CHAPTER – I

INTRODUCTION:

1.1 Prologue

Development continues to be the watchword of 21st century planners. Every country perceives development in unmistakable terms as an irreversible process to maintain and raise the living standards of its people. Today in all developing countries, development is considered to be a subject of special concern. Development is indeed a multi-faceted revolution. India is basically a rural, agrarian and developing society. In the light of planned development, as undertaken by Indian policy makers, rural development has been the thrust area over the last five decades. A new upward movement for development has begun with the decentralization of democratic system in Karnataka State.

The contribution of agriculture in the country's GDP accounts for about 25% of which the share of the livestock sector is about 65%. This indicates the significant role of dairying in the socio-economic progress of the country. The Karnataka State has always remained in the forefront of all agricultural development initiatives in the country and development is no exception. Development in Karnataka has had a long and cherished history. It stands 6th in milk production in the country. It also occupies third position with respect to milk production under cooperative sector in the country. The role of communication is as important in the process of development as it is in the process of national development. Thus, communication is a major development resource.

The present study evaluates the media intervention for development at the grassroots level in Karnataka State. The concept of development, scenario in India, farming in Karnataka, role of media in development, significance of the study, review of literature, theme of the research, objectives of the study, scope of the study and definitions of the operational terms used in the study are furnished in this chapter.
1.2 Dairy Development

Dairying as a profession revolves around milk and milk products. Dairying is an important subsidiary occupation to agriculture. Animal husbandry plays an important role in national life. India is ranked first in world milk production. Development assumes importance in the context of providing additional income and employment opportunities in general and providing balanced diet and protein food in particular. Development has been accorded a place of pride by the policy makers in developing countries. Management is emerging as a specialized professional discipline. Intensive farming units are now being established in many countries where agriculture has made a significant breakthrough.

Development process includes feeding, housing, health cover, breeding, processing, equipment, machinery, packaging, marketing and other vital components. Development is a pathway to poverty alleviation through mass employment and income generating activities. People’s participation in the process of development is very essential. The media are also seen as important stimulants in the development programmes.

1.3 Dairy Scenario in India

There is a long legacy of dairying in India. The cow is held in great veneration. Indian economy is mainly based on agriculture. Dairying is an important subsidiary occupation to agriculture. The Government of India established National Development Board (NDDB) in 1965. Later on in 1970 NDDB launched Operation Flood Programme covering four Major Metropolitan Cities – Delhi, Bombay, Calcutta and Madras with the specific objectives, namely: (1). To boost milk production through crossbred breeding programme, (2). To pay remunerative prices for the milk produced; and (3). To supply unadulterated standardized milk at reasonable price to consumers in urban areas. In 1979 operation flood II extended the area of operation in 23 states covering 178 Milk unions and in 1986 operation flood-III covered the remaining states of the country.
After three stages of Operation Floods Programme the Development in India has reached high level. The milk production rose to 78 Million tonnes from 21 Million tonnes. India is first in milk production in the World (250 million tonnes) and per capita availability of milk in India rose from 110gm in 1970-71 to 214gm in the current year. Nearly 20-25% of milk produced in India is now handled by organized sector because of the white revolution. Most of the farmers in India now have the access to MPCS where they can sell surplus milk everyday. The farmers are also covered by various welfare activities such as animal health, vaccination, fertility camps, availability of feed and fodder at subsidized rates and so on (India 1997 – 99).

In India, milk production is undertaken by a wide range of milk producers. Products are produced by both organized and unorganized sectors, the latter still playing a dominant role. India's status in dairying is characterized by the fact that this country has emerged as the largest milk producer in the world with a record production level of 84.5 million tonnes during 2001-2002. The contribution of agriculture in the country's GDP accounts for about 25 percent of which the share of the livestock sector is about 65 percent. This indicates the significant role of dairying in the socio-economic progress of our country. While the GDP growth rate in agriculture is less than two percent during the past one decade, the livestock sector has consistently recorded a higher growth rate of between four and five percent.

Population And Productivity

Buffalo contributes largest to the milk pool with about 46.5 million tonnes (55%) followed by indigenous cows with 18.30 million tonnes (24%) and crossbred cows, with 13.5 million tonnes (16%). Goats contribute about 4.2 million tonnes (5%) to the total milk pool. In productivity terms, our country continues to record very low figures wherein indigenous cows yield 1.89 kg, crossbred cows 6.46 kg, buffaloes 3.91 kg and goats 300ml per day. Our production systems are not intensive commercial systems, but subsidiary and supplemental systems as part of the overall land used system where crop production dominates the scene. In spite of the very low productivity, which has great scope for improvement, the per capita availability of milk has maintained a steady growth. This can be considered remarkable in view of considerable increase in human population.
Table 1: Milk Production / Annum

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>580 Million tonnes</td>
</tr>
<tr>
<td>India</td>
<td>088 Million tonnes</td>
</tr>
<tr>
<td>Karnataka</td>
<td>04.6 Million tonnes</td>
</tr>
</tbody>
</table>

Infrastructure

India possesses a wide and extensive network of infrastructure with over 70,000 plants and 84,000 cooperatives. However, the organized sector handles approximately about 14 percent of the milk produced. Over 45 percent of the milk produced is converted to value added products chiefly through the unorganized sector.

Table 2: Dairy Infrastructure in India

<table>
<thead>
<tr>
<th>Institutions and Handling Capacity</th>
<th>Number/Capacity Of Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>cooperatives</td>
<td>84289</td>
</tr>
<tr>
<td>Rural milk procurement</td>
<td>15780 tonnes/d</td>
</tr>
<tr>
<td>Milk marketing</td>
<td>09534 tonnes/d</td>
</tr>
<tr>
<td>Processing capacity (liquid)</td>
<td>27084 tonnes/d</td>
</tr>
<tr>
<td>Processing Capacity (powder)</td>
<td>01054 tonnes/d</td>
</tr>
</tbody>
</table>

Table 3: Dairy Plants Operating in India

<table>
<thead>
<tr>
<th>Plants</th>
<th>Number</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative</td>
<td>212</td>
<td>84289</td>
</tr>
<tr>
<td>Private</td>
<td>403</td>
<td>15780 tonnes/d</td>
</tr>
<tr>
<td>Others</td>
<td>063</td>
<td>09534 tonnes/d</td>
</tr>
<tr>
<td>Total</td>
<td>678</td>
<td>27084 tonnes/d</td>
</tr>
</tbody>
</table>

Table 4: Per Capita Availability of Milk as Compared to Other Animal Products

<table>
<thead>
<tr>
<th>Animal Product</th>
<th>Annual production</th>
<th>Per capita Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>84.5 million tonnes</td>
<td>224 ml/d</td>
</tr>
<tr>
<td>Eggs</td>
<td>34034 millions</td>
<td>34 /annum</td>
</tr>
<tr>
<td>Meat</td>
<td>4694000 tonnes</td>
<td>4700 g/annum</td>
</tr>
<tr>
<td>Wool</td>
<td>50.7 million kg</td>
<td>51 g/ annum</td>
</tr>
</tbody>
</table>
Exports

Overall exports constitute about less than 1 percent of total livestock products exported. In spite of the fact that production far exceeds the production and per capita availability of other animal products, the export of products continue to be of minor significance. Most of the production goes to meet the domestic market requirement, which is a trend in the right direction. It also highlights the enormous scope lying ahead in dairying for export since South East Asia is dominated by India in dairying by its own characteristic production systems. In fact, participation of India in global trade is about 0.6 percent only. In the years to come, commercialized agriculture will become a reality because of high material, monetary, scientific and technological inputs and dairying is expected to play an increasingly major role in the process of national development in India.

