

An empirical study on production and marketing system of Central Dairy, Guwahati, India

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Abstract

Through this paper an attempt is being taken to study on production and marketing system of central dairy Guwahati. To make the study systematic entire paper is divided into three parts. The first part entitled Theoretical approach includes an introduction, objective, hypotheses and methodology. The second part entitled production and marketing system of central dairy, Guwahati is a comprehensive study under which various aspects of production of marketing activities of central dairy, Guwahati are studied. The third part entitled conclusion provides some finding and recommendations.

Part I

Theoretical approach

1.1 INTRODUCTION:

Central Dairy was set up in 1968. The initial aim of this organization was to fulfill the need of Indian Army during the war period with China and after that the war was over their next step on to the public supply is shifted. Dairy Development activities till February 1982 were carried out by the Directorate of A.H. & Veterinary Dept., Assam and there was no separate Directorate as such for Dairy Development in Assam. Considering the importance of the Dairy Development activities in the state, the State Govt. has created a new Dept. As the Directorate of Dairy Development in January 1982 under the administrative control of A.H. & Veterinary Dept. And in the year 2004 Govt. has notified it as a permanent resident. The activities of Dairy Dev. Assam were initiated with the basic concept of procurement, processing and distribution of milk at economic upliftment of rural milk producers and to help urban consumers to get quality milk at a reasonable price. The A.H. & Veterinary Department is the parent department of Dairy Development, Assam. Except milk procurement, processing and marketing, all other cattle related activities such as health care, management, breeding, artificial Insemination, induction of new cattle etc. are taken care of by the A.H. & Veterinary Department. The Civil Veterinary Department was formed in Assam in 1905. This department was for East Bengal as well as Assam. However, in 1912 Assam was separated from east Bengal and the Civil Veterinary Department, Assam continued under the Directorate of Land Records and Agriculture. In 1923 it was made in independent department. Since inception this department was involved with cattle welfare and productivity for which it was looking after the livestock disease and other animal health problems. In the aftermath of the Rinderpest epidemic in 1956, which killed lakhs of cattle and buffaloes, a scheme to control and eradicate this fatal disease, Bovine Contagious Pleuro Pneumonitis, by establishing a laboratory at Guwahati for its prevention and control. A dairy Development Wing was started under the Department of Animals Husbandry and Veterinary in 1958-59 for carrying out different activities relating to dairying. A Dairy Development Scheme was sanctioned during the year 1960-61 and was implemented during February 1961 i.e. at the end of the second five year plan to take care of collection, transportation, processing, storage and distribution of milk in Urban areas. The scheme started functioning with supply of milk to the defence personnel by setting a Town Milk Supply Scheme (TMSS) at Khanapara, Guwahati. By 1963, the scheme has been extended to the civic population of Guwahati.

1.2: OBJECTIVE OF THE STUDY

The basic objective of the study is to examine various production and marketing central dairy, Guwahati along with composition of method of milk packing product for marketing and distribution.

1.3: HYPOTHESIS OF THE STUDY

It is assumed that the central dairy yet to formulate an effective marketing and selling system to meet the demand of existing customer.

1.4: METHODOLOGY

The methodology of the research work was carried out through questionnaires distribution along with informal interviews with the dealers and consumer. In conducting the research, the two basic methods of data collection viz communication i.e. interacting as with questionnaires through interviews and personal observation. Personal interview formed the basis for the communicating method. This is the most suitable approach compared to other modes of interview. It's because the applied research are to production manager, supplier of raw milk other staff of organisation and to the retailer's. In personal observation method data are collected by observing some action of the respondent in sight and out-sight the organisation. Observational method of data collection was used as a supplement to the personal interview. While conducting supplier, production manager and market survey, information regarding brand availability, safety, pasteurization, quality etc. the different types of information are collected by using some this suitable methods. The study was conducted within the geographical limits of Guwahati City (Urban) as Central Dairy primarily catered to the need of this market. Some questionnaires are always been used as research instrument that standardizing the data, collection procedure and to acquire valid, reliable and comparable data for decision making. The questionnaire was designed keeping in mind the objective of the study. In order to elicit the view and attitude of different 100 numbers of respondents, different questionnaires are given to them. These 100 respondents were composited as follows:

1. Executive officers = 10
 2. Supervisory staff = 20
 3. Lower level staff = 30
 4. Consumers = 30
 5. Intellectual public = 10
- 100

Part II

Production and marketing system of central dairy, Guwahati

The main objectives of the Town Milk Supply Scheme (TMSS) are to organize primary milk cooperative societies to bring the entire milk producing enterprise under organized sector, to eliminate the role of middleman from milk trade, to provide a remunerative price of milk to producers and to sell the standardized milk and milk products at reasonable price to consumers. In the year 1975 Operation Flood was launched in the state. Its prime consideration was enhancement of milk production through the supply of necessary input to the farmers and organizing Anand pattern primary Co-operative Societies in rural areas. These activities were carried out by the Dairy Development wing till the establishment of the three milk producers' cooperative union in early eighties. In 1982 a separate Dairy Development Department was created with Joint Cadre of services with Animal Husbandry and Veterinary Department and was made responsible for the following works:

- Formation of Dairy Co-operative Societies in areas not covered by Operation Flood programme.
- To implement special dairy development programme linking Town Milk Supply Schemes.
- To modernize supply of feeds, fodders, animals health cover, training of the milk producers in milk shed areas.
- To help the farmers in marketing their products and
- To maintain liaison with I.C.A.R., IVRI, NDRI, NDDB etc. relating to research and development in milk production.

