

Lecture Series 1. Next generation dairy farming : smart locally, competitive globally

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A global movement on
sustainable development action

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Introduction

- India has been a forerunner in dairy industry globally in terms of the production, marketing and growth.
- However, with changing global scenario, India needs to adapt to ensure that the dairy industry is able to meet the challenges both national and global.
- A very important component of the dairy industry is the milk production, which forms the backbone of dairy industry.
- For this, an overview and retrospection of the advantages, challenges, issues and options is necessary to take necessary steps to ensure a long run sustainability of the dairy industry.
- India needs a customized solution for the dairy industry which caters to its very unique economic, social and political environment and also the perspectives of the upcoming generation needs.

The Indian Dairy Sector – Status and challenges

- Dairy industry is of crucial importance to India. The country is the world's largest milk producer, accounting for more than 13% of world's total milk production.
- It is the world's largest consumer of dairy products, consuming almost 100% of its own milk production.
- Milk production in India has been growing at an average growth rate of 4.7% per annum for the last ten years closely matching the milk demand in the country with minor surplus for global trade in the last 3-4 years.

The Indian Dairy Sector – Status and challenges

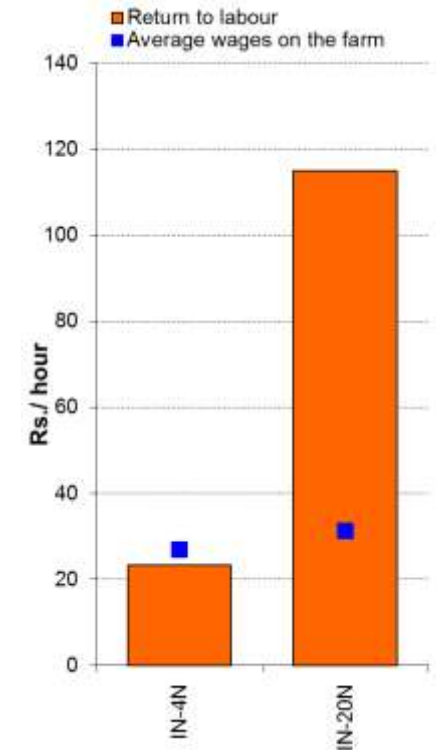
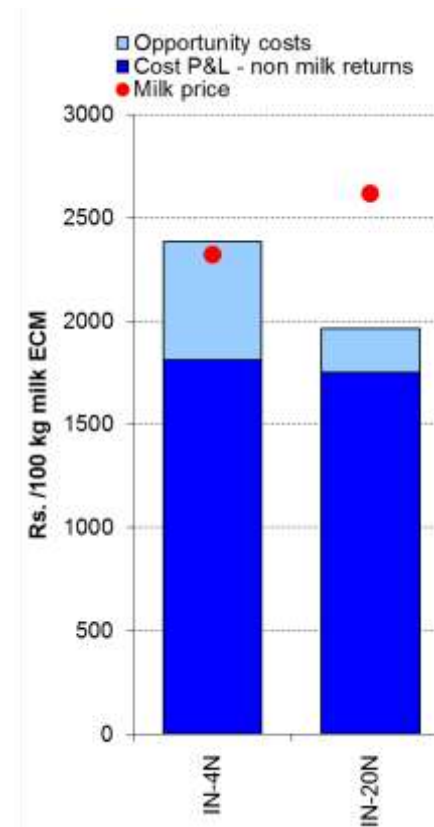
- With the present global scenario, India needs to have present need based strategies, if India is able to maintain its insulation from the global trends and also meet its growing dairy demand.
- The challenges in ensuring a sustainable dairy development have been there and seem to have enforced more in the recent times. This is especially, with regards to milk quality; inflationary trends in inputs especially feed, huge imbalance in input requirement and availability; infrastructure bottlenecks and technology accessibility; exchange rate volatility; market access and penetration.
- The milk processing industry is small compared to the huge amount of milk produced every year. Only 15% of all the milk is delivered to some 500 dairy plants. The unorganised sector of milkmen, vendors who collect the milk from local producers and sell the milk in both, urban and non-urban areas, handles around 60% of the national milk production. In the organised dairy industry, the cooperative milk processors have a 45% market share.
- The cooperative dairies process 80% of the collected milk as liquid milk whereas the private dairies process and sell only 20% of the milk collected as liquid milk and 80% for other dairy products with a focus on value-added products.
- In this era of globalization and liberalization, a global perspective is necessary to get the complete picture to ensure sustainable future dairy development.

