

National Economic Development Role of the Dairy Sector

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Significance of the Dairy Sector

- ❑ Livestock and its Dairy Sector play an important role in the economy of Pakistan and the livelihood of its people.
- ❑ Livestock accounted for 55.1 percent of agriculture value added and 11.5 percent of national GDP in 2010-11.
- ❑ It is a net source of foreign exchange earnings, constituting more than 8.5 % of the total exports.
- ❑ The sector is immune from weather related problems and thus offers prospects for consistent growth.
- ❑ It is also an important source of raw material particularly for leather, carpet and woolen cloth industries.

Significance of the Dairy Sector

- ❑ Livestock is raised by more than 8.5 million small and landless families (45-55 million population) in the rural areas and is their main livelihood source.
- ❑ It is a form of social security for the poor, who cash it at the time of need and it also serves as security against crop failure in Barani (rain-fed) areas.
- ❑ Dairy sector is an important component of Pakistan's economy. The value of milk alone exceeds the combined value of wheat, rice, maize and sugarcane in the country.
- ❑ Pakistan's Dairy Sector produced 46.44 million tons of milk in 2010-11, making Pakistan 4th largest producer of milk in the world.

Significance of the Dairy Sector

- ❑ Due to its importance **Livestock sector** has emerged as a **priority sector** only recently on policy formulation.
- ❑ Historically, Livestock has been **subsistence sector** dominated by small holders to meet their needs of milk, food and cash income on daily basis.
- ❑ In the rural areas, livestock is considered as a **more secure source** of income for the small farmer's and landless poor's.
- ❑ It has also become important **source of employment generation** in rural areas – engaging women.

Significance of the Dairy Sector

- ❑ The sector is **mitigating income variability** in the rural areas as crop sector is more dependent on uncertain vagaries of mother-nature.
- ❑ The **poverty incidence** in Pakistan is determined by **income variability** and thus **livestock and dairy** are the **best hope** for **poverty alleviation** as it can uplift the socioeconomic conditions of our rural masses.
- ❑ The population growth, increase in per capita income, remittances and export proceeds is **fueling the demand for meat and dairy products**, hence creating sustainable investment and income growth opportunities.

Challenges Faced by the Dairy Sector

- ❑ Despite being the most lucrative livestock product, **milk production is the least commercialized enterprise** in the agricultural economy.
- ❑ The majority of national livestock herd is distributed in **small units** throughout Pakistan.
- ❑ About **55 million landless/small land holding farmers** are responsible for the bulk of milk production produced in the country.

Challenges Faced by the Dairy Sector

- ❑ The data clearly depicts that most of the households (**more than 93%**) raising cattle and buffaloes in the country are smallholders (**less than 10 animals**).
- ❑ Similarly, most of the animals (**67.6% cattle and 71.4% buffaloes**) are also raised in smallholding set ups.
- ❑ Most of the milk produced (**approximately 70%**) in the country is consumed at home. The remaining **30%** is marketed through various marketing channels. Only **3 to 3.5%** of milk is processed in the country. The rest is sold as raw milk or used in preparation of sweets or various other traditional products.

Challenges Faced by the Dairy Sector

- ❑ Up to 70s, the dairy sector of Pakistan has mainly been subsistence holdings with minimal trend for commercialism and without much assistance from the government.
- ❑ Presently, dairy industry in the country is dominated by private sector, multinationals as well as national companies, primarily producing dairy commodity products, mainly UHT fluid milk, milk powder and yogurt and to a lesser extent cheese, in the country.
- ❑ In spite of rapid development, the dairy sector of Pakistan is in a transitional stage and is confronting with numerous problems which are hindering its future growth and development.