During the seventh plan it was considered worthwhile to take up more activities under the Purview of this department apart from the basic objectives of collection, processing and distribution. Therefore, a new concept of 'Milk Village Scheme' was launched to involve the Dairy Development Department in actual production activities beside its aforementioned basic objective. In view of this the Dairy Development Department in the state was reshaped with the inclusion of production, which was designed under the banner of 'Milk Village Scheme. Under the Milk Village Scheme training programme was incorporated to produce semi-skilled technocrats in the field of dairying.

2.1: PRODUCTION AND MARKETING SYSTEM OF CENTRAL DAIRY, GUWAHATI.

The basic objective of this part to study the existing marketing and distribution scenario of Central Dairy in Guwahati on the basis of demand and supply of milk products and the way of marketing division done by Central dairy. This study is done within the organization and Guwahati division depending on various source provide by the organizational worker or employees and various parts of distributors. Some specific objective has been formulated to go through this study are:

- (i) To find out the sources of raw milk between the organization.
- (ii) To find out the sources of production.
- (iii) To find out the way of marketing division.

The aim of this study revolves around in gathered information from the source of organisation staffs and to make various suggestion measures and recommendation to improved better in production safety availability, supply of raw milk more and improvement in marketing level. The marketing aim of Central Dairy Guwahati is to make sales in order to earn reasonable profit for the producer "Marketing includes all activities which are concerned with an effecting change in the ownership and procession of goods and services. The delivering of goods and services from producers to their ultimate consumers or users includes many different activities.

Merchandising function	Physical Distribution function	Auxiliary function
1. Product planning & Development	1. Storage	1. Arrangement of Finance
2. Standardization and Gradation	2. Transportation	2. Risk Bearing
3. Purchasers and collection		3. Collection of market
4. Sales		4. Information

It presents marketing as functional process conditional by marketing department. It is also felt that marketing in recent times, has grown to become an organizational philosophy of an approach to doing business.

Following are the function including in this group.

- I. Product Planning and Development: With every time frame every activity of producer cluster's around the needs and wants of consumer's The first function of marketing is to plan a product and to develop it so that it could meet customer's needs.
- ii. Standardizing and Grading: These are two main important of marketing aspects. By these two functions, marketing becomes easy production becomes uniform, prices become equal and marketing becomes extensive.
- iii. Purchaser and Collection: Purchasing mean acquisition of goods and services by the seller. Assembling for the purpose of function means the collection of different types of goods and services by mediator for the purpose of resale.
- iv. Selling: It is an object around which all the activities of marketing cluster. Product marketing is completed only by the sale of goods and services brought or acquired by seller.

The Function of Physical Distribution:

This type of physical distribution function is performed for the purpose of distributing the goods and services to the reach the customer and its availability to the market quickly. It includes the following functions:-

- i) Storage:** Storage is an important part and it is very necessary. The goods are to be stored in good condition from time of production till the time of consumption.
- ii) Transportation:** It is the only way to distribute the products after making ready to products. Transportation only could reach in every corner to the distributors and distributor to consumer very effectively and timely.

The various sources from which the Central Dairy collects their milk, they are –

- (a) Nandini Mahila Samabai Society (Jorbat)
- (b) Sitajokhala (Jagiroad)
- (c) Pabitora (Mayong)

Nandini Mahila Samabay Society (Milk Supplier) is supplying their milk to Central Dairy from 1/2/2008 recently whereas Sitajokhala is supply their milk from 20 years above from Jagiroad. Nandini Milk Supplier supplies 1400 liters in a day to Central Dairy. But during summer they could supply only some 1000 liters because of the unsuitable climate but in winter 1400 – 1500 liters supplied regularly. According to Nandini supplier, their supply of milk to the Central Dairy is sufficient. They are getting their regular payment on every 5th day and yes they are permanent in the Central Dairy.

The various product manufactured by Central Dairy are:

MILK :

- a. Toned milk containing 3% fat and 8.5% SNF (Solid not fat)
- b. Double toned milk containing 1.5% fat and 9% SNF (Solid not fat)

COMPOSITION OF MILK :

- a. Water b. Fat c. Protein d. Lactose e. Minerals f. Vitamins

Other Milk Products of Central Dairy are :

- a. Paneer b. Yoghurt c. Ghee d. Flavoured Milk e. Cream etc.