Table 5: Dairy Exports in India (Rs. In Millions)

<table>
<thead>
<tr>
<th>Products</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk and Cream, not concentrated</td>
<td>000.60</td>
</tr>
<tr>
<td>Milk and Cream, concentrated</td>
<td>736.00</td>
</tr>
<tr>
<td>Butter milk, yogurt, cream</td>
<td>000.90</td>
</tr>
<tr>
<td>Butter, butter oil</td>
<td>237.40</td>
</tr>
<tr>
<td>Whey and whey products</td>
<td>037.10</td>
</tr>
<tr>
<td>Cheese and curd</td>
<td>007.50</td>
</tr>
<tr>
<td><strong>Total exports</strong></td>
<td><strong>1019.50</strong></td>
</tr>
</tbody>
</table>
Table 6: Relative Export Values of Livestock Commodities in India
(Rs. In Millions)

<table>
<thead>
<tr>
<th>Commodities</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock</td>
<td>00076.30</td>
</tr>
<tr>
<td>Meat</td>
<td>14568.60</td>
</tr>
<tr>
<td>Poultry, honey etc.</td>
<td>01019.50</td>
</tr>
<tr>
<td>Fodder, feed etc.</td>
<td>01062.10</td>
</tr>
<tr>
<td>Leather</td>
<td>00543.60</td>
</tr>
<tr>
<td>Wool, Hair</td>
<td>17455.70</td>
</tr>
<tr>
<td>Total</td>
<td>00034.20</td>
</tr>
<tr>
<td></td>
<td>34760.00</td>
</tr>
</tbody>
</table>

Production Systems

The most predominant production system in our country is the crop-livestock integrated farming system wherein the marginal, small, medium and large farming households are engaged in land use dominated by field crops. Livestock play a subsidiary and supplementary role. Crops and livestock are mutually complementary in providing direct and indirect inputs to each other. This is a time-tested and durable system which has evolved with low inputs and characterized by multi-locational production and multifarious utility. The productivity is obviously low since the chief occupation of the farmers is crop production and resources are limited to raise livestock under intensive conditions.

Extensive farming units are now being established in many places where agriculture has already made a significant breakthrough. Punjab, Haryana and Western Uttar Pradesh and certain parts of Gujarat and Rajasthan are expected to take a lead in this regard. Peri-urban system of dairying has come up around large cities and towns which are need based due to large requirements of milk and milk products. Here, of course, the animals are maintained intensively and feeding is chiefly based on concentrates.
The production system in our country is facing with a number of constraints and limitations. Scientific inputs in terms of feeding, housing, health cover, management and breeding have not reached the end users adequately. Extension and transfer of technology measures continue to be the weakest link in bringing out rapid transformation in commercial and economic terms. A high production of milk needs to be supported by proper collection machinery, transport, marketing, storage and cold chain maintenance. Credit support and pricing are crucial aspects required to be resolved. Processing, equipment, machinery and packaging are required to be linked up with the production systems and the benefits of value additions need to be accrued to the producers. These measures will have a positive impact on productivity and quality assurance to the satisfaction of the consumers.

During the past three years, milk production has gone up by three million tonnes every year. The major determinants of production, namely: breed, nutrition, proper housing to combat climatic stress and dispose the farm waste, health cover and scientific management are not critically attended to. Non-farm support systems such as procurement, transport, marketing, pricing, credit and cold chain maintenance are also not strengthened. The production is brought substantially under organized sector, especially the cooperative sector. Feeds and fodder availability is probably the most critical factor which needs to be given at most priority. Establishment of intensive units can achieve their tasks only when they are effectively linked up with feed supply systems. Feed manufacturing companies have crucial role to play in this regard. (Ref. Balaraman .N, Joint Director – research, National Research Institute, Karnal 132 001, Haryana)
Table 7: Practical Targets for Population and Productivity

<table>
<thead>
<tr>
<th>Category of Livestock</th>
<th>Target for Population</th>
<th>Targets for National Average (kg/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-descript</td>
<td>40 millions</td>
<td>5 kg</td>
</tr>
<tr>
<td>Indigenous breeds</td>
<td>20 millions</td>
<td>10 kg</td>
</tr>
<tr>
<td>Cross bred</td>
<td>60 millions</td>
<td>15 kg/d</td>
</tr>
<tr>
<td>Buffaloes</td>
<td>80 millions</td>
<td>10 kg/d</td>
</tr>
</tbody>
</table>

Table 8: Farm Level Targets for Milk production

<table>
<thead>
<tr>
<th>Farming System/ Category of Livestock</th>
<th>Targeted Production (kg / d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock under crop-livestock integrated system (all categories of stock)</td>
<td>Up to 10 kg</td>
</tr>
<tr>
<td><strong>Intensive Commercial dairying</strong></td>
<td></td>
</tr>
<tr>
<td>Indigenous milch breeds</td>
<td>10 – 15 kg</td>
</tr>
<tr>
<td>Crossbred</td>
<td>15 – 25 kg</td>
</tr>
<tr>
<td>Buffaloes</td>
<td>10 – 15 kg</td>
</tr>
</tbody>
</table>

More than 14 percent of the world milk output is contributed by India, which implies that every seventh litre of world milk is produced in India. Not only India is the largest milk producing country of the world with estimated output of 84 million MT (2001-02), what is more significant is that India’s growth in milk production is 4 percent, which is more than three times global milk growth. India, like many developed countries of the world adopts policy to restrict growth in milk production which takes place in widely distributed small-holdings, over 70 million of them across the length and breadth of the country. Dairying in India is not just any other business, but is the critical pathway to poverty alleviation through mass employment and income generation.
India's ever-growing, vast remunerative domestic market has acted as both a boon, being a ready market for incremental milk production as well as disincentive for highly competitive export market. Although per capita consumption of milk has more than doubled during the last three decades, it is still only 230 grams per day as compared to nutritional requirement of 275 grams per day. With increasing population and per capita income, growth in demand for milk is expected to match the growth in milk output, at least, for the next 4-5 years.

1.4 Dairy Farming In Karnataka

Karnataka State has always remained in the forefront of all agricultural development initiatives including development in the country. At a time when agriculture was grappling with the consequences of rapid and unidirectional intensification in its production process, farming provided not just the much-required alternative but also revived and further strengthened the animal-crop production linkage. Taking full advantage of the potential of enterprise to provide continuous and regular employment as well as income, farmers in the state particularly those in the southern region, took it up in all vivacity so much so that the milk production in the state increased rapidly. Now, the problem of surplus production has besieged the state to an extent that 'milk holidays' have become a common and regular feature in almost all of its Milk Unions causing a great deal of inconvenience to the milk producers particularly during the flush seasons.

Development in Karnataka is largely characterized by the prevalence of enterprises that are mostly subsidiary occupations alongside the main agricultural activity of the farmers. Specialized enterprises also exist but their number is abysmally low when compared to regular type. However, these enterprises are restricted mostly to urban areas and their surroundings. The
growth in population of animals, as well as the production substantiates rapid progress in the sector. It all started with the setting up of the Imperial Institute of Animal Husbandry and dairying in 1923 to serve as the center for training and research. Later this center became the Indian Research Institute and then the south regional station of the National Research Institute (NDRI). This institute was responsible for the establishment of key village cattle development programmes of the Government of India and the starting of the cattle artificial insemination station for supply of exotic bull semen to selected centers for improving milk yield of cattle. An important aspect of development is that it provides employment to about 70 million farm families.

In 1954, the Indian Council of Agricultural Research (ICAR) launched a cross breeding programme under field conditions in the hilly and heavy rainfall areas using Jersey bull semen on non-descript animals. During the IV Five Year Plan, the ICAR undertook the All India coordinated Projects on cross breeding of indigenous cattle using Jersey, Holstein, Brown-Swiss bulls with the primary objective of evolving cross bred cows with high potential. The setting up of the Indo-Danish project at Hessarghatta, Bangalore, in 1964 was the result of collaboration between the Government of India and the Government of Denmark. The project had substations at Munirabad, Kudige and Dharwad where Red Dane and Jersey bulls were distributed to different areas for up gradation of stock and to carry out extension work in selected areas.

