DAIRY DEVELOPMENT IN INDIA: SOME ASPECTS
WITH SPECIAL REFERENCE TO KADAPA DISTRICT IN ANDHRA PRADESH

*B. Balaji naik
Research Scholar, Dept of Economics, Yogi vemana university, kadapa-516005

**Prof. Srinivasulu bayineni
Dept of Economics, Yogi vemana university, kadapa-516005

Introduction: India has the highest livestock population in the world with 57 per cent of the buffaloes and 14 per cent of the world’s cattle population, most of which are milk cows and milk buffaloes. It is considered as one of the most successful development programmes in the post-Independence period. The country has emerged as the largest milk producing country in the World. States like Uttar Pradesh, Punjab, Haryana, Rajasthan, Gujarat, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu are the milk surplus states in India. The present study endeavours to examine the Status of Dairy Development in Andhra Pradesh particularly in Kadapa District of Rayalaseema region. The average annual rainfall in Kadapa District is 696.6 mm, which is insufficient for cultivation. The rainfall in South-west monsoon period is most important for the sowings of dry crops in the District which covers 75 per cent of the total cropped area. The Majority of the people here are depending on Agriculture only. The major crops in the District are Paddy, Groundnut, Sunflower, Cotton, Betel leaves and Horticultural crops like Mango, Papaya, Banana, Lemon and Oranges. The gross cropped area in the District is 3,96,864 hectares, out of this, gross irrigated area is 1,85,292 hectares. Due to frequent occurrences of droughts agriculture production drastically diminishes, it goes down causing unemployment, food insecurity and nutritional problems. The stress of drought impacts on farmers in direct proportion to their economic status. In drought prone areas, the dairy farming is critical for sustainable livelihoods of the farmers.

A brief of Kadapa District

The earliest inscriptive evidence reveals that Kadapa or more precisely ‘Kadapa’ towards the close of tenth Century A.D. was the principal belief that ‘Kadapa’ meaning in Telugu “Threshold” was a convenient camping place for the pilgrims visiting the Lord Venkateswara Temple at Tirupati. It was therefore regarded as “threshold” to it “on the ancient highway”. The Y.S.R. District was first formed in early 19th century during the British rule. The District is also considered to be one of the District endowed with rich History, Minerals Flora & Fauna. The Seshachalam ranges of hills that passes through the district and crowned ultimately with the holy shrine of Tirumala in Chittoor district. On 19th August, 2005 nomenclature of “Cuddapah” has been changed as “Kadapa” by the Government of A.P. It was renamed as Y.S.R. District during the year 2010.
Review of Literature

Rangasamy N, Dhaka JP (2008) The study was conducted to analyse the marketing efficiency of cooperative and private dairy plants in Tamil Nadu. To evaluate the marketing efficiency, primary data was collected from 20 milk producers’ cooperatives, 20 milk collection centres, 20 transportation routes (from cooperative and private each). The marketing efficiency of cooperative dairy plant for all dairy products has been observed relatively less than that of private dairy plant, except toned milk.

HimaBindu T, Subrahmanyam SEV (2012) The study dealt with the concept of profitability, measurement of profitability in relation to total investment, sales and shareholders’ funds in Dairy Industry in Andhra Pradesh during 2001 to 2011. It also dealt with the evaluation of earning power, analysis of operating efficiency, analysis of financial efficiency and measurement of financial health of Dairy Industry in Andhra Pradesh, using Z score analysis. The data was collected from 5 dairy enterprises of Andhra Pradesh for a period of 10 years (2000-01 to 2010-11). Four out of five dairy units were found financially sound. While one was found in bankruptcy zone.

Radha Krishnan, Nigam S, and Shantanu Kumar (2008) in their opinion growing human population, rising per capita income and increasing urbanization are fuelling rapid growth in the demand for food and animal origin in developing countries. India possesses the largest livestock population in the world. Contrary to the large population of livestock in India productivity of Indian livestock is low compared to many developing countries.