2.3: METHODS OF MILK PACKAGING PRODUCTS & OTHER ITEMS

Milk Packaging:

At the very beginning of the production of production while after receiving the row milk some test is daily required because the milk might not had spoiled. A sample of row milk was picking up in test tube which is called COB (Cplot on Boiling) test and after this boiling was over the percentage of milk and water is read out and done by lacto meters. An proceeding towards another fat test is done with some acid. The name of the acid are:

1. Garber Acid 10 ml 2. Milk 1.75 ml milk 3. Alcohol Amil1 ml.

And this test the raw milk was kept into sealing storage under temperature of 72KC and 4KC cold storage tanks so that milk didn't get spoiled. The raw milk is done pasteurization under some degree i.e. 72KC heat so that all the bacteria get killed under heat and right to the 4KC cold. Over heat is not done i.e. 100% otherwise it will be vitamin less.

Besides this some Ice water is also required during production of milk.

1. Compressor machine which make ice water.
2. The gas of ice is necessary for milk to keep cold so that milk didn't get spoiled.

PACKAGING:

Packaging is done after through whole of applied test is necessary. Their packaging covers up sometimes 300 to 5000. After packaging again the packet was kept in the cold storage and get ready for marketing.

PANEER:

The raw milk was directly heat under the temperature of 85KC and after that 50 gm of citric and 2 litre of water is done under heat of 85KC i.e. extra boil. And while the raw milk get heat it was took out in extra jar which is a size of 40 Kg and again 2 litre of citric acid boil is mixed on it. After mixing of citric acid water is separated from the milk. 10 % of paneer is produce from 40 Kg of m ilk. The waste water which was separated from the milk make paneer that water is used in cold drinks in other place in other milk industry, but due to the lack of technical process it is not followed in Central Dairy. Getting cold after 5 to 10 minutes it goes for packaging.

PACKAGING:

Packaging is the development of a container and a graphic design for a product packaging can make a product easier to use, safety and more versatility. It can also affect consumer attitude towards a product, which is turn affect their purchase decision. Consumers impressions of a product are significantly influenced by its packaging, marketer's try to develop innovative packaging that satisfy the needs of the targets market. Packaging protects the products and maintain it functional form :

- a. pasteurized toned milk

b. Doubled toned milk of ½ litre each are the two different packaging pattern done by Central Dairy.

2.3: OBSERVATION BY QUESTIONNAIRE

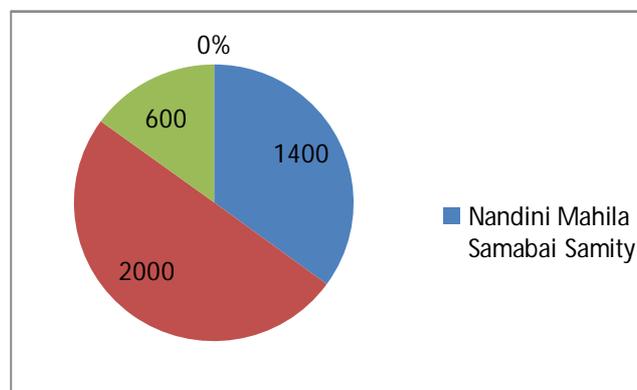
Different No. of respondents from the earlier 100 respondents were asked various marketing related questions, Whether they satisfy with the existing market policies and strategies of Central Dairy Guwahati these are as follows:

Q.1: Which supplier do you prefer?

TABLE-2.1

Supplier's Name	Brand Name	No of Respondent	Quantity
Nandini Mahila Samabai Samity	Raw Milk	1	1400 Litre
SitaJokla	Raw Milk	1	2000Litre
Pobitora	Raw Milk	1	600 Litre

FIGURE-2.1



INTERPRETATION:

From the above analysis of the table and diagram it has clear that the better supply channels of raw milk from Nandini with 35% followed by Sita Jokla 45% and 20% by Pobitora. This few respondent who supports the supply daily to the Central Dairy.

Q.2.: This question was asked to 5 respondents to know about the best package of following Products of Central Dairy.

TABLE -2.2

BRAND NAME	UNIT PACKAGE PER/DAY
Milk package	6000 packed
Paneer	20 Kg
Dahi	150 lt
Yoghurt	150 lt
Cream	60 lt

INTERPRETATION:

From the analysis above the table it is seen that milk package is the major product other than paneer, dahi, yoghurt and cream. The main objective of this question is the find out which among brands has the best, better distribution.

Q.3.: Most sought product brand of Central Dairy.

(a) Milk (b) Paneer (c) Dahi

TABLE : 2.3

Name	No of Respondents	Demand in %
Milk	9	60
Paneer	9	23
Dahi	6	17

FIGURE-2.3

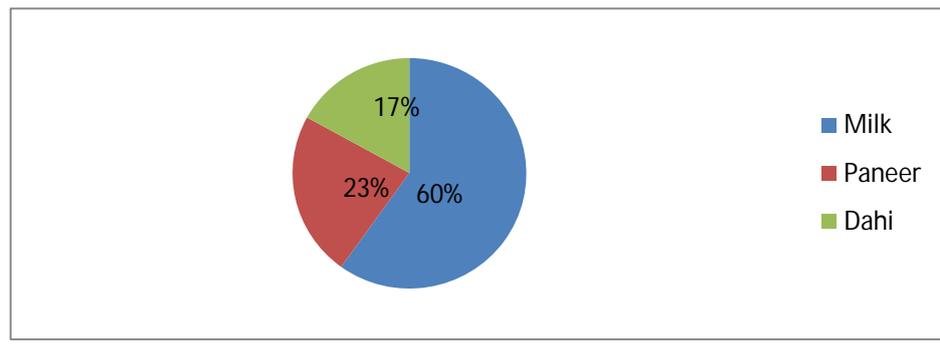


Fig :The diagram shows the most demand product of Central Dairy.

