

Study of Information system and Information Technology in Indian Dairy Sector

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Abstract:-

Information System is a combination of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, coordination, and decision making in an organization. Information system is used everywhere, wherever the eyes can see. So it has touched the area of Dairies too. As it is a known fact that the milk is a very fragile kind of product, therefore it requires that it should reach to the destination in proper time frame and in good condition. So the Information system is merged with the Logistic management system to make system work perfectly. And with the help of Logistic Information system the various problems of organized dairies are resolved. The use of Information Communication Technologies (ICT) in rural areas of India by different organized dairy industries has made the operations of the dairy industry smooth and simple and different from the old handling pattern of dairy business. While it has always been argued that investments related to ICT made in rural India are not effective, the case of Amul and Saras and other organizations has proven that, where there is a will there is a way. In Gujrat “Amul” and in Rajasthan “Saras” has become rural India’s flag bearer in the IT revolution

1. Information System and its importance in Organized Dairy sector

Clarke (2013) defined

“Information systems as a particular discipline, or branch of learning. It is concerned with the application of information to organizational needs. The scope of IS includes manual, computer-based and other forms of automated procedures, and applications of information technology generally.”

The Information system works for several different organizations and their departments, and it plays a very important role in achieving excellence in their field. As information system also works in logistics department of Dairy sector and we know that dairy is one sector in which timing and management of product is very crucial.

Supply chain and logistics is the backbone for any dairy sector, if the supply chain won't work effectively then the product becomes useless and can cause heavy losses. So its management in an effective way is really important. An effective Information system maintains the record of products, record of destinations, record of routes and alternative arrangements which are required by the system. With this the role of DSS (Decision support system) is also very important, DSS helps in making decisions when any situation occurs, for example if supply is required in fast pace, then what should be done. The decisions were taken on the basis of previous experience or according to the situation which has occur, the system gives some solutions from which the employee has to opt one, according to the requirement.

2. Introduction of Dairy Sector

A **dairy** is a business enterprise established for the harvesting of animal milk – mostly from cows or goats, but also from buffalo, sheep, horses or camels – for human consumption. A dairy is typically located on a dedicated dairy farm or section of a multi-purpose farm that is concerned with the harvesting of milk.

As an attributive, the word dairy refers to milk-based products, veil, derivatives and processes, and the animals and workers involved in their production: for example dairy cattle, dairy goat. A dairy farm produces milk and a dairy factory processes it into a variety of dairy products. These establishments constitute the dairy industry, a component of the food industry.

The Dairy Industry can be categorized into two parts: Organized and Unorganized.

Unorganized Dairy sector

Milk producers directly supply milk to the consumers or through a marketing channel. They have no big industry or machines to process the milk. People may come directly to them and buy milk. The unorganized sector generally supplies milk and no variety of milk products. Sometimes the unorganized sector people supplies milk to the organized sector also.

Organized dairy sector

Producer's milk reaches private processor directly and after processing it reaches consumer. Milk producer supply their milk to primary cooperative society, which inter alia supplies to secondary

cooperative. The milk after processing reaches consumer via marketing channel either directly or through apex cooperative. And this sector supplies milk and milk based products also.

The work of organized dairy industries is very challenging, and it requires management at every level. As milk is a kind of product which is very fragile and the supply chain should be very fast and the management of Information should be correct and accurate to cope up with the time frame. So that it can be collected as well as processed and supplied to their respective destinations in consumable form.

Role of Information System and Information Technology in Indian Dairy Sector

In India we have organized and unorganized two kinds of dairy sectors. Unorganized dairy people are those who own few cows or buffaloes and they supply it to few people or organized dairies directly. And the organized dairy sector takes milk from the unorganized dairy people and they process it in their processing houses and after that they supply it to different vendors who sell milk and milk products.

Information Technology and Information system works together. Information technology gives base to Information system where it has to work and without information system there is no use of Information technology. So if these dairies are handled by the professionals with the help of an effective information system, then handling becomes easy otherwise heavy losses will be faced by the organizations. As it is a known fact that milk and milk products get deteriorated very easily and very fast too. So the supply chain should be efficient enough with the required resources that will be able to save and supply them in a good condition.

Supply chain works efficiently with the help of good and intact information managed by the Information system. The Supply chain system needs to do the following task.

- Procurement of raw Material
- Checking the quality of raw material
- Handling Logistics of Milk and Milk Products, ensuring proper dispatch as per schedule and as per distributor requirement.
- Packaging of products
- Keeping proper storage in warehouses
- Daily checking of day expenses
- Allotment of vehicles

- Protection of goods from temperature
- Daily dry ice purchase and usage reports
- Route planning as per order after proper coordination with sales department, coordinating with production department and account department.