Waghmare P.R. and Hedgire D.N. (2007) opined that Milk productions in India during 1950-51 was 17 million tonnes which has reached 78 million tonnes in 1997-98. Presently India ranks first in the world in milk production. The Operation Flood Programme was instrumental in dairy development activities. These programmes are useful in upgrading the standard of living of farmers.

Rawal and Vikas (2001) analysed that the comparison of caste, education and land holding of MS farmers with NMS farmers points to a larger proportion of households belonging to the backward caste, being less educated and holding lower size of land are not able to participate in dairying. A recent study of two dairy co-operatives in Gujarat argued that inequality in land ownership, caste, illiteracy and undemocratic functioning of co-operatives are the barriers to entry. Illiteracy might not be a factor in Kerala but land ownership could be one, as among the lower sizeclass of land owners smaller proportion seem to be keeping cattle.

Gautam Kakaty and Moromi Gogoi (2001) animal husbandary plays a pivotal role in the agrarian economy of India. It is closely interlinked with the socioeconomic matrix of rural society. The development of livestock sector has been receiving significant priority in India in the last two to three decades. Dairy sector contributes significantly in generating employment opportunities and supplementing the income of small and marginal farmers providing by them food security.
Global Dairy Scenario

In the world about 2450 million people are involved in agriculture, out of which probably two-thirds or even three-fourths are completely or partially dependent on livestock farming. Until recently many countries have considered milk too bulky and perishable to make long-distance trade feasible. Therefore, they developed capabilities satisfying domestic liquid milk requirements through domestic dairy industries or depended on milk product imports, or a combination of both. For these vary reasons, most dairying nations have a complex mechanism to regulate their dairy industries through interventions, financial supports and physical controls. Cooperatives dominate dairy industry. In the United Kingdom, all the milk produced by farmers is procured by cooperatives. There are no private sector dairy plants in New Zealand. A total of 90 per cent of the dairies in former West Germany are cooperative, and in Denmark, Netherlands and Sweden the entire dairy industry is organized on cooperative lines. In the USA, 70 per cent of the dairy industry is in cooperative sector. Dairy programmes are subject to significant government participation and regulation than most other domestic agricultural industries in the USA. There are several laws to encourage dairy cooperatives and protect the interests of the farmers.

Dairy Development in India

The Indian dairy sector owes its success to millions of small producers who have one or two milch animals yielding 3-4 liters of milk per day. Annual milk yield of dairy animal in India is about one-tenth of that achieved in the USA and about one-fifth of the yield of a grass-fed New Zealand dairy cow. Dairying has increasingly become a part of the state’s anti-poverty programme. Under Operation Flood Programme and several other dairy production schemes have resulted in augmenting milk production at an average annual growth of 4.5 per cent. The implementation of Operation Flood brought a “White Revolution” in India with milk production increasing from 21.2 million tonnes per annum in 1968-69 to 66 million tonnes by 95-96, at the end of projected period. Dairying in India is considered as a sub-system of the farming system, for the milch animals are generally fed with crop residues, agricultural wastes, compound cattle feed and oilseed cakes. The cost of milk production in India is one among the lowest in the world. Dairying in India, through the small herd dairy systems with feeding practices that do not place pressure on land, has significant competitive advantages. The low capital investment and steady returns make dairying a covetous activity among the marginal and small farmers and even the landless, which depend for fodder on common grazing and forest lands. The dairy industry was de-licensed in 1991 and the private sector, including Multi National Companies (MNCs), was allowed to set up milk processing and product manufacturing plants. As efficiency is the key factor in privatization policy.