The Bangalore was commissioned in 1965, with UNICEF aid with a rated capacity of 50,000 liters of milk per day. The milk shed area of Bangalore comprised of the whole Bangalore district, most parts of Kolar district and parts of Tumkur situated within the radius of 40 kilometers. Milk was procured through a network of co-operatives.
By the year 1973, Karnataka state had 10 plants with a processing capacity of 1.67 lakh liters per day. To begin with, most of these dairies were under utilized and the milk handled was not even 50 percent of their capacities. To circumvent this problem, Integrated Development Project designed on the lines of AMUL pattern co-operative infrastructure started functioning during 1974-75 in 4 major milk sheds namely Bangalore, Mysore, Hassan and Tumkur covering 8 southern districts by availing the financial assistance of International Development Agency (IDA) with the outlay of Rs. 51 crores. Karnataka Development Corporation (KDDC) was set up to implement the project in the year 1974. The main objective of this project was the development of an integrated programme for increasing milk production in rural areas of southern Karnataka, providing milk collection, processing and marketing facilities and technical services for artificial insemination and animal health. Milk co-operative societies were organized and grouped into unions which had a plant and a feed plant. The unions were provided technical support by the NDDB through the Karnataka Development Corporation (KDDC) for recruitment, training and supervision purposes.

In the year 1984, the project ended and the development activities were continued under Operation Flood – II. On completion of I.D.A project the State Government took a decision to extend the project’s scope to the entire length and breadth of the state. The development activity was continued under the organization called Karnataka Milk Federation (KMF) that came into existence as a successor to Karnataka Development Corporation (KDDC) in May 1984. The Karnataka Milk Products Limited, which was established in the year 1980, was transferred to KMF in the year 1984. In the year 1985, the government transferred the dairies to the control of KMF. The successive phase of Operation Flood Programme started during 1987 and continued until April 1996 covering the entire state through 13 milk unions. The KMF today is the third largest co-operative in the co-operative sector in the country in terms of procurement and sales and it stands first in South India.
Karnataka State stands sixth in milk production in the country and it occupies third position with respect to milk production under co-operative sector in the country. The milk production was around 45 lakh tones during the year 2000 – 2001. The per capita availability of milk is 228 gms per day, which is slightly above the national average. The per capita consumption ranges from 70gms per day to around 250 gms per day in the state. The lowest per capita consumption is found in Kolar while the highest is in the Raichur and Koppal districts. The KMF covers 27 districts, around 7000 co-operative societies, around 17000 villages involving 1.5 million farmers. It collects around 20 lakh liters of milk daily. Around 62 percent of the milk produced is sold in the form of fluid milk while the rest is converted into milk products. The milk procurement by KMF as marketable surplus was around 36 percent during the year 2000. The market share of KMF was around 41 percent during the same year.

Recognizing the role of co-operatives in milk production, increasing rural employment and incomes. The National Development Board has agreed to provide finance and requisite support to Karnataka development up to Rs.250 crores. All the milk unions in Karnataka have been implementing a geographical information system for management of milk procurement and production enhancement activities for the last two years. This has been effectively used for identifying problematic societies, deciding interventions, predicting outcomes and planning strategies for further development in the State.

Credit forms the significant tool for improvement of sector. The importance of credit is of high significance because 60-65 percent of the farmers belong to small and marginal categories and the impoverished sections of the rural population. The ground kevel credit flow to the sector was to the tune of Rs 5091 lakh through all the credit agencies. The target achieved was around 51 percent. Commercial banks formed the major source
of credit by disbursing a loan of Rs. 3640 lakhs followed by co-operatives and RRBs. However, the credit to the sector increased during 1999-2000 which saw the disbursement of Rs. 4700 lakhs. The estimated credit flow during the year 2001-02 was Rs. 7637 lakhs through all the agencies. The NABARD has instructed the KMF to concentrate on marketing of milk and milk products outside the State and to increase the capacities of existing processing plants besides establishing new milk processing plants. This is in light of the fact that the rate of per liter of milk for producers reduced to Rs. 7.80 from Rs. 8.30 during the last 5 months of the year 2001-02 and the KMF procured the milk beyond its processing capacity without giving a milk Holiday.

The Government of Karnataka have set up fodder development banks to increase the green fodder availability to the animals in the rural areas. Around 19 lakh root slips and 12 quintals of fodder seed were distributed during the year 1999 – 2000 through the programme. In order to eliminate the diseases like foot and mouth, Rinderpest, Black quarter, mastitis and Brucellosis NDDB has agreed to invest up to Rs. 20 crore to establish a disease free zone in Karnataka. KMF has planned to link co-operatives with the milk unions and NDDB as a step in National Animal Production and Health Information System (NAPHIS) which has computer linked information system between disease diagnostic laboratories and state Animal Husbandry department.

The development in Karnataka could bring significant and positive changes in the lives of the impoverished and hitherto neglected women and weaker sections. The importance of development has increased in the light of increased production and the emergence of private sector in the enterprise. The quality of milk arriving at the chilling center further complicates the problem of surplus production as it limits the development of a processing-based disposal strategy. Modernization of the farming may be one of the options worth exploring.
1.5 Role of Media in Development

The creation of a climate suitable for increased production and serving as a prime mover in the economy is the ideology of development communication. Practically, all developing countries have accepted communication as an integral part of development planning. The Mac Bride commission recommends: 'The communication component in all development projects should receive adequate financing. So called 'development support communications' are essential for mobilizing initiatives as producing information required for action in all fields of development – agriculture, health and family planning, education, religion, industry and so on. Essential communication needs to be met include the extension of basic postal services and telecommunication networks through small rural electronic exchanges. The development of a community press in rural areas and small towns would not only provide print support for economic and social extension activities. This would also facilitate the production of functional literature for neo-literates. Utilization of local radio, low cost small format television and video systems and other appropriate technologies would facilitate production of programmes relevant to community development efforts, stimulate participation and provide opportunity for diversified cultural expression.

Programmes, schemes and routine activities are development in operation. Achievement of scheme objectives necessitates among other things a communication of the scheme through a hierarchy and culminates in communication between the scheme, organization administering it and the target group. Planning is necessary to accomplish successful communication to bridge the gap between the programme and target group'.

The mass media are rightly viewed by many communication experts as facilitators of development. These media have also played a significant role in modernization of the society. Mass communication networks and media intervention packages are very essential to realize the goals of development in modern society. Revolutionary changes have been brought about in the
field of mass communication. Mass media like print, film, radio and television have the unique ability of disseminating development information to a large number of beneficiaries in the shortest possible time all over the world.

Communication occupies an enviable status in the process of planned development. Communication and development are major domains of human endeavour. These are intimately linked with each other. Media experts like Daniel Lerner, Wilbur Schramm, Everett Rogers and others have emphasized the role of media in development. While the administration carries out the government policies and programmes, mass media provides the understanding and motivation lying behind such decisions and help in generating people’s participation in decision making and project implementation processes. Thus, media intervention packages and programmes are required to popularize the beneficial effects of various development projects and to enlist the active participation of the beneficiaries in those projects. Media intervention for development becomes even clear as the world enters the new millennium which is dominated by the communication power.

Everett M Rogers in his book 'Diffusion of Innovations' offers a linear top to bottom SMCRE model of communication in which the source (change agent) diffuses the development information (message) to the members of the social system (receiver) through communication channels (media) to change the traditional way of life of individuals to a technically advanced modern life (effect).

An entirely new orientation to diary development in which farmer's education as a critical input is inescapable. If education is to play a mediating role in diary development it must fulfill the conditions namely, a) it must diffuse innovations and practices at all levels and b) it must facilitate effective adoption of innovations and practices among farmers. Without active participation of farmers in the process of diary development, the resources are likely to go waste and the objectives of diary development stand defeated.
The crucial importance of diary education becomes even clearer as the farmer's community moves toward a knowledge-based society. In developing countries the emphasis is on people's participation in farm developing activities including diary development projects.

Many public and private agencies are actively involved in development projects. These agencies would typically possess a network of field workers who undertake educational, motivational, and persuasive activities as part of their duties. The diary development activities they deal with could be the diffusion of modern technologies, innovations and practices, facilitating active participation of farmers in various developmental activities, promoting production and productivity, enhancing the bargaining power of the farmers, enriching the socio-economic status of farmers and so on. Besides them, the mass media organizations, non-government agencies, opinion leaders, progressive farmers and other sources of development communication can also be persuaded to facilitate meaningful diffusion and adoption of modern innovations, technologies, resources and practices. Multi-media campaigns are also required to boost development. Media intervention is an approach to development that facilitates the flow of development education from and among policy makers, administrators, researchers, extension personnel and beneficiaries. Development organizations are called upon to invest in communication infrastructure, expand media networks, train the extension personnel, overhaul media intervention packages and boost development.