INTERPRETATION:

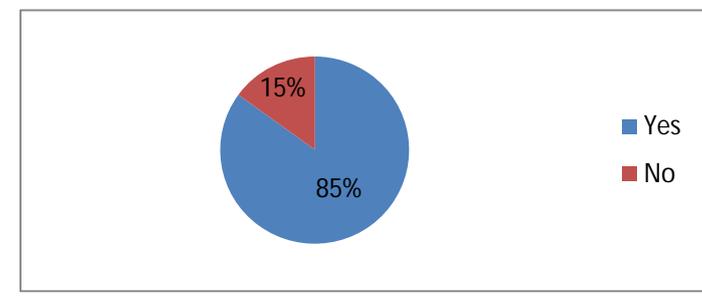
From the diagram it is found that about 60% of the milk is demand other’s whereas only paneer 23% and Dahi 17% from Central Dairy.

Q.4.: This question is asked to the find out that either they get the product on timely or not.
The question is asked to 30 respondents.

TABLE NO. 2.4

Response	No of Response	% of Responeded
Yes	26	85
No	04	15

FIGURE-2.4



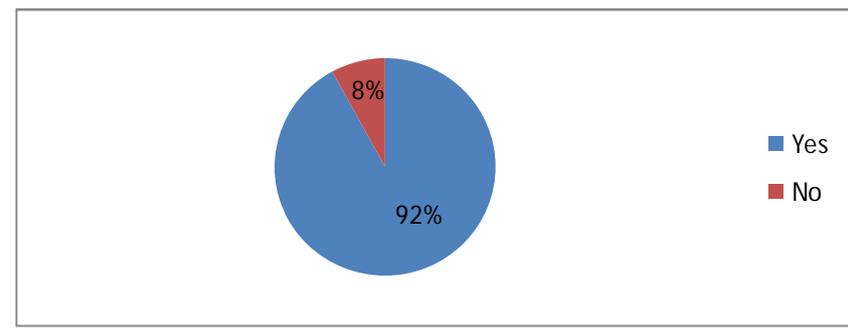
INTERPRETATION:

From the above diagram it is clear that more 85% is satisfied with dealings and 15% are not satisfied with supply timely.

Q.5. :This question is asked to find out whether the retailers are satisfied with the volume of milk they sell. This question is asked to 26 respondents.

TABLE -2.5

Response	No of Response	% of Responeded
Yes	23	92
No	03	08

FIGURE-2.5**INTERPRETATION:**

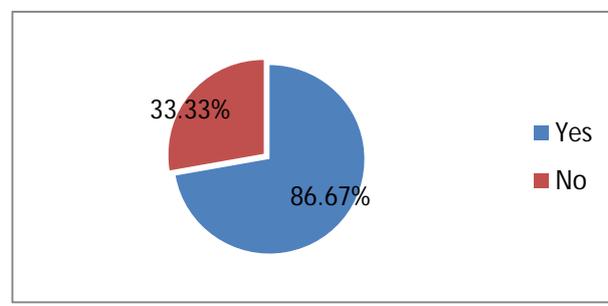
From the above diagram we have seen that more than 92% of the retailers are satisfied with the quantity of milk they sell in a day. While some percentage of retailers are not satisfied to some extent. There is always a reason behind.

Q.6. :This question is dichotomous in nature. This question is asked to 30 retailers to make whether they get the desired commission. That is set on

(a) Yes or (b) No

TABLE – 2.7

Response	No of Response	% of Responded
Yes	26	86.67
No	04	33.33

FIGURE- 2.7**INTERPRETATION:**

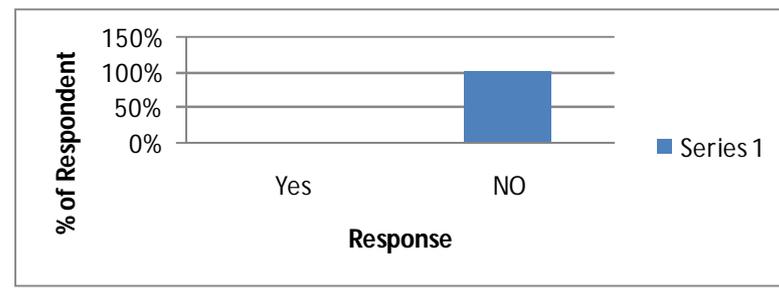
From the above diagram I have seen that most of the retailers above 86% of them are satisfied with the commission while 33% of them are not satisfied to some extent. The reason behind it is sometimes they are unable to sell in large volume.

Q.7: This question is asked to the 30 retailers to know that what other facilities apart from Commission does the Central Dairy is providing to the retailers.