Livestock Development Constraints

- Inadequate feed resources (short by 30%)
- Unavailability of superior germplasm from known source
- Widespread breeding of genetically inferior livestock
- Epidemics of infectious diseases
- Poor marketing infrastructure
- Inadequate institutional infrastructure
- Outdated regulatory framework
- Limited credit availability to the livestock farmers (1/10th of agricultural credit)
- Low investment by government

Challenges of Smallholders

- ❑ The smallholder dairy producers are also faced with daunting challenges in the areas of **infrastructure, financial insecurity, quality assurance, price regulation, untrained manpower, high inflation of inputs, and seasonality.**
- ❑ A fragmented farm base coupled with low productivity makes collection practices inefficient. **Access to proper infrastructure such as cold chains** is still limited and leads to **post harvest losses of up to 20%** in some areas.
- ❑ And, **disparity between input and output prices** has inverse affects on farm profitability.
- ❑ These challenges pose a serious threat to the development of the dairy industry in Pakistan.

Export Challenges

- ❑ On export front Pakistan's Dairy Sector is also falling behind its competitors and faces significant challenges.
- ❑ The production and processing sectors in Pakistan are both highly fragmented in terms of the number of milk suppliers and processors.
- ❑ The industry is competing in international markets against much larger enterprises that are increasing their scale at a faster rate.
- ❑ There has been significant and rapid industry consolidation in recent years in the major dairy exporting countries (Denmark, Netherlands and New Zealand) where dominant players have emerged (into one in Denmark, one in New Zealand and two in the Netherlands).

Consolidation in key Markets

- ❑ New Zealand is most significant player in international trade of milk – with 35% share of global trade.
- ❑ From 1961 when there were 168 dairy companies operating under the Dairy Board, the industry underwent an extensive period of consolidation throughout the 1970s, 1980s and 1990s. By 1981 there were 42 dairy companies operating in New Zealand, in 1998 there were nine, reducing to four in 2001.
- ❑ Today one company, Fonterra, holds a dominant position in the dairy industry, processing approximately 95% of total New Zealand milk supply.

Thrust of Government's Livestock Policy

- ❑ In order to speed up the pace of development in livestock and its Dairy Sector, the overall thrust of Government's livestock policy is to foster private sector-led development with public sector providing enabling environment through policy interventions and capacity building for improved livestock husbandry practices and supply chain management.
- ❑ The emphasis is on improving per unit animal productivity and moving from subsistence to market oriented and then commercial livestock farming in the country to meet the domestic demand and surplus for export.

Thrust of Government's Livestock Policy

- ❑ The objective is to exploit the potentials of our livestock and its sectors and use it as engine for economic growth, livelihood development and food security for the country leading to rural population empowerment and rural socioeconomic development /uplift.
- ❑ On the other hand, in recent years, the private corporate sector has demonstrated keen interest by investing heavily in dairy processing. The government and donors have also been providing unprecedented assistance to the private sector.
- ❑ However, most of this support is targeted to the medium and large scale dairy farmers, which only represent a small portion of the milk producers.

Government Policy Needs to Focus on Smallholders

- ❑ According to the Livestock Census held in 2006, among the 8.4 million reported dairying households, **51%** own a herd size of just **1-4 animals**.
- ❑ Another **28%** households maintain herd sizes of **5 to 10 animals**. Whereas, only **14.23%** of the herd sizes are composed of **11 to 50 animals**.
- ❑ Only **6.72%** of the farms in the country come under the large category where more than **50 animals** are kept.
- ❑ The small size and scattered nature of the farms leaves a big question mark about farm economics and how to implement better technology for the **70%** of smallholding farmers in Pakistan

Government Policy Needs to Focus on Smallholders

- ❑ To ensure rapid development of the country's dairy sector, it is important that **critical support** is provided to the **promotion of smallholder producers**.
- ❑ Key issues for promoting smallholder based dairy development would be to **organize farmers, integrate production with marketing, enhance access to credit, upgrade milk marketing chains through adoption of modern technology, enhance market information, and improve farm profitability**.

Need for a Two-Tiered Action Plan

- ❑ In Pakistan, a two-tiered action plan is required: to develop systems, which provide profitability for the smallholder and maintain quality through the supply chain, while assisting the development of larger scale commercial farms.
- ❑ We believe the co-existence of both kinds of farms is the reality of dairying in Pakistan and development efforts must provide solutions for both smallholders and commercial farmers.