Thus, mass media, traditional media, inter-personal communication channels, new communication technologies and other channels are required to spread ideas or innovations across space and time in order to boost development. Thus, the role of media in the process of development becomes inevitable in these competitive times.
1.6 Significance Of The Study

Mass media are considered to be a subject of special concern especially in the developing world. In the age of information explosion, command over information is unmistakable index of power and development. The relationship between the media intervention and national development has become a subject of interesting research. Development demands an effective communication strategy which should be considered as a sub-system of overall diary development planning. Communication has to play a positive role in the diary development process. Media intervention for development is a must in the present competitive times. All schemes, programmes and services directed at diary development should be adequately communicated to the farming community. Mass media should also organize, educate and motivate the farmers to participate actively in the process of dairy development. There is need for sustainable media campaigns especially to help the farmers to cope with changing environment and take advantage of new development projects and opportunities. The media organizations should collect, process and disseminate timely, relevant and need-based information to the dairy farmers on various promotional activities especially at the grass roots level. The farmers should have the benefit of media access, since most of them are not in a position to acquire information for the attainment of progress on their own. The farmers should be motivated to change their attitude and function in an effective manner. They must also be allowed to work in a new environment where the spirit of competitiveness should percolate into the veins of these farmers.

The involvement of farmers in the process of modernization of dairy sector cannot succeed without proper media intervention packages and programmes. It is essential for the beneficiaries to know about development programmes, and participate in them with a favourable attitude so as to reap maximum benefit. Participation in extension communication programmes is also required to facilitate integrated diary development. Effective learning environment has to be created by sharing knowledge, experience and expertise. farmers require opportunities in order to have a say in policy
matters relating to sector and support from various dairy development organizations. Media strategies should focus their attention on building farmers competence in terms of (a) technology and technical skills, (b) organizational skills, (c) managerial skills, (d) communication skills and (e) business skills.

Diffusion of modern technologies, innovations and practices is a must to transforming into modern, scientific and profitable industry. Unfortunately, the research findings are not adequately utilized by the policy makers, administrators, media professionals and extension personnel involved in the field of management. In the age of technological explosions and communication revolution, a heavy responsibility lies on the media professionals and extension personnel in respect of empowering farmers educationally and economically. The farmers should have sound knowledge of management and change their attitudes and behavioral patterns. Successful launching of development projects would depend to a great extent on the united efforts put forth by technocrats, scientists, community leaders, media professional and extension staff. Effective communication and extension education would go a long way in galvanizing dairy development in our country.

The media exposure among farmers, acquisition of information, utility of information and participation of farmers in dairy development activities have been the concerns of this study. The study is likely to answer to several questions in the area of media intervention for diary development. Few researchers have assessed the role of communication media (traditional, modern and interpersonal) in the context of agriculture development, sericulture development, horticulture development, rural development and the like. The media intervention packages with reference to the development are not adequately evaluated by our researchers. The major deficiency observed in their works is lack of emphasis on media intervention for integrated diary development. Hence, the problem “Media Intervention For Diary Development In Karnataka State – An Evaluation” is chosen for the present study.
1.7 Review Of Literature.

Review of Literature provides information on "What has been done" and a guidance to "What is to be done". The other functions of the review of literature are: (1) to assist in the delineation of the problem area, (2) to provide an insight into methods and procedures, and (3) to suggest operational definitions of the findings. The communication infrastructure in the rural Karnataka with respect to dairy development is indeed impoverished.

An attempt has been made to collect possible recent researches regarding dairy development in general and media intervention for dairy development in particular. They are presented under the following heads.

1.7.1 Socio-Economic Status Of The Dairy Farmers.
1.7.2 Dissemination Of Dairy Development Programmes By Media.
1.7.3 Diffusion Of Dairy Management Practices By Media.
1.7.4 Role Of Media In Dairy Development.

1.7.1 Socio-Economic Status Of The Dairy Farmers.

Benki (1990) indicated that 43.33 percent of members and 8.33 percent of non-members of KMF were found to have good level of knowledge about modern dairy management practices. The researcher has not focused the attention on the role of various communications media in dairy development.

Shailaja (1990) reports that there were significant differences among the four categories of farm women in progressive and less progressive villages in their role performance, extent of participation in decision making, management orientation and attainment of progress. She has examined
various factors such as age, education, income, extension participation, extension contact, knowledge of crops and dairy management, social participation, cosmopolitanism etc., in relation to dairy development. The role of media in dairy development does not find any place in this study with respect to Karnataka State.

Sheela (1991) found that 62 percent of the dairy practicing women of Bidar district of Karnataka State had a medium level of knowledge about improved dairy practices. An equal number of respondents (19 percent) belonged to low and high knowledge categories. The study is limited to analysis of awareness among women dairy farmers. She reports that age, education, and family income, were found to be non significantly associated with knowledge about improved dairy practices in case of dairy practicing women.

Kadian (1992) found that the age of the respondents was negatively correlated with the overall knowledge level on dairy practices in case of farmwomen. This study is confined to demographic features of dairy farmers.

Hema et al. (1992) reported that all socio-personal characteristics were significantly greater for members of co-operative system than for non-members of co-operative system. The characteristics such as information source utilization, number of dairy animals, urban contact, and input availability did not differ significantly between groups. All socio-psychological characteristics scored higher (P < 0.01) among member than non-members of co-operative system. Further, risk orientation, management orientation and attitude towards dairy farming, dairy co-operative societies and productivity of dairy animals were discussed. The researcher has not adequately probed the role of media in dairy development.
Shreeshailaja (1993) reported that, almost equal number of dairy farm women were found in the high, medium and low overall knowledge levels. These levels of knowledge were not correlated to media intervention in this study.

Beerannavar (1995) observed that fifty-four trained farmers (55.67 percent) had the medium knowledge level while twenty-one trained farmers (21.65 percent) and twenty-two respondents (22.68 percent) had low knowledge level. The researcher had not analyzed the role of media in enhancement of knowledge among dairy farmers.

Anita-Sarkar et al. (2001) examined the Women’s involvement in various behavioural processes relating to household and crop-livestock farming practices in West Bengal, India. Data regarding 15 socioeconomic and psychological variables were obtained through structured interviews with 100 women respondents from Primary Dairy Cooperative Societies under the Kishan Milk Union-II of North 24 Parganas District. The study revealed that age, education, family size, family income, land holding, average lactation yield, herd size, social participation, mass media exposure, and faith, had significant impact on women’s involvement in various behavioural aspects like decision making, planning, perceptual process, and participatory process concerning household and crop-livestock farming practices. Multiple regression analysis revealed that age, education and family size had the most significant contribution to women’s involvement in the aforesaid behavioural aspects. All the variables explained 76% of variations in their involvement. However, media exposure among women dairy farmers was not adequately analyzed by the researcher.
1.7.1 Dissemination Of Dairy Development Programmes By Media.

Muniraju (1975) observed that in Bangalore district majority of the small farmers had medium extension participation and less contact with cattle show, exhibition, farm radio programme listening, group meetings, training programmes, field day and charamandals which were the tools of dairy development. About 16 percent of the small farmers had not participated in any extension activity. The study analyses the role of extension communication in the development of small dairy farmers.

Ranganathan and Jayshankar (1976) in Siddalghatta taluk of Kolar district of Karnataka, had observed that, neighbours, friends and milk producers co-operative societies’ personnel were utilized by all the dairy farmers for dairy education. Veterinary and livestock inspector, cattle show, calf rallies / dairy melas/ cattle fairs were also used by 88.18 percent of small dairymen. The study reveals extensive involvement of extension staff rather than other media in dairy development activities.

Reddy and Singh (1977) reported that, only five channels were viewed by more than 50 percent respondents. They were farm and home visits (99 percent), group meetings (95 percent), method demonstration (63 percent), result demonstration (75 percent) and farmers training camp (60 percent). The study also focused the role of extension communication media and methods in dairy development. The researchers have not analyzed the role of mass media in dairy development.