TABLE – 2.7

Response	No. of Response	% of Responded
Yes	0	0
No	30	100

FIGURE-2.7



INTERPRETATION:

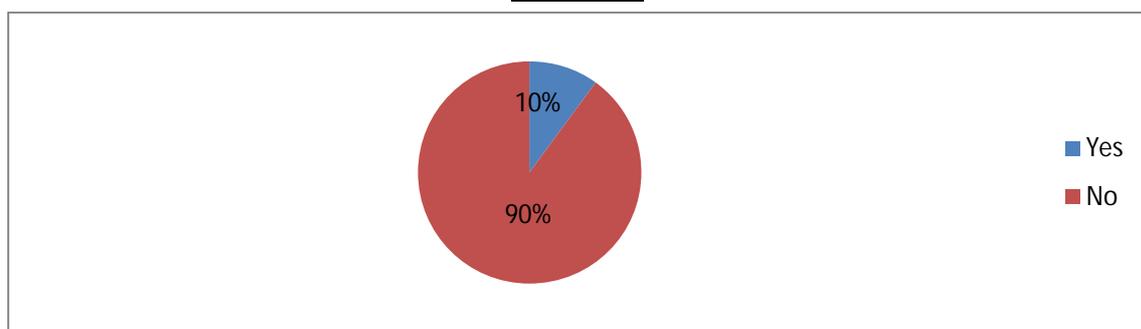
From the above diagram we have seen that apart from commission no other facilities are being provided to the retailer in order to promote sales 100 % of retailer supports it.

Q.8. : This question is asked to 30 respondents out of 40 to ensure whether the retailer receives any complaints from the consumer of Central Dairy.

TABLE : 2.8

Response	No. of Response	% of Response
Yes	03	10
No	27	90

FIGURE-2.8



INTERPRETATION:

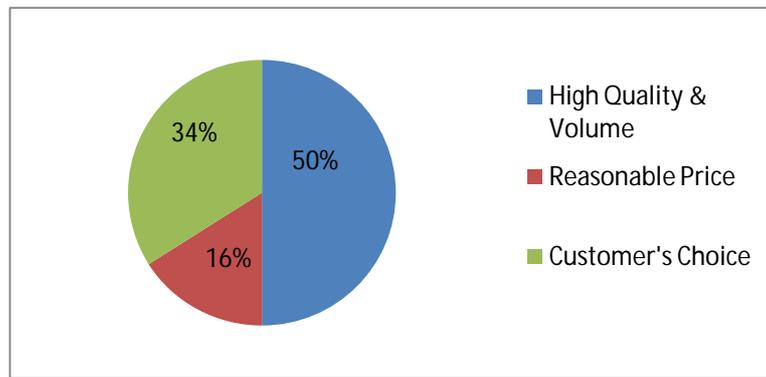
It has been found that of the total respondent 90 % of retailer’s say that they receive no complaints from consumers whereas 10% of retailer’s has to listen to complaints from consumers

Q.9.: The main objective of this question was to know the reason behind their selection of Central Dairy. Were the number of Respondent is 30 with the option.

- (i) High quality of volume, (ii) Reasonable Price,(iii) Customer’s choice

TABLE -2.9

Attributes	No. of Respondent	% of Respondent
High Quality & volume	15	50
Reasonable Price	05	16
Customer's choice	10	34

FIGURE- 2.9**INTERPRETATION:**

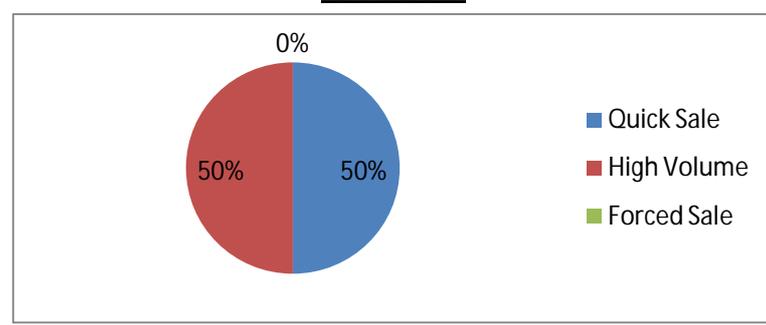
From the analysis of the above table and graph is evident that 50% of the respondent by Central Dairy because of High quality & volume followed by customer and Reasonable price with 34% and 16% respectively.

Q.10.:The question was asked to 10 retailers as to why do they prefer Central Dairy for sale. Their option were:

(i) Quick Sale (ii) High Volume (iii) Forced sale

TABLE- 2.10

Reasons	No. of Respondent	% of Respondent
Quick Sale	05	50
High Volume	05	50
Forced sale	-	-

FIGURE-2.10**Interpretation:**

It is found that quick selling and High volume is the main reason which makes the retailer to prefer Central Dairy.