Status India over the years and outlook

Source	References	Socio-economics role of Dairying
CC-BY-SA	<u>"Milk quality in India"</u> . <i>milkproduction.com</i> . Archived from <u>the original</u> on June 30, 2015. Retrieved June 3, 2015	The ever-increasing rise in domestic demand for dairy products and a large demand-supply gap could lead to India being a net importer of dairy products in the future. ^[9]
CC-BY	https://en.wikipedia.org/wiki/Farming_systems_in_India	More than 40 million households in India are at least partially dependent on milk production implying repercussions on their livelihoods and on rural poverty levels.
CC-BY-SA	<u>"India's Role in World Agriculture"</u> Monitoring Agricultural trade Policy. European Commission, December 2007.	International Farm Comparison Network (IFCN) examined impacts on small-scale milk production systems, the whole farm and related household income. ^[1]

Status India over the years and outlook

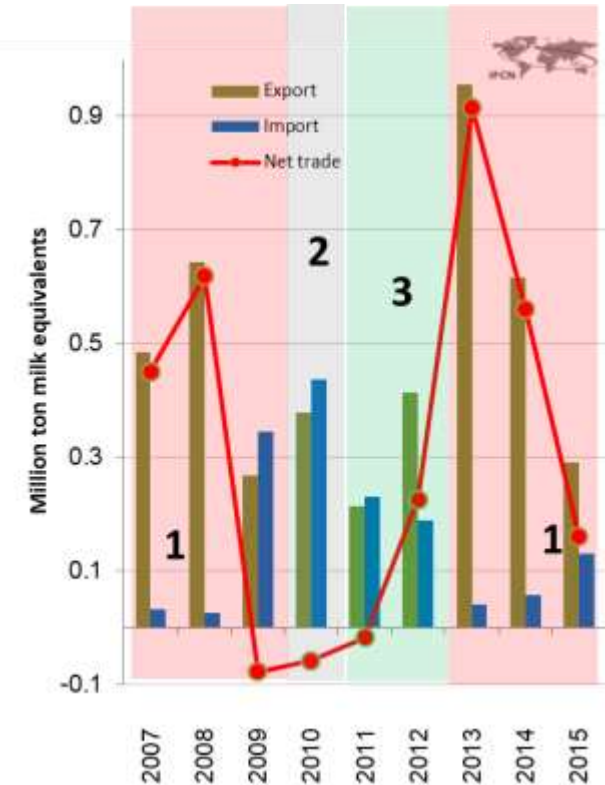
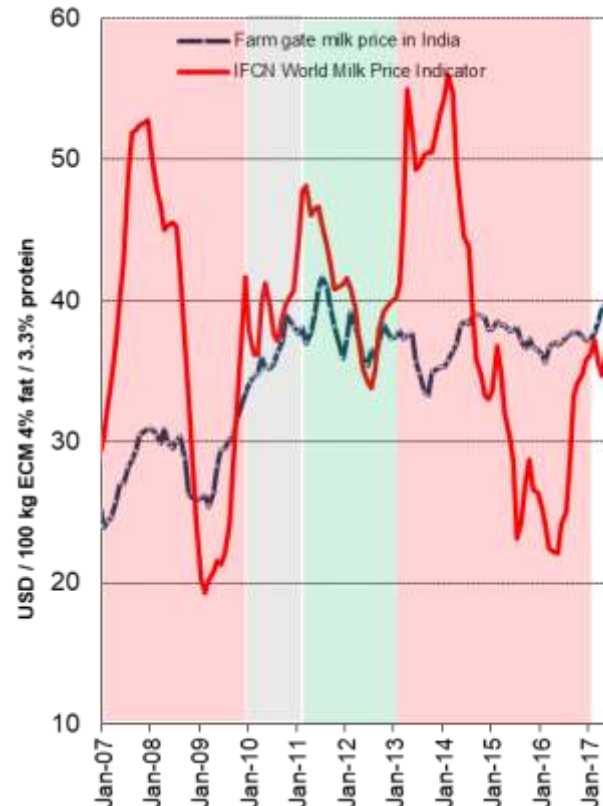
- The chart 3 above shows the cost competitiveness of milk production in the typical dairy farming systems in Punjab. It can be seen that the cost of milk production in 2014-15 was about Rs. 24 per kg ECM in the average farm and Rs. 20 in the larger farm. The cost reduction by about 20 percent is mostly owing to the labour economies of scale as shown in the graph depicting the return to labour. With herd size increasing from 4 to 20 animals, the return to labour increases by about 5 times making dairying a better employment alternative at the present wage levels.