Singh (1982) reported that majority of dairy farmers received dairy farming innovations through radio, kissan melas and exhibitions. The researcher has identified the key sources of dairy development-centered education. It is a specific investigation in this respect. But the researcher has not covered the major sources of communication in relation to dairy development.
Nataraj and Channegowda (1985) found that film show, cattle rallies, and radio have been utilized to a very large extent by agricultural labourers, and small and marginal farmers. This investigation too identifies the dairy development-centered sources of education with a limited focus. Other major communication media are left out of the purview of their investigation from dairy development point of view.

Singh (1989) reported that radio, gossip groups, cattle fairs, newspapers, exhibitions and training programmes were major channels for receiving information by the dairy farmers. The researcher has examined the role of mass media and extension media from dairy development point of view. The role of traditional media and new communication technologies are not examined by the researchers.

Patel (1993) studied the dairy development programs taken up by government and non-government organizations and their impact on the milk production in Prakasam district of Andhra Pradesh. He reported that the implementation of the Operational Flood Programme enabled the dairy farmers to adopt crossbreed programme in Andhra Pradesh. The investigation specifically deals with the intervention of government and non-government organizations in the process of dairy development. There is absolutely no focus on the media intervention for dairy development.

Rahul Tiwari, Ranjit Singh, and Rupasi Rath's (1999) study on farmers suggestions for effective farm telecast revealed that, dissemination of the programmes on animal husbandry should be increased and topics such as diseases of animals, symptoms of diseases, feeding of animals, housing and management of animals and treatment of animals etc., should be included. This study invited the attention of policy makers and dairy farmers on improvement of the methods of dairy development through broadcasting of practically relevant television programmes. Other prominent communications media are not examined in this investigation.
Narendra Reddy-PVR et al. (1999) the study revealed that the impact of the dairy development programs implemented by the government organizations was truly reflected in the improved area for fodder production over the decade in Prakasam district. The shift from non-descript cattle and buffaloes to cross breed and graded murrah, respectively was the predominant feature of the attitude of the farmers of the district, which is desirable and should be encouraged. It is suggested that the rearing of 'heritage' breeds like 'Ongole' cattle should not be neglected. To obtain the maximum production from the genetic potential of the livestock, better feeding practices should be adopted by improving the land for cultivation of fodders. The investigation highlights couple of features of dairy development rather than role of media in dairy development.

Chandregowda-MJ and Prabhakar-BS (2000) focused the attention on factors that contribute and or hinder the productivity of cows in two villages of eastern dry zone of Karnataka. Dairy farming practices of each dairy family and the gaps in adoption have been delineated by them. These training needs have been ascertained and the target group preferences have been worked out. Such needs can play a significant role in organizing need based training programmes aimed at capacity building of the dairy entrepreneurs. The investigation deals with dairy training programmes rather than the intervention of other major media for dairy development.

1.7.2 Diffusion Of Dairy Management Practices By Media

Halyal et al. (1980) reported that, 66 percent of the farmers had adopted artificial insemination which only a few farmers (12 percent) had adopted balanced feed. The green fodder feeding and vaccination of animals were adopted by 88 percent of the farmers. This investigation deals with adoption of improved dairying methods rather than the role of media in diffusion and adoption of dairy management practices.
Sohi and Kherde (1980) reported that, out of 14 improved dairy husbandry practices, majority of the respondents were found practicing protective vaccination against contagious diseases, providing clean water to milch animals, pucca animal shelter and provision for own water system. The researchers have examined the improved dairy practices adopted by the farmers. Media intervention for dairy development is not examined by them.

Awanti (1981) reported that, among 12 improved practices of dairying only one i.e., colostrums feeding was followed by all the farmers while a majority of the farmers adopted the practices like artificial insemination and vaccination. Further majority of the dairy farmers had medium and high adoption levels. The researcher has not dealt with the role of media in adoption of improved dairy practices.

Nataraju and Channegowda (1984) observed that on the whole, 64 percent of dairy farmers belonged to medium adoption category. They further reported that, the no cost improved practices like regular grooming and cleaning of cows was adopted by all the dairymen. The next practice adopted by majority of the dairy men was artificial insemination. The researchers have not analyzed the role of media in adoption of improved dairy practices.

Ingole et al. (1987) reported that, though very less number of respondents were found in the category of low adoption, a vast majority was seen in the category of medium adoption of improved animal husbandry practices. There is no focus on the impact of media programmes and contents in adoption of innovations and practices.

Reddy (1987) reported that 98.33 percent of the respondents adopted the practice of castration of bulls and 94.17 percent of the respondents adopted the practices of artificial insemination. They further reported that only 15 percent of the respondents adopted the practice of feeding of dairy cattle with premixed concentrate feed. The researcher has not dealt with the factors and forces behind adoption of better dairy practices including communications media.
Ningappa (1988) reported that simple practices such as cleaning of feeding vessels, providing clean drinking water for dairy animals regularly and feeding the colostrums to new born calves within 2-4 hours were adopted by more than 50.00 percent of dairy farm women. The role of media in adoption of healthy dairy practices is not investigated by the researcher.

Ramkumar (1989) reported that, 100 percent farmers had adopted the practice of giving concentrates to cows, 85 percent of the farmers adopted the artificial insemination practice, 45 percent of the respondents adopted the vaccination schedule for the cows all the respondents adopted the practice of deworming of calves and the least adopted practice was scientific milking. There is no mention about the role of various media in the adoption of healthy dairy practices.

Benki (1990) reported that, 50 percent of the KMF members were found to have high level of adoption of recommended dairy management practices while just 11.67 percent of non-members of KMF had similar adoption level. The researcher has not probed the role of various media in the adoption of recommended practices.

Mansfeld-R, Grunert-E (1990) has presented a model of an information system for monitoring and managing dairy herd health. General and special requirements are illustrated, including the provision of a data base with reference to a veterinary agricultural information system. The system integrates the role of the veterinarian in animal production, facilitating the improvement of herd health and the development of new approaches to dairy herd health and management. The researcher has concentrated on the role of inter-personnel communication in dairy development.

Boman-RL, Wennergren-EB (1990) revealed that, there are approx. 6,00,000 dairy cows in Ecuador with an average milk production of 4-6 kg/cow per day. But some well managed cows produced up to 35 kg/day at peak lactation. Lush pastures in the sierra provide around forage. Calf mortality in
enclosed housing was 25-35%. Av. Ages at weaning and at 1st calving were 6 and 42 months respectively. For 2nd year during 186-88 improved dairy technologies were demonstrated on government and private farms, results were written up, and field days held to disseminate information and improve dairy production practices in the Sierra of Ecuador. The researcher has primarily examined the adoption of improved dairy technologies and practices with little emphasis on dissemination of dairy information by media.

Jactel-B (1990) reported that sintel is a computer software package designed for use on-farm by the farmer or veterinary surgeon. It may be run on hard or floppy disc and may be used with a portable computer. In stage 1 of utilization, data was input on the farm structure (building layout, working and feeding practices, herd and lactation data, and economic information). At stage 2, a preliminary read-out (on-screen or in printed form) was given, consisting of summaries of data in various categories including: cows examined on each visit by the veterinary surgeon; incidence of cow illness; evolution of somatic cell count in each cow for the previous 10 months; and reproductive cycles. An individual record for each cow was also called up. At stage 3, an overall 'diagnosis' of the farm was produced, with predictions for general health and mastitis status of the herd(s), future lactation and reproductive performance, and economic projections. The investigator has concentrated on various stages of dairy management in general rather than media intervention strategies in particular.

Sheela (1991) reported that, out of 12 improved dairy practices more than half of the respondents were found practicing treatment of repeat breeders (75 percent) feeding concentrate to milking animals (53 percent) and vaccinating the animals for foot and mouth disease (51 percent) inseminating the animals at appropriate time after noticing heat symptoms (41 percent) and adopting pregnancy test to their animals in early period (42 percent). There is no emphasis on the role of media in dairy development.
Chandler – P (1991) reported that, in an attempt to illustrate the feeding economics of dairy herds, the costs associated with feeding in different segments of a dairy operation were explored. It was concluded that each dairy herd-feeding situation had to be evaluated individually to determine the nutrient cost associated with income and non-income producing segments of the operation. It is suggested that feeding concepts for lactating animals must be developed around the lactation curve. The investigator has focused the attention on feeding dairy herds rather than media intervention.