Part III :**Conclusion**

In this part an attempt is being taken to give provide some major finding that have been identified through the study and accordingly put some suitable recommendations against these findings

1. Market Failures and Government Failures in Dairy Production and Marketing

This often happens as an accidental result of poor legal or administrative process. It can also occur because governments accede to pressures for assistance from well-organized groups. The market failures come in many forms externalities, the insufficient provision of a public good, inadequate information and inefficient marketing. Whatever form they take, market failures may adversely affect many members of the community. Causes of market failures and government failures in dairy production and marketing in India are discussed below:

2. Information Problems

Uncertainty is lack of information. Thus information and uncertainty are two sides of the same coin. The problem of uncertainty is part and parcel of the human condition. It originates in the fact that time is a dimension in which we are short. Humans live only for a few years and cannot travel across time. In geometrical terms, we are "flat" in the time dimension. Because we cannot observe well through time, we cannot predict. Due to this lack of information, we are uncertain. Moreover, there is complete lack of information about the utilization pattern of milk, marketing of milk and milk products in the country. As a result, the livestock sector continues to have several areas of darkness.

3. Lack of Disease/Parasites Control (Externalities)

Externalities are costs or benefits, which individual decision-makers impose or bestow upon others by their actions but for which they suffer no penalty and/or receive no reward. In consequence, decision-makers exclude consideration of these externalities when arriving at decisions. The existence of externalities in cattle disease control means that the independent actions of individual farmers undertaking control will not except by great co-incidence correspond to what would be considered socially desirable. Diseases and parasites are a major problem for the dairy industry in India. Diseases like rinder pest, contagious bovine pleuropneumonia, and foot and mouth disease cause high mortality and severe economic loss. Mastitis is a dangerous disease for lactating animals, and reduces milk production. In addition, the improved varieties of cows like Australian Sabiwal, Hariana and Friesian need proper medical attention in the tropical environment. However, the medical facilities are poor at district and than a level livestock offices.

4. Shortage of Quality Breeds (Incomplete Market)

The main problem of dairy development lies in its very low production and low productivity. No systematic study has been conducted in the country to objectively evaluate the economic performance of the cross-breed cows under field conditions.

5. Shortage of Cattle Feed (Incomplete Market)

The dairy cow requires five major classes of nutrients: energy, protein, minerals, vitamins, and water. All five are essential for normal health and productive purposes. A pregnant cow needs additional energy for building the tissues of the fetus developing in her uterus. The availability of feed and fodder is a major constraint in developing the full potential of the livestock sector. Improvement in breeding to be stable should go along with adequate feeding. Even the best animal deteriorates soon in the absence of a sufficient and balanced ration.

6. Lack of Research and Training (Public Goods)

Livestock, in spite of its importance, has been a neglected area of agricultural research in India .No visible improvements can be made because of the absence of a sense of urgency and low investment in research. Scientific research studies relating to economic aspects of dairying and the dairy industry are not adequately available. Moreover, due to a lack of effectiveness in its research and extension services, it has not yet been demonstrated that livestock farming and particularly dairy farming, can be transformed into an attractive and profitable business. However, research into economic aspects of dairying is lacking. In addition, there is a lack of trained personnel at all levels as well as a lack of training facilities.

7. LACK OF NATIONAL MILK GRID AND PROCESSING PLANTS (PUBLIC GOODS)

There is no national milk grid. If milk is to be consumed as fresh liquid milk, its perishable nature requires it to be processed generally within 24 hours of being produced. During this time the milk must be stored below 4 degrees Centigrade. Lack of installation of processing plants is another constraint for the efficient and profitable working of dairy enterprise. In fact, the installation of a processing plant is the first sign of modernization of the dairy industry, because a processing plant can play a positive role in a number of ways. Firstly, the milk industry is subject to seasonality and particularly in the flush season farmers face the problem of surplus of milk, because of the perishable nature of the commodity. Secondly, in remote rural areas producers are forced to convert surplus milk into ghee (butter) but it is found that economic returns from ghee are lower than the sale of liquid milk. Thirdly, traders who supply milk to the urban areas and sweetmeat markets exploit small milk producers.

8. INEFFICIENT MARKETING

Due to the dearth of marketing facilities, the dairy farm owners are compelled to sell the bulk of their milk to the tea stalls at a cheaper price. Marketing channels for livestock products are also very poor, particularly for perishable products of animal origin. This severely restricts production and results in unmarketable surpluses in some areas and shortages in main consumption areas.

RECOMMENDATION

1. WAYS OF CORRECTING MARKET FAILURE AND GOVERNMENT FAILURE

An efficient dairy development program must draw its directional strength from the organizational mission, objectives, strategies and goals. The organization's mission describes the business that it is in. Its objectives are the expression in terms of financial and operational dimensions within the framework of its mission.

2. Government involvement in the development of dairy industry

The public interest view of government intervention requires that these market failures be corrected by appropriate regulatory action, with the overall objective being attainment of full economic (allocative) efficiency. Moreover, government intervention is vindicated in these terms for correcting of externalities and provision of public goods.

3. Remedies for Market Failure—Policy Measures

This section focuses on potential government policies designed to improve dairy industry. Six types of policy instruments, three technical and three economic, are discussed.

TECHNICAL POLICIES

4. Breeding policy:

Prospects for increased demand for milk in the country are very high as observed in the earlier section. This could be achieved only if indigenous cows are replaced by high yielding animals in cattle by cross-breeding the nondescript cows with exotic breeds like Holstein-Friesia and Jersey. With more nutritious feed supply and a remunerative outlet for milk, crossbreeding will have a chance to succeed. However, the country has not defined and delineated the breeding policy for the country. This needs prompt attention.