Lessons can be Learnt from International Success Stories

- ❑ Despite dairy farming being a by-product of cropping, many small farmers around the world have **self-selected themselves** into dairying and have been able to improve their economic status.
- ❑ This has been proved by three country experiences namely **China, India and Kenya** - in these countries smallholding farmers have benefited substantially by dairy farming.
- ❑ Many small farmers secure **reasonable returns in dairy farming**; resulting in the **economic uplift** of rural areas.

The Chinese Model of Dairy Farm Development

- ❑ The Chinese model of farm development may provide a good example for Pakistan.
- ❑ Milk production in China is very diverse. There are **large farms**, usually owned by dairy processors that utilize some of the latest management, feeding, and milking technologies.
- ❑ These large dairy farms do not, however, account for the bulk of milk production in China.
- ❑ **Smallholding production co-exists** with large farms.

The Chinese Model of Dairy Farm Development

- ❑ In China, either small farmers bring their cows to the station or the cows are housed near the milking facility – to allow cows managed by households to be milked by machine and have the milk go directly to a refrigerated bulk tank.
- ❑ There are also a growing number of medium-sized specialized household farms with 200-1000 cows. These are often private farmers within reasonable transportation distances from major consuming areas. These farmers also have mechanized milking, cold storage, and highly productive animals (5000-7000 liters/head/year).
- ❑ Hand milking and un-refrigerated milk collection continues, but less and less of the resulting milk is making its way into urban areas and into the processing sector.

Kenya's Dairy Sector Success

- ❑ By most accounts the dairy sector in Kenya has been a long-term success story. In many respects it can be viewed as a classic 'new' agriculture case.
- ❑ It is smallholder based, integrated with the private sector, commercially oriented, and with wide pro-poor benefits.
- ❑ More than **600,000 small-scale farmers produce milk**, using dairy cows of improved breeds.
- ❑ Annual net earnings from milk sales are estimated at **US \$370 per year per household**.
- ❑ Those holding between **one and three** cows produce **80 percent** of Kenya's milk, and the poorest group earn around half of their income from milk sales.

Kenya's Dairy Sector Success

- ❑ Success of course does not appear overnight, and a longer history of politics and policy is needed to put things in context.
- ❑ A smallholder focus; strong political backing across regimes since independence; a focus on high potential areas with sound market infrastructure; long-term state support for productivity improvement and veterinary care; effective and consistent donor support for the sector; attractive to private investment, with substantial markets nearby in Nairobi; effective farmer unions and groups, with good political connections, able to lobby for their interests

Success of Dairy Farmers' Cooperative in India

- ❑ Amul has become a household name in India. It is managed by the Gujarat Cooperative Milk Marketing Federation (GCMMF), which is jointly owned by nearly 3.1 million milk producer families. More than 70% of whom are small, marginal farmers and landless laborers and include a sizeable population of tribal folk and people belonging to the scheduled castes.
- ❑ In turn, GCMMF is an aggregation of over 15,700 village dairy cooperative societies and 15 district cooperatives.
- ❑ The brand is an unqualified success, with an annual revenue of Rs8,000 crore in 2009-10, and a daily milk procurement exceeding 9.4 million litres.

Success of Dairy Farmers' Cooperative in India

- ❑ **The Amul Model is a three-tier cooperative structure.**
- ❑ This structure consists of a Dairy Cooperative Society at the **village level** affiliated to a Milk Union at the **District level** which in turn is further federated into a Milk Federation at the **State level**.
- ❑ The above three-tier structure was set up in order to delegate the various functions, milk collection is done at the Village Dairy Society, Milk Procurement & Processing at the District Milk Union and Milk & Milk Products Marketing at the State Milk Federation.
- ❑ This helps in **eliminating not only internal competition** but also ensuring that **economies of scale** is achieved.