Kunzne et al. (1994) revealed that the overall extent of adoption in both member and non-members of co-operatives systems was at the medium level. Approximately 23 percent of respondents of the members fell into high level of overall adoption against approximately five percent of the respondents in non-members co-operative system. Further, mean scores of adoption with regard to all the technologies were found to be high in members of co-operative system. The investigation highlights the role of dairy cooperatives in adoption of improved practices. Other prominent media are not analyzed with reference to dairy development.

Trilochan Singh et al. (1998) conducted a in the Western dry region of Rajasthan comprising 2 zones. Two Districts from each zone and 8 villages were selected. Different dairy farming systems were identified for each village. Responses from 25 farmers/village were collated. Family education status, knowledge of dairy farming practices and mass media were negatively significantly correlated with the technological gap. Dairy farmers with a low level of family education status, less knowledge about dairy farming practices and a low level of mass media exposure had a high level of technological gap with respect to recommended dairy farming technology. The researcher had analyzed the role of media in dairy development at Rajasthan. Higher media exposure bridged technological gap according to them.
Rupasi Rath et al. (1998) conducted another study in Mudia village in the Bareilly District of Uttar Pradesh. 10 women farmers were selected from 3 categories namely landless, marginal and small farms. About 6 major animal husbandry practices that involved high skill level were studied. They include: management of milch animals, preparation of balanced feed rations, care and feeding of newborn calves, clean milk production, preparation and feeding of home-made concentrate mix, and curd making. The majority of women had a medium level of skill in these 6 practices. The majority of respondents belonging to the backward caste, joint family and having cultivation or service as their main family occupation had higher skill levels in animal husbandry. The skills were positively and significantly associated with age, family education status, dairy herd size, duration of maintaining livestock unit, mass media exposure and extension agent contact. Of all the independent variables, only extension agent contact and duration of maintaining livestock unit had a positive and significant influence on the skills of women in animal husbandry. The researchers had analyzed the relationship between mass media exposure and inculcation of progressive dairy practices among women farmers at Uttar Pradesh. The study reveals the positive impact of media on skill development.

Goswami-A et al. (2000) collected data from landless, marginal, small, and medium to large, livestock owners from four selected villages in the saline and non-saline areas of 24-Parganas district in West Bengal. 81 livestock owners from saline and 79 from non-saline blocks were selected to form the study sample. The relevant socio-economic, socio-psychological, communication and administrative characteristics of the livestock owners were identified and their relationship with the adoption of artificial insemination was evaluated. The age, family educational status, family type, material possession, herd size, attitude towards dairy farming, knowledge of artificial insemination, vaccination against contagious diseases, deworming, cultivation of green fodder, and of concentrate feeding, utilization of mass media and
personal sources of information, marketing orientation, risk orientation, and social participation were positively and significantly correlated with the adoption of artificial insemination in the saline Block. The investigators had primarily examined the cultivation of dairy management practices among farmers at West Bengal. Among many factors the utilization of mass media was also examined from the point of view of adoption of innovative practices for the attainment of dairy development. It was found that mass media had played a positive role in the adoption of artificial insemination over there. The investigation was limited to this particular aspect of dairy development.

Another study was conducted by Goswami-A et al (2000) with 33 landless, 70 marginal, 34 small and 23 medium-large livestock owners in four selected villages drawn from a saline and a non-saline block in South 24-Parganas, West Bengal, India. Data were collected from March to May 1998. The socioeconomic, socio-psychological, communication and administration characteristics of the livestock owners were assessed and their relationship with the adoption of deworming was analyzed. Family educational status, material possession, herd size, attitude towards dairy farming, knowledge about Al, knowledge about vaccination, knowledge about deworming, knowledge about cultivation of green fodder, knowledge about feeding of concentrates, personal cosmopolite, marketing orientation, and risk orientation were significantly correlated with the adoption of deworming in the saline block. Herd size, attitude towards dairy farming, knowledge about Al, knowledge about vaccination, knowledge about deworming, knowledge about feeding concentrates, mass communication, personal cosmopolite, and personal localite were significantly correlated with the adoption of deworming in the non-saline block. The researcher had also considered the role of mass media in adoption of deworming which is one of the healthy dairy management practices at West Bengal. It was found that mass media exposure facilitated adoption of deworming over there. The investigation was limited to this aspect of dairy development.
A study was conducted by Goswami-A et al (2000) with 18 landless, 26 marginal, 23 small and 14 medium-large, randomly selected livestock owners from two selected villages of saline block of Sundarban of South 24-Pargs District of West Bengal. The relevant socio-psychological, communication and administrative characteristics of the livestock owners were selected and their relationship with the adopted behaviour about vaccination against contagious diseases, deworming and feeding of concentrates were computed. Attitudes toward dairy farming, knowledge about AI, vaccination, deworming, cultivation of green fodder and feeding of concentrates were positively and significantly correlated with the adoption of vaccination, deworming and feeding of concentrates, whereas innovation proneness and knowledge about feeding of green fodder were not significantly correlated. Personal cosmopolite was positively and significantly correlated with the adoption of all three animal husbandry practices, whereas mass media communication was significantly correlated only with the adoption of feeding concentrates and communication skills was related with adoption of vaccination. Personal localite was not related with the adoption of these practices in the saline belt of Sundarban. Marketing orientation and risk orientation were positively and significantly correlated with all these practices whereas social participation was not.

Goswami-A et al. (2001) conducted another study by randomly selecting landless (n=15), marginal (n=44), small (n=11) and medium-large (n=9) livestock owners, from 2 selected villages of non-saline block of Sundarban, West Bengal, India. The extent of the influence of relevant socio-economic, socio-psychological, communication and administrative characteristics of the livestock owners on their adoption of selected animal husbandry practices. The first 5 factors having the largest direct effects on the adoption of selected animal husbandry practices namely knowledge about
vaccination against contagious diseases (0.4339), attitude towards dairy farming (0.2404), mass media (0.2267), status of land ownership (0.1900) and farm power (0.1689) were computed. On the other hand, knowledge about artificial insemination (0.4913), communication skill (0.3464), knowledge about deworming (0.3419), knowledge about feeding of concentrates (0.3009) and knowledge about cultivation of green fodder (0.2890) were the first 5 factors which had indirect effect on the adoption of selected animal husbandry practices. The researchers examined the relationship between mass media contact and adoption of improved dairy practices at West Bengal. It was found that mass media had considerable impact on adoption of selected animal husbandry practices over there.

Goswami-A et al (2002) studied the influences of particular independent variables on the adoption of 6 animal husbandry practices by collecting the responses of 4 categories of livestock owners (18 landless, 26 marginal, 23 small, and 14 medium/large) in 2 selected villages of the saline block of Sundarban, West Bengal, India. The Independent variables included relevant socioeconomic, sociopsychological, communication, and administrative characteristics of the livestock owners. The first 5 factors that had the largest effects on adoption were social participation, knowledge about the cultivation of green fodder, local residence, family educational status, and age. Mass media exposure, knowledge about deworming, communication skill, risk orientation, and attitude towards dairy farming exerted the 5 largest indirect effects. Independent variables explained about 38% of the total variation of adoption of the selected animal husbandry practices. The researchers had not primarily investigated the role of mass media in adoption of healthy dairy practices. They found that mass media had indirectly affected adoption of healthy dairy practices.
1.7.3 Role Of Media In Dairy Development.

Kashem-MA (1992) reported that, television is an important means of communication media in the transfer of technology. Television was found as most effective medium which can motivate, stimulate, induce and change the attitudes of the people in relation to dairy development. The investigator has analyzed the role of television in dairy development. It was found that television had the power to stimulate dairy development.

Jamal (1994) reported that the extent of involvement of farm women in decision making in relation to dairy animal production depends on the level of knowledge and skill among them. It is suggested that in order to achieve higher productivity of milk and fodder crops, the available technological, financial and manpower resources need to be fully exploited by educating farm families for the optimum utilization. Farm women should be equipped with knowledge and practical skills in dairy management and processing of milk products in which they are fully involved. The researcher has dealt with the personal characteristics of dairy farm women rather than mass media characteristics from dairy development point of view.