Saha, Amit 2017• Future dairy farming in India: Smart locally, Competitive globally, Chapter in book "Smart Training/ Workshops/ Seminar / Conference organized Farming Prospects and Problems", Dec 2017, LLIM, Mumbai

Status India over the years and outlook

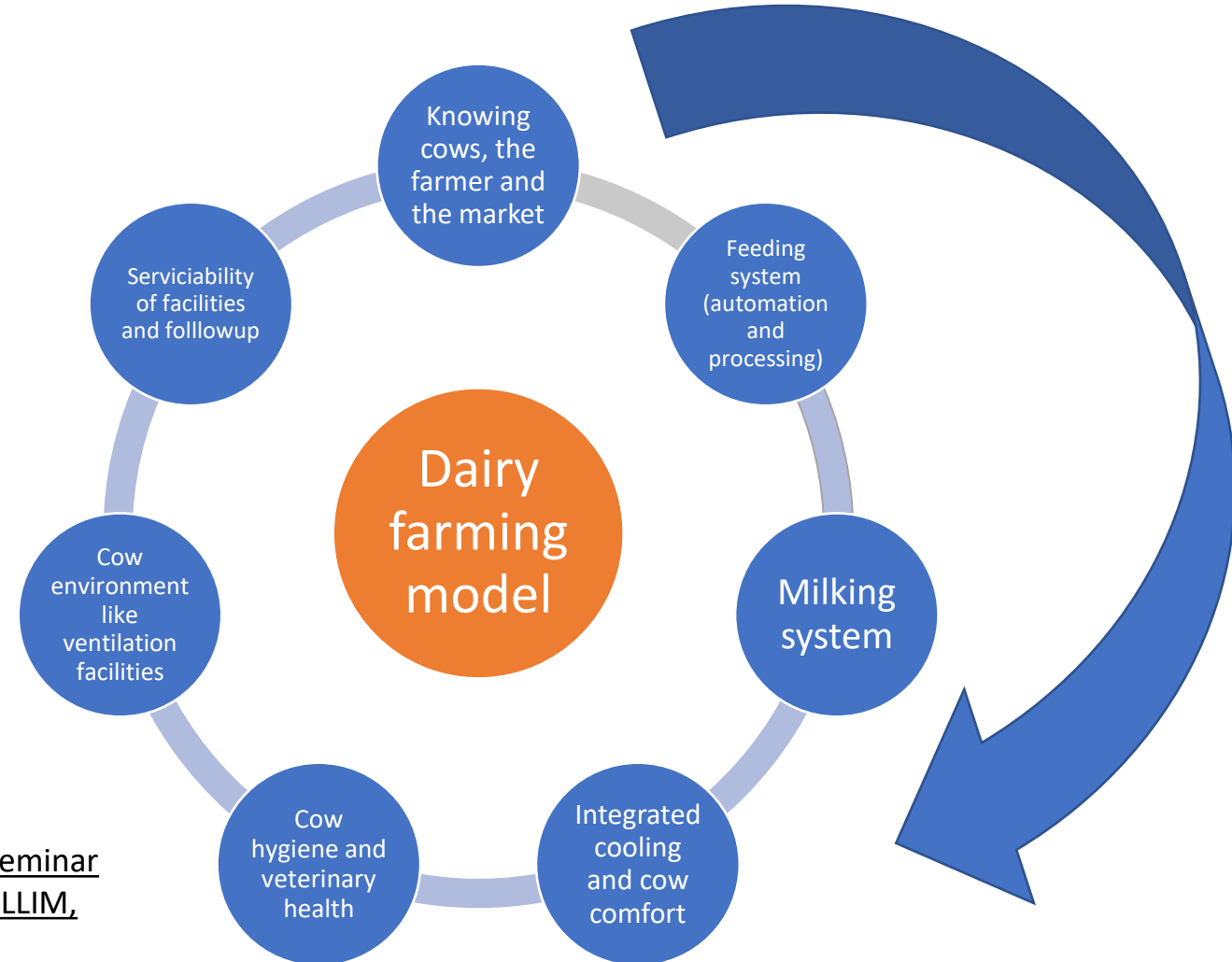
- India needs to adopt to milk supply management at farm level rather than resort to protection measures in the long run in order to ensure improving competitiveness and sustainability of the dairy supply chain. This would mean, more integration with the global markets and preparing for the same across the dairy stakeholders. This will also help the Indian dairy farmers to benefit from the global dairy markets.



