑ The credit model requires an in-depth research and a detailed cost-benefit analysis. This model spelled out the responsibilities of the bank and the dairy processing company as well as the associated financial risk of guarantees. model.
- ❑ The insurance scheme is crucial to address some of the key risks associated with this



Way Forward

- ❑ The currently foreseen start of this project is end of 2015.
- ❑ The project would start as a pilot phase and reserve funds for both term and loans for financing day-to-day operational costs
- ❑ In the second and third year of operations, depending upon key performance indicators of the farmers, a further enhancement of the credit line is foreseen for purchase of further quality breed animals.
- ❑ Based on the evaluations, after two years it can be expanded to a regular product





THE END



Pakistan Dairy Value Chain

Small Dairy Farmers

- 0-20 animal heads
- Usually Non – Bankable
- Non-productive, Disputed, Less Land or Landless

Milk Collectors - Dodhis

Seasonal Milk Collectors (Katcha / Pakka) who purchase milk at various rates from the dairy farmer.



Informal Credit Providers

Sellers of Inputs, vaccinations, feed / dealers who provide informal credit for both productive or consumption loans

Milk Purchasers

- Formal large and small milk processors who purchase milk from farmers, large farmers, village collectors