Dube-N (1997) reviewed the 2-year multimedia publicity campaign for milk carried out in Quebec, Canada. The campaign, using the slogan "Jamais sans mon lait" [Never without my milk] aimed to increase consumption of milk as a drink primarily among adults of 18-49 years. The main focus of the campaign was a series of comic advertisements on television but radio was also used for this campaign. The role of magazines and posters was also examined in this context. The investigation was limited to the role of mass media campaign for milk consumption rather than dairy development.
Rohr-A et al. (1997) examined the Spending On Advertising (SOA) for milk and milk products between 1985 and 1995 in Germany. They analyzed the relationship between SOA and total dairy industry turnover in particular the generic advertising financed by the CMA [Centrale Marketinggesellschaft der Deutschen Agrarwirtschaft - Central Marketing Organization for German Agriculture] and national marketing boards of other EU countries was also analyzed by the researchers. It was found that milk and milk products centered advertising boosted dairy industry in Germany. The study was limited to the role of advertising only.

Pritchett-JG (1998) compared historical advertising expenditures in 4 media outlets (television, radio, print and outdoor. The results showed that profits for dairy farmers would have increased if funds had been reallocated from television to radio, print and outdoor media outlets. The optimal allocation with 2 endpoint restrictions suggests that the share of advertising expenditures devoted to television should be reduced from 88 to 70%, while expenditure increases are indicated for print (from 5 to 9%), radio (from 4 to 6%) and outdoor (from 2 to 15%) advertising. Given a demand model with no endpoint restriction, television's share is reduced to 58%, while print, radio and outdoor expenditures increase to 8, 5 and 29%, respectively. The researchers analyzed mass media and outdoor media advertising with reference to dairy development. They have suggested that other media like print, radio and outdoor media should be given more budgetary allocations.

Krishna Murthy and Nataraj-MS (1999), examined farm telecast with respect to dairying, sericulture and horticulture activities. The listeners recommended increase in broadcast duration (68.33%), timely information (40%) and more information on dairy, sericulture and horticulture (42.49%). The investigation was confined to farm broadcasting with special reference to dairying, sericulture and horticulture. Other channels of mass communication like print, television and film are not included in their investigation from the point of view of dairy development exclusively.
Reger-B (1999) examined a combination of advertising and public relations in a campaign to encourage local populations in communities in West Virginia, USA, to switch over from consumption of whole or semi-skim milk to 1%-fat or skim milk. About 34.1% of consumers of higher-fat milk reported that they had switched over to lower fat milk as a result of the campaign when compared with 3.6% of consumers in the control community (P<0.0001). It is concluded that the use of media campaigns alone can be effective in persuading consumers to change their food habits. The researchers have found that both Advertising and Public Relations were chief tools of campaign with reference to milk consumption.

Kadian-KS (2000) conducted a study in three agro climatic zones of Himachal Pradesh. Three-stage random sampling technique with stratification at ultimate stage was applied. The results indicate that majority of farmers showed medium level of information input pattern. Analysis Of Variance depicted that there was a considerable amount of variability among the three agro climatic zones and different categories of farmers. Some socio-personal traits of farmers like material possession, mass media exposure, cosmopolitanness-localiteness and risk preference were found to be significantly correlated and contributed towards information input pattern of farmers. Path analysis revealed that cosmopolitanness-localiteness had the highest direct effect on information input pattern followed by herd size and innovation proneness. Mass media exposure had the highest indirect effect through education, cosmopolitanness-localiteness and innovation proneness. This suggests the contribution of these components in the search for dairy related information. The investigation did not primarily deal with the role of mass media in dairy development in Himachal Pradesh. It was found that mass media had direct indirect effect on dairy farmers.
Rezvanfar-A (2001) brings into focus the information flow among and between researchers, extension officers and farmers in East Azerbaijan, Iran, which is the domain of dairy husbandry technology. The researcher examines how researchers obtain information (information input) about science, technologies and farmers' problems, and how the recommendations from researchers are passed on extension officers and farmers (information output). The flow of information and communication between researchers and linkage agents and farmers (inter-system communication) are also examined. The amount of information and the major methods used by media for information input, information output and inter-system communication researchers used are discussed. The investigation is confined to the role of extension staff in dairy development.

Singh-AK (2001) examined the socio-economic characteristics, dairy farming practices, and communication behaviour of Buxa tribal dairy farmers (n=200) in Udham Singh Nagar district, Uttarakhal, India. A communication strategy, which combines indigenous and modern media of communication, is suggested to promote the development of the tribal community. Vis-à-vis dairy development. The investigation primarily deals with communication behaviours of dairy farmers in Uttarakhal State.

Sawarkar-SW (2001) examined the utilization of various communication media as the sources of technical information among local tribal dairy farmers of Gadahiroli district of Maharashtra, India. The results revealed that mass media and inter-personal communication channels were the prominent sources of technical information about breeding, feeding, animal health care, management and fodder production for tribal dairy farmers. The researcher had analyzed the mass media and inter-personal channels as means of technology transfer to facilitate dairy development in Maharashtra State. Other prominent communications media are not examined from the point of view of dairy development.
1.8 Statement Of The Problem

Dairy development support communication facilities have been expanded over the years in Karnataka State and elsewhere. There are certain limitations and drawbacks on the part of various communication media especially at the grassroots level from the point of view of dairy development. Although media intervention for dairy development is important, the attempts to develop suitable media intervention strategies and packages and to evaluate the role of media in dairy development have been inadequate. The crucial importance of media intervention for dairy progress cannot be ignored in the present times. Dairy development is indeed a very important sector of farm development in India.


Few researchers in Karnataka State have also assessed the role of couple of communications media in the process of dairy development. They include: Ranganathan and Jayashankar, 1976; Singh, 1989; Benki, 1990; Hema et.al. 1992; and others. The major deficiency observed in their investigations was the lack of emphasis on media intervention for dairy development with special reference to Karnataka State. Grassroots level dairy development support communication scenario of Karnataka State is less understood due to lack of comprehensive communication investigation pertaining to dairy development in particular. A synthesis of the available literature also suggests that development communication scenario with respect to dairy development suffers from series of limitations.
Another important deficiency observed in the measurement devices developed by the past researchers is the low level of measurement. Hence, higher-level statistical tests cannot be applied to draw precise conclusions on the role of media in dairy development. Further past studies did not indicate the factors contributing to the dairy management efficiency as well as the media or methods of boosting dairy development in Karnataka State. Therefore, the primary tasks of the present study are concerned with identifying a reasonably representative sampling of developed and underdeveloped districts’ dairy farmers so as to assess their views on media intervention for dairy development at the grassroots level in Karnataka State. Hence, the problem "Media Intervention For Dairy Development In Karnataka State – An Evaluation" has been chosen for the present study.

The media intervention for dairy development was considered in the study because:

a. Communication occupies an enviable status in the process of dairy development.
b. Dairying is a management intensive enterprise compared to many others.
c. Dairy farmers in recent years are evincing keen interests in expanding dairy enterprise because of recent technological developments and remunerative returns from the enterprise.
d. Karnataka’s pioneering efforts in expanding dairy sector with the assistance from international and national agencies has motivated considerable number of dairy farmers to take up dairying in urban and rural areas.
e. Other states in the country are following the attempts made by Karnataka State to expand dairy enterprise.
f. Dairy enterprise is playing a significant role in generating gainful employment opportunities and boosting the economy of the state; and
g. A constant and consistent research on the role of media in dairy development is imperative.
Therefore, it is essential to have a vision backed up by appropriate research action on designing precise media intervention strategies and packages for dairy development in a developing state like Karnataka in order to achieve rapid socio-economic progress. To rise the production and productivity in dairy sector, the present level of media management efficiency has to be assessed and suitable methods should be designed to increase the same. In the absence of suitable research support, it would be difficult to achieve this goal. Further, the role of media in dairy development has not been studied in detail in the past. The present study was, therefore, designed to cover all these dimensions and make it more comprehensive.