5. Veterinary program:

The control and eradication of disease on the local and national levels creates the opportunity for the development of cooperation between farmers. Vaccination programs especially for small holders are best carried out at central points. This creates many opportunities for spreading the message of animal health and nutrition. At such gathering points the farmers' animals should be segregated until they have been examined; concomitant disease should be pointed out to individual farmers and advice or treatment given. The veterinary surgeon should be alert to signs, which may limit the animals' future value. The purposes of the vaccination program should be carefully explained. Plans for future programs should be given.

6. Information and extension services:

Information is the lifeblood of every economy. The ways people get information, and the incentives they have to gather and provide it, are affected by the way society is organized: legal rules and social conventions, institutions and governments, all determine how much information people have and the quality (that is, the accuracy and completeness) of the information. A sound national knowledge strategy requires that governments seek ways to improve information flows that make a market economy

function better. Government can greatly improve market outcomes by providing and eliciting information that would not otherwise be available.

7. Formulation of national food safety policy and plan of action

Food Safety Policy

There should have a food safety policy to ensure sustained consumer confidence that the food is safe and of the claimed quality through generation of awareness on responsibility towards food safety in all the stakeholders; availability of science – based standards elaborated through a transparent process involving all the stakeholders; and regulation of various activities in the food trade, that impact safety and other quality attributes of the food, under an integrated and well-coordinated national food safety system.'

8. Development / revision of food legislation;

The main Indian Food Laws relevant to milk and milk products are the Prevention of Food Adulteration (PFA) Act and Rules and MMPO (now MMPR). While the FSS Act has replaced the PFA Act, the PFA Rules continue to be in force till new standards are specified under the FSS Act. There are several important aspects of these rules, as were outlined earlier, that need to be suitably addressed. Further, it needs to be reviewed whether there is any useful purpose of having, in addition to mandatory PFA food standards, separate BIS and Agmark standards for milk products, enforced by BIS and Directorate of Marketing and Inspection, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, respectively (both under Central Government).

9. MMPO (MMPR)

An effective system needs to be developed to ensure that only functional units are registered after satisfactory inspection and the data on registration should reflect the actually installed capacities, which should be kept updated. There should be a system of effective random inspection of units to ensure that the required sanitary measures and other requirements are complied with. Periodical returns by the units. There should be an effective system of collecting periodical returns on milk collection and production, stock etc. related data from the registered units by the FSSAI, and to compile and analyze them regularly and timely. If required, this latter task can be outsourced.

10. STRENGTHENING FOOD CONTROL SYSTEMS –INTEGRATED SYSTEM:ADMINISTRATION, INSPECTORATE AND ANALYTICAL CAPABILITIES

The coordination at the administration level and implementation at the inspectorate level are not effective. The analytical capabilities, in terms of proficiency and accountability, are also not commensurate with the current requirements. This has resulted in a weak food control system. Hence Integrated food control system requires determination to achieve effective collaboration and coordination between the agencies involved in food control across the whole food chain. The FSS Act envisages an integrated system for food control and can be effective only if the above indicated issues are suitably addressed. The role of the FSSAI is to establish national food control goals, and put into effect the strategic and operational activities necessary to achieve those goals. Some other important functions may include developing consumer education and community outreach initiatives and promoting their implementation; supporting research and development; and establishing quality assurance schemes for industry and supporting their implementation. The FSSAI should address the entire food chain, and should take necessary actions to move resources to high priority areas and to address important sources of risk.

11. ENFORCEMENT

A system and plan of frequency of food inspection activities should be developed and implemented. The frequency of food inspection activities should be prioritized according to risk: with comparatively high-risk milk products (like milk baby foods, milk, ice-cream) being given the priority. Special emphasis must be given on monitoring operations in unorganized sector and adulteration. Currently such actions are unfortunately lacking. More emphasis should be laid on regulatory assessment with the objective of obtaining evidence that the principles of food safety systems, e.g. HACCP, and good practices have been correctly and effectively applied and maintained. FSSAI / State Food Safety Authorities should prepare and disseminate a code of practice for inspectors and as well prepare materials for and train inspectors in the code of practice, modern inspection techniques and sampling procedures in accordance with Codex.

12. Official food laboratories

The official central and state food laboratories should have the capacity to carry out those microbiological, chemical and physical tests necessary to detect and quantify, where possible, the hazards most likely to affect the health of the nation's population. It is necessary to review the current status of these laboratories with reference to their required capabilities and adequacy in number. Then, if required, these should be suitably strengthened. The central food laboratories should function as key quality assurance centres, evaluating and training state, district and municipal laboratories.

13. Coordination with other agencies

Coordination with agencies whose work influences food safety directly or indirectly: The Food Safety Authority needs to maintain a close coordination with such government agencies whose actions have a bearing on safety of foods indirectly, e.g. Pollution Control Boards (for proper limits of substances of concern in effluents, and effective enforcement); Central Insecticide Board and Registration Committee, Ministry of Agriculture, Government of India (for matters related to pesticide registration etc.); Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India (for matters related to veterinary drugs such as withdrawal periods; quality of feed and regulation of cattle feed plants; disease-freezones) etc.