Information Technology also supports dairy sector. Many organized dairy sector has also stepped up to implement ERP in the company which will integrate organization till depots, information regarding inventory will now be available instantly at all levels. Such an integration will facilitate inter depot transfers and would help in improving the responsiveness in the market. The information of producers, raw material, finished goods and products, route information, expenses, vehicle detail, distributor data etc. everything is stored in a data warehouse and retrieved as per the requirement with the tools and techniques of data mining.

For example “Amul” and “Saras” both have implemented ERP software’s and they have proved themselves efficient and effective in Indian market.

The following figure shows the growth in milk production in INDIA in last ten years, growth rate of Indian dairy industry=1.631294964.

This means that industry has phenomenal growth over the years.

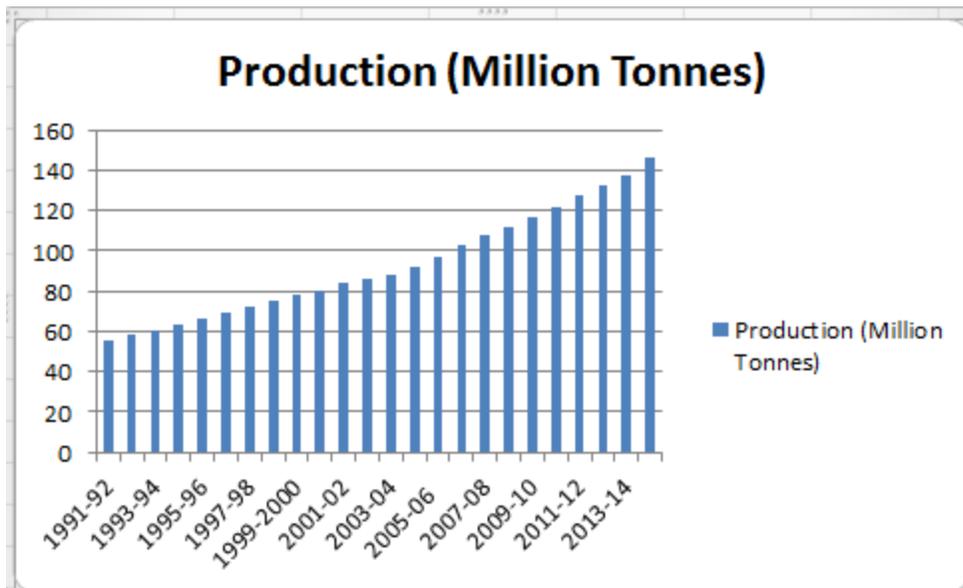


Figure 1: Production of Milk in India in Million Tonnes
(Source : Table 1)

There are various factors which have supported Indian dairy industry production growth:

- Milk and milk products have cultural significance in Indian diet.
- The large portion of India is lacto vegetarian, therefore demand and consumption is high.
- The growth in per capita income is also a reason of growth.
- The governmental support of milk consumption like school milk program and new dairy products supported this expansion (FAO, 2009).
- The changing international dairy trade pattern, following General Agreement on Tariffs and Trade (GATT) and the emergence of the World Trade Organisation (WTO), offer to the Indian dairy industry an opportunity to take its bow as an exporter.
- The above figure also shows that after 2005 the growth rate is higher than the previous years the major reasons are Technological up gradation, professional excellence and cost - effective approach.
- Several milk unions are formed and are operating in various districts.
- Organized dairy sector have given chance to unorganized dairy sector to grow.
- Effective supply chain with the combination of technology is giving benefit to dairy industry.

Summary:-

The dairy industry is divided into two categories one is unorganized dairy industry and the other one is organized dairy industry. Unorganized pattern of dairy is the conventional pattern where one owner is having few cows and buffaloes and they are distributing milk to few people. But in Organized dairy industry it increases in numbers of consumers and the local dairy farmers becomes the suppliers for the organized dairy. Management at high level of accuracy and speed is required in the organized dairy sector, because time is the major concern in this industry.

IT and IS, government policies and other factors also has helped the Indian dairy industries in very positive manner and have made their work easy, fast and accurate in terms of procuring milk, processing of it and then supplying it to the vendors.

Appendix

Table 1

Milk production in India		
Year	Production (Million Tonnes)	Per Capita Availability (gms/day)
1991-92	55.6	178
1992-93	58.0	182
1993-94	60.6	187
1994-95	63.8	194
1995-96	66.2	197
1996-97	69.1	202
1997-98	72.1	207
1998-99	75.4	213
1999-2000	78.3	217
2000-01	80.6	220
2001-02	84.4	225
2002-03	86.2	230
2003-04	88.1	231
2004-05	92.5	233
2005-06	97.1	241
2006-07	102.6	251
2007-08	107.9	260
2008-09	112.2	266
2009-10	116.4	273
2010-11	121.8	281

2011-12	127.9	290
2012-13	132.4	299
2013-14	137.7	307
2014-15	146.3	322
Source: Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, GoI		

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