Success of Dairy Farmers' Cooperative in India

- ❑ GCMMF now has the largest milk handling capacity in Asia and largest Cold Chain Network.
- ❑ 48 Sales offices, 5000 Wholesale Distributors, 700,000 retail outlets and export to 41 countries.
- ❑ India's National Dairy Development Board has exported the GCMMF model to other states.
- ❑ Today, over 100,000 village dairy cooperatives federated in 177 milk unions and 15 federations lend substance to the term "operation flood", which revolutionized milk production and distribution in India over 25 years.
- ❑ GCMMF's three-tier cooperative structure can provide insights for developing smallholder focused action plan in Pakistan.

GCMMF - Village Dairy Cooperative Society (VDCS)

□ The main functions of the VDCS are as follows:

- Collection of surplus milk from the milk producers of the village & payment based on quality & quantity
- Providing support services to the members like Veterinary First Aid, Artificial Insemination services, cattle-feed sales, mineral mixture sales, fodder & fodder seed sales, conducting training on Animal Husbandry & Dairying, etc.
- Selling liquid milk for local consumers of the village
- Supplying milk to the District Milk Union

□ Thus, the VDCS is an independent entity managed locally by the milk producers and assisted by the District Milk Union.

GCMMF - District Cooperative Milk Producers' Union (Milk Union)

□ The main functions of the Milk Union are as follows:

- Procurement of milk from the Village Dairy Societies of the District
- Arranging transportation of raw milk from the VDCS to the Milk Union.
- Providing input services to the producers like Veterinary Care, Artificial Insemination services, cattle-feed sales, mineral mixture sales, fodder & fodder seed sales, etc.
- Conducting training on Cooperative Development, Animal Husbandry & Dairying for milk producers and conducting specialized skill development & Leadership Development training for VDCS staff & Management Committee members.

GCMMF - District Cooperative Milk Producers' Union (Milk Union)

- ❑ Providing **management support** to the VDCS along with regular supervision of its activities.
- ❑ **Establish Chilling Centers & Dairy Plants** for processing the milk received from the villages.
- ❑ **Selling liquid milk & milk products** within the District
- ❑ **Process milk into various milk & milk products** as per the requirement of State Marketing Federation.
- ❑ Decide on the **prices of milk** to be paid to milk producers as well on the prices of support services provided to members.

GCMMF - State Cooperative Milk Federation (Federation)

□ The main functions of the Federation are as follows:

- Marketing of milk & milk products processed / manufactured by Milk Unions.
- Establish distribution network for marketing of milk & milk products.
- Arranging transportation of milk & milk products from the Milk Unions to the market.
- Creating & maintaining a brand for marketing of milk & milk products (brand building).
- Providing support services to the Milk Unions & members like Technical Inputs, management support & advisory services.

GCMMF - State Cooperative Milk Federation (Federation)

- Pooling surplus milk from the Milk Unions and supplying it to deficit Milk Unions.
- Establish feeder-balancing Dairy Plants for processing the surplus milk of the Milk Unions.
- Arranging for common purchase of raw materials used in manufacture / packaging of milk products.
- Decide on the prices of milk & milk products to be paid to Milk Unions.
- Decide on the products to be manufactured at various Milk Unions (product-mix) and capacity required for the same.

GCMMF - State Cooperative Milk Federation (Federation)

- Conduct long-term Milk Production, Procurement & Processing as well as Marketing Planning.
- Arranging Finance for the Milk Unions and providing them technical know-how.
- Designing & Providing training on Cooperative Development, Technical & Marketing functions.
- Conflict Resolution & keeping the entire structure intact.

Concluding Remarks

- ❑ Pakistan's Dairy Sector holds great promise for national economic development, export growth, food security, poverty alleviation and economic engagement of women.
- ❑ The Dairy Sector, in recent years, has witnessed vigorous Government interest and private sector investment.
- ❑ In spite of rapid development the Dairy Sector remains largely fragmented, dominated by scattered smallholders.
- ❑ A two-tiered action plan is required to engage and provide profitability for the smallholder while assisting the development of larger scale commercial farms.

Thank You