Hemme , Saha et al. 2016. Global dairy crisis and India dairy perspective; DairyTimes November 2016, www.agronfoodprocessing.com

Future dairy farm development model

- The traditional 2 cow household farm model, which has served as the backbone for the cooperative dairy revolution in India has to find its alternative model keeping in tune with the changing global scenario and developments in the national economy.
- An integrated approach to a profitable and sustainable dairy farming model for Indian conditions would need a systematic review of the options and possibilities of scenarios on each of the 7 key innovative areas as show below starting with knowing cows



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Future dairy farm development model

1. Generation shift and appealing
2. Availability of affordable safe clean milk
3. Urban farming in smart cities
4. Small is smart, efficient and resilient
5. Next generation fodder and dairy animal breeding systems
6. Ensuring / developing Cheap Feed availability sources
7. Scientific management of animals
8. Automation and precision machinery
9. Data precision technologies
10. Optimizing cheap labour
11. Automation costs
12. Coordination of farmer operations with service providers using digital farming
13. Digital training and skill development
14. Use of innovation by the processors
15. Promoting Global Export of Indigenous Dairy products

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Summary

- The Indian dairy sector has progressed making India attain the status of a self-reliant and fore runner dairy market globally.
- The future dairy market has a very good scope and opportunities, but its high time when India needs to develop its dairy sector in a more pragmatic manner keeping the global developments and local needs in the long term in perspective.
- Business as usual attitude, may lead to India becoming a major importer in near future. On the other hand, strategic initiatives as discussed can lead India to being a major dairy export hub as well.
- Instead of a defensive approach of protectionism, India should embark on a path of progressive development towards facing the global competition by becoming competitive.
- Of crucial importance is farm development strategy that is smart locally and competitive globally to overcome the challenges in near future and in long term. Finally, embarking on a time bound mission mode with both public and private partnership to achieve the long term vision of a self-reliant progressive and futuristic dairy industry in India.

Contact information

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