14. Food-borne disease surveillance, monitoring food contamination

FSSAI should develop systems for monitoring food contamination and food-borne disease surveillance as suggested in this report. FSSAI should conduct routine monitoring of milk products supplies to identify and assess trends in regard to food contamination. The Food Authority may also consider participation in the WHO Food Contamination Monitoring Programme to take advantage of the quality assurance and control services provided. In undertaking such programmes, FSSAI should apply a methodology consistent with that recommended by the Codex Alimentarius Commission.

15. IDENTIFY AND RESPOND TO FOOD SAFETY EMERGENCIES RAPIDLY AND EFFECTIVELY

An effective food safety emergency system is critical in protecting the consumers from health hazards in cases of food safety emergencies. Food safety emergencies are often difficult to identify, in part because critical information may be in different hands and its significance may not be easily recognized. Once identified, the FSSAI/State Food Safety Authorities must act swiftly to direct, and oversee, the concerned manufacturer/other responsible stakeholders to locate and recall food that caused the illness.

16. PROMOTION OF VOLUNTARY GOOD PRACTICES /MANAGEMENT SYSTEMS FOR FOOD SAFETY ASSURANCE IN FOOD SECTORS

Implementation of good / best practices in milk chain will contribute considerably in ensuring production of safe milk and milk products. International organizations such as Codex Alimentarius Commission and national agencies have developed / are developing documents on such practices. These practices should be considered by the food authority suitably for adoption / adaptation.

17. Food Quality and Safety Management Systems

Guidelines on food safety and management systems have been developed by different international and national organizations. An important food safety system is the Hazard Analysis and Critical Control System (HACCP System) which has been adopted / endorsed by the Codex as a part of the International Code of Practice – General Principles of Food Hygiene. Based on the HACCP System several national organizations have developed their standards.

18 Food Product Traceability

The traceability system enables manufactures to link the raw ingredients from suppliers to a batch of products and further down to the retailer. Traceability systems collate and provide relevant information which include: details of receipt of raw material (name, address of supplier, quantity, batch number, if any, date of transaction etc.); details of raw ingredients used in each product batch; details of backward and forward product tracking; details of production flow; process parameters for each product. Depending upon the volume of data required to be recorded, the traceability system could be either paper-based or computer-based.

19. Development and organization of training programmes for food handlers, inspectors and analysts in food safety assessment commensurate with their activities

The professional food handlers – those working in food-processing and manufacturing industry, and food catering (hotels, restaurants and street food stalls) should possess necessary expertise and skills in order to comply with the food safety regulations. Training is integral to supporting food safety throughout the food chain in order to assist the food handlers in their efforts to keep the

food safe. The food sector should initiate training of professional food handlers in principles of food hygiene commensurate with their work activities that should relate to the nature of food and its ability to sustain growth and survival of pathogenic microorganisms, and risks of contamination during handling. Training should also focus on the principles of Good

20. ENHANCED INPUTS INTO FOOD-BORNE DISEASE SURVEILLANCE, DATA COLLECTION, AND RESEARCH, AS WELL AS CREATING INCREASED SCIENTIFIC CAPACITY

Availability of information necessary for supporting food safety issues as well as to plan, implement and assess disease control activities, a national epidemiological service with the capacity to establish surveillance and investigation procedures is essential. The information on food-borne disease can be collected through food-borne disease surveillance. The relevant agencies should collect information on disease outbreaks and keep surveillance to review possibilities of contamination of any part of the food supply within their jurisdiction. Such information should be forwarded to the FSSAI periodically. The FSSAI can have the data evaluated and can institute epidemiological investigation to highlight possible causes of the reported outbreaks of the diseases.

21. PROMOTION OF CONSUMER EDUCATION

Proper consumer education on food safety and quality can go a long way to improve food quality and safety. However consumer awareness in the country is poor. Great efforts are required to educate the public on food safety. Consumer should specifically be educated on need to observe the necessary storage conditions as declared on the labels and the importance of the shelf life of the products (packed and after opening). Creation of awareness on general principles of personal hygiene and food hygiene can also be useful. To this end the FSSAI, relevant ministries, industry, NGOs, Consumer Organizations etc. can jointly work to develop certain education material.

22. SETTING A MANAGEMENT REVIEW PROCESS TO EVALUATE THE ACTIVITIES

Management review of the scheduled activities should be carried out at a predetermined frequency to monitor the progress of the planning and implementation of the food safety programme. A quarterly review during planning stage and a half yearly review during the implementation appears to be appropriate.

23. EVALUATION OF FOOD SAFETY ACTIVITIES

The national food safety system and its activities should be evaluated after a predetermined time frame to determine its effectiveness as envisaged and its capability to address the emerging food safety concerns. An evaluation process could initially focus on food safety policies and goals, the strategy in place to affect these policies, or the public agencies and services that implement food safety policies and strategies.

References

Web sites: www.google.com, www.wikipedia.com