Dairy Development in Andhra Pradesh

IMARC Group’s latest report, titled “Dairy Industry in Andhra Pradesh 2019-2024: Market Size,
Growth, Prices, Segments, Cooperatives, Private Dairies, Procurement and Distribution”, offers an in-depth analysis of the Andhra Pradesh dairy market. In 2018, the milk production in Andhra Pradesh reached a volume of XX Billion Litres, growing at a CAGR of XX% during 2011-2018. The state currently represents the third largest dairy market in India. The milk production in Andhra Pradesh mainly consists of cow and buffalo milk. The report’s analysis concludes that cow milk dominates the total milk production, accounting for 69% of the total share. According to the report, the Andhra Pradesh dairy market is further expected to grow at a CAGR of XX% during 2019-2024, reaching a volume of XX Billion Litres by 2024. The study provides a detailed evaluation of the dairy market landscape in Andhra Pradesh, covering the current, historical and future trends for milk production, milk production by cattle, milk procurement prices, etc. The report also offers SWOT, Value Chain and Porter’s Five Forces analysis of Andhra Pradesh dairy market along with market segmentation by product type and an analysis of the competitive landscape. The study is based on both desk research and multiple waves of qualitative primary research. In order to provide a clearer picture, the report also presents this information in the form of a dynamic excel model where users can analyse the entire information and also change various inputs according to their requirements. This report is a must-read for entrepreneurs, investors, researchers, consultants, business strategists, and all those who have any kind of stake or are planning to foray into the Andhra Pradesh dairy market in any manner.

Dairy Development in Kadapa

a) Return of Expenditure: The dairy animals of beneficiaries were found to be more productive as the returns from milk was to a tune of Rs. 1,89,000 compared to Rs.1,20,160 in respect of non-beneficiaries. This made the difference into net returns obtained by the beneficiaries as well as non-beneficiaries. Beneficiaries were found to receive a gross margin of Rs.1, 47,225 as against Rs. 70,948 by the non-beneficiaries. Returns per rupee of expenditure too was high with Rs. 2.88 against Rs. 1.75 by the non-beneficiaries. The returns indicate that the Mini dairy scheme of government of Andhra Pradesh helped the beneficiaries to fare better in comparison to the non-beneficiaries. Similar findings were observed by Mukesh et al. (2012) in their study on impact of micro financing on milk production in Jharkhand which revealed that investment made on beneficiary households (Rs. 14,398.88) was almost double to that of non-beneficiary households (Rs. 7,506.20). The gross income from dairy enterprise on beneficiary farms (Rs. 14,372) was higher than that of non-beneficiary farms (Rs. 10,032.72).

b) Milk and Calories intake: Milk and Calories intake were associated with a lower risk of colorectal cancer. One of the strengths of the pooled analysis presented here is that all studies included were prospective, avoiding the bias associated with the different recall of dietary habits once a subject knows the diagnosis of a digestive cancer. Another strength is that all studies used validated diet assessment methods, minimizing the possibility of an incorrect registration of the
actual intake of dairy products. Finally, the analysis of a database of more than 500,000 subjects from different countries gave sufficient statistical power to analyse specific dairy product categories. However, it is remarkable that the authors did not adjust for some dietary variables related with colorectal cancer, such as fibre or fruit and vegetables. Although the authors mentioned that additional adjustment for dietary fibre intake did not materially change the results for total Ca intake, it could be relevant to adjust for those dietary variables, taking into account that consumers with a higher consumption of dairy products could have other healthy dietary habits, such as a diet rich in fruit, vegetables and fibre. The consumption of dairy products is likely to be associated with higher or lower intakes of other nutrients and it will be associated with health behaviour or other beneficial factors which would be difficult to identify. It is also important to define the best endpoint for every disease. For example, symptomatic fractures would be a good endpoint in bone health studies and cancer incidence is a better endpoint than cancer mortality in cancer studies.

c) **Husbandry practices**: Husbandry practices majority of the dairy farmers had medium level of knowledge regarding improved dairy husbandry practices. So there is lot of scope for improvement in dairy husbandry practices through increasing the existing level of knowledge of dairy farmers. Particularly in the area of feeding, general management and healthcare practices which can be improved through organized training programmes, demonstrations, Kisan mela, exposure visits and camps organized by various government organizations and NGOs.