1.9 Objectives Of The Study

With diary development being thrust area the research proposes to:

1. Study the socio-economic status of diary farmers.
2. Assess the dissemination of dairy development programmes by media.
3. Analyze the diffusion of management practices by media.
4. Evaluate the role of media in development; and
5. Suggest appropriate media intervention strategies and packages for dairy development in particular.

1.10 Scope Of The Study

The present study attempts to evaluate the role of various communications media in the process of dairy development. At present, organized governmental or non-governmental network at grassroots level to promote dairy development are not found in Karnataka State. There is no systematic media intervention for dairy development. There are certain drawbacks and limitations on the part of various communications media from the point of view of dairy development.
The print media are not providing priority-based education on all aspects of dairy development to the farmers mainly due to policy constraints and economic compulsions. The radio and television are official organs which have neglected development broadcasting due to lack of political will. The film is still a medium of entertainment. The new information and communication technologies are not accessible to the farmers in the present times. The folk media are also cut off from the mainstream of development the extension personnel are providing limited services due to lack of adequate manpower, resources and opportunities. The non-government agencies are not actively involved in the process of dairy development due to limited funds and opportunities. The search for an ideal media mix and media intervention strategies and packages has begun in view of the limitations of these media in the rural areas.

The present study would throw light on: a) The role of media in dairy development under existing situations in rural Karnataka; b) Diffusion of dairy development innovations, technologies and practices by various media; c) Adoption of improved dairy development practices by the dairy farmers; and d) Empowerment of dairy farmers by the media. The outcomes of the study would help the policy makers in government, University of Agricultural Sciences, dairy development agencies and media organizations to formulate suitable media strategies and use appropriate methods to boost dairy development in Karnataka State and elsewhere.
1.11 Definitions of the Operational Terms Used in the Study:

Gender: The male and female respondents are considered as dairy farmers at the time of investigation.

Age: The Chronological age categories of the respondents at the time of investigations were considered and put in terms of years completed.

Education: It was operationally defined as number of schooling years the particular respondents had passed. This was measured by scale (Trivedi 1963).

Caste: The caste groups were further categorized into scheduled, backward and forward with relative weightage from lower points to high points.

Land-holding: The total average land owned in addition to leased in average, if any was considered as total land holding. Based on land holding only the respondents were further categorized as landless, marginal, small medium and big. The operational limits of land holding of these farmers varied with different limits.

The family size: The total number of members (in earning and non-earning) in a family of respondents under study constituted the measurement of this value. Based on the number of the members, the respondents were further classified as small family holders, medium family holders and big family holders.

Herd size: The total cattle wealth including buffaloes (milking, non-milking) were considered as hard size of the respondents. It was further appropriately regrouped with a view to facilitate proper calculation of herd size.
Milk production: The total milk produced from different milch animal by the respondents in liters were considered as unit of milk production. Under milk production only, the details like milk sold, milk consumed and milk converted into different products were taken into account.

Social participation: This was operationally defined as active participation of milk producers in socio-economic institutes and activities which may be formal and informal. The extent of participation was measured by giving the relative weightage like low for less participation and high for active participation respectively.

Occupation: It refers to the family occupation of the respondents where majority of the members get engaged into. It was further bifurcated as main and subsidiary occupation taking into consideration the relative income generation from them. The occupations contributing major share towards family income was treated as main occupation and average was the considerations for subsidiary occupation.

Source of Income: It was conceived as the main income derived from either of the following during the year 2001 – 2002. Agriculture, Dairy, Poultry and Sericulture.

Annual Income: The annual income earned by the respondents was categorized from all the sources as Rs. 25000.00, Rs. 50000.00, Rs. 75000.00, Rs. 1.0 lakh and above.

Traditional media: They are considered as the traditional means of education which are used by the respondents for the purpose of dairy development. They include: Folk songs, Folk theatre forms, Folk dance, Folk traditions etc.

Mass Media: They are considered as the modern means of education which are used by the respondents for the purpose of dairy development. They include: Newspapers, Magazines, Radio, Television, Films, etc.
New Media: They are considered as the latest technology-centered means of education which are used by the respondents for the purpose of dairy development. They include: Cable, Video, Teletext, Videotext, Computer, fax, E-mail, Internet, Website, Satellite etc.

Extension Media: They are considered as the community centered means of education which are used by the respondents for the purpose of dairy development. They include: Farm and Home visits, Group Meetings, Training programmes, camps, exhibitions, demonstrations, conferences, rural dairy works, extensive programme, conducted tours, seminars, workshops, etc.

Non-Government Organization: They are considered as the voluntary organizations working at grassroots level for the purpose of achieving rural development including dairy development. They include: farm unions, labour unions, youth clubs, women’s associations, self-help-groups, etc.

Accessibility: It is the type of media source that is available to the respondents. The responses were measured in three point conditions as - Accessible, Non-accessible and No Response.

Frequency: It is referred to as the media providing information to dairy farmers on dairy development frequently. The responses were measured as - Regular, Irregular and No response.

Knowledge: It is referred to as intellectual food for thought and action provided by various sources to facilitate dairy development. The responses were measured in terms of - knowledge, No knowledge and No response.

Awareness: It is simply knowing the source of different media’s by the respondents. The responses were listed as - Awareness, No awareness and No response.
Credibility: It is referred to as the reliability of various sources from the point of information, education and guidance relating to dairy development. The responses were recorded as - Credible, Least credible, No response.

Innovativeness: It is referred to as the new initiatives and practices on dairy farming which are made available by various sources. The responses were measured in forms of - Innovative, Least innovative and No response.

Achievement Motivation: It is referred to as the desire, drive and determination created by various sources among dairy farmers for the purpose of achieving dairy development. The responses were listed as - achievement motivation, No achievement motivation, and No response.

Persuasion of dairy farmers: It is referred to as the ability of various media in facilitating adoption of innovations, resources and practices among dairy farmers for the purpose of achieving dairy development. The responses were listed as - Persuasion, No Persuasion and No Response.

Participation: It is referred to as the ability of various media to enlist the participation of dairy farmers in various dairy development programmes. The responses were listed as - Participation, No Participation and No Response.

Productivity: It is referred to as the ability of various sources to facilitate production and productivity among dairy farmers. The responses were listed as - Productivity, No Productivity and No Response.

Marketability: It is referred to as the ability of various sources to enhance marketing opportunities with respect to dairy products. The responses were listed as - Providing Opportunities, Not Providing Opportunities and No Response.
Profit-making Capability: It is referred to as the ability of various sources to enhance the profit making capabilities of the dairy farmers. The responses were listed as - Enhancing Capabilities, Non Enhancing Capabilities and No Response.

Social Change: It is referred to as the ability of various sources to bring about attitudinal and behavioral transformation among dairy farmers. The responses were listed as - Bring About Social Change, Do Not Bring About Social Change and No Response.

Leadership Development: It is referred to as the ability of various sources to bring about the leadership qualities and opportunities among dairy farmers. The responses were listed as - Promote Leadership Development, Do Not Promote Leadership Development and No Response.

Empowerment: It is referred to as the ability of various sources to enable the dairy farmers to overcome the state of backwardness and achieve overall progress in life. The responses were listed as – Contribute for empowerment, Do not contribute for empowerment and No response.

1.12 Presentation Of The Study

The first chapter deals with the introduction wherein the concept of dairy development, dairy scenario in India, dairy farming in Karnataka, role of media in dairy development, significance of the study, review of relevant literature, objectives of the study, scope of the study, etc., are furnished. The second chapter viz., research methodology deals with study variables, study areas, study sample, research design, statistical analysis and limitations of the study. The third chapter presents the data analysis on media intervention for dairy development. The fourth chapter summarizes the findings of the study with a brief resume and implications of the findings. The last chapter contains the bibliography, questionnaire and other annexure.
1.13 Summary

Development continues to be the watchword of 21st century planners. The contribution of agriculture in the country's GDP accounts for about 25% in India. The Karnataka State has always remained in the forefront of all agricultural development activities including dairying in the country. Communication is indeed a major dairy development resource. Dairy development is playing a significant role in generating gainful employment opportunities and boosting the economy of the state. A constant and consistent research on the role of media in dairy development is imperative. The present study examines the media intervention for dairy development at the grassroots level in Karnataka State.