d) **Milk collection centres**: The milk collection centres established are converted into a Milk Co-operative society considering the smooth performance and regular capability to collect at least 100 litres of milk. The minimum number of members required are 50* and a subscription of Us 11 is required to be paid as share-capital of 8s* 10A and entrance fee of to 1-- 0 respectively*. Meetings among the members are well-intimated veil in advance for an effective understanding of the issues that may arise in the regular course. The provisions of the Co-operative Society's Act apply for the society thus constituted. After the due registration under the Act, a managing committee is formed with 9 members with a president and vice-president to preside over, for the effective control over the managerial and financial aspects. The products manufactured at the factory are marketed by the Andhra Pradesh Dairy Development Corporation under the name *Vijeye* Skimmed/whole milk-pedder. Infant-weaning foods, Malted milk foods, condensed milk, table-butter and Ghee are the products that are in the market under the name*. The procurement of milk by the Societies is supervised by the Dairy Development Manager of the Andhra Pradesh Dairy Development Co-operative Federation*. There are 10 milk routes in the region of Kumool-Cuddapah Milkshed areas. There are 254 milk centres for collection of milk.

**Benefits of Dairy Development**

- Direct and indirect employment are both being provided by the factory to 4000 persons as
staff and for milk producers respectively. Part time employment is also being provided to many a thousand in lieu of the transportation and milk collecting processes.

- The operational sphere of the factory covers the entire milk shed area of the Cuddapah district which has about 2 to 3 lakhs of breedable ahe-buffaloes and 1 lakh cows. Many milk routes are opened to cover about 800 villages in the district. This in turn boosted up the massive upgrading and cross-breeding programme through artificial Insemination to improve the milk production.

- The manufactured products of the factory are catering to the needs of the consumers in the market. A separate wing of procurement and inputs under the Andhra Pradesh Dairy Development Co-operative Federation is benefitting the producers for enhancing the milk production by extending assistance in the shape of technical inputs.

- Effective supervision is provided for by the stationing of a deputy Director at the factory head-quarters being at Kurnool. The factory is controlling a Spear-Head Team to induce the farmers to accept the dairying as an occupation beneficial to them by better feeding and management.

- New milk routes are also organised by the wing besides providing facilities for the development of fodder. 93 Mobile Clinics are also set up by the factory to extend the necessary medical aid to the animals at the door-step of the milk producers, aside providing veterinary aid by through the department of animal-husbandry.

- Medicines are provided at a cost-free basis to cattle of the members of the milk co-operative centres who supply milk to the factory.

- The factories started functioning in 1976, well in advance before the required development took place in dairying in its area. This resulted in a period of lengthy starving far the factory due to the lack of milk-supplies, despite the fact that supplies of milk poured in from distant places like Nellore, Nandyal and some other places.

- The minimum requirement for the functioning of the factory was 1,50,000 litres of milk per day from a source of nearly 50,000 milch animals. The requirement of water for the factory being 3 lakhs of gallons per day, also was not available continuously.

- Adding to this, the preceding three years of the opening of the factory saw sever drought conditions resulting in disposal of animals by the producers for the lack of water facilities

**Measures to develop Dairy sector in Kadapa**

11 broad areas to be concentrated which provide a good overview of the competitiveness of a dairy farm business. They are:

1. Rate of production
2. Cost control
3. Capital efficiency
4. Profitability
5. Liquidity
6. Repayment schedule
7. Solvency
8. Mission
9. Maintain family’s standard of living
10. Motivated labor force
11. Capturing dairy manure nutrients

Conclusion
Dairy farming is a major source of livelihood in rural areas. Dairying has been considered as one of the activity in economic and nutritional development of rural people through income generation via milk and manure etc. Because of these advantages the A.P. government implemented schemes for the development of dairy industry in state..

References

5. Hand book of statistics y.s.r. kadapa district 2018