Strategies for Doubling Income of Indian Farmers’ through Dairying: A Review

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ABSTRACT

Earlier strategies for progress of agriculture sector in India were focused principally on raising agricultural output and improving food security. The net result is the farmer’s absolute income remained low which lead to agrarian distress. The country also witnessed a sharp increase in the number of farmers suicides. It is apparent that income earned by farmers from agriculture is crucial to address distress and promote farmers welfare. The government is desiring and working towards doubling the farmer’s income by 2022. Union budget 2016-17 emphasizes the need to go beyond food security and provide farmers a sense of income security. The agriculture allied sector such as dairying, poultry, goatry, horticulture etc. will play crucial role in achieving the government’s goal to double farmer’s income by 2022. Dairying and livestock sector form the backbone of agriculture and its contribution to agriculture GDP is around 28%. The progress in the sector results in balanced development of the rural economy particularly in reducing the poverty amongst the weaker sections. Dairy is a more equitable agriculture occupation. To improve the share of dairying in farmers income, innovative measures are needed to be explored and shall be implemented on large scale.

Key words: Dairying, Doubling income, Indian farmers.

In India about 70% farmer’s livelihood depends on agriculture sector (Tekam et al., 2019). Agriculture is the backbone of Indian economy. In India income of farmers varies from state to state. According to study national sample survey organization of 2012-13, monthly income of farmers was INR.6, 426 (Kumari, 2017). Indian agriculture sector accounts for 18 per cent of India’s gross domestic product (GDP) and provides employment to 50% of the countries workforce (Madhusudhan, 2015). Though, with the growth of other sectors, the overall share of agriculture on GDP of the country has decreased. Still, agriculture continues to play a dominant part in the overall economic scenario of India. Persistent low level of farmer’s income has increased the farmers suicides. To secure future of agriculture and to improve livelihood of half of population, adequate attention needs to be given to improve the welfare of farmers and raise agricultural income. With annual growth rate of 10.41 per cent in farmers income, their income could be doubled by the year 2022-23 (NITI Ayog, 2019). The agriculture allied sector such as dairying, poultry, goatry, horticulture etc. will play crucial role in achieving the government’s goal to double farmer’s income by 2022. Dairying is an integral component of Indian agriculture supporting livelihood of more than two-thirds of the rural population. Today, the livestock sector contribution to agriculture GDP is around 28% (FAO, 2005). Dairy sector contribution is around 65-70% to livestock sector. Dairy is a more equitable agriculture occupation. 85% of the small and marginal farmers in India own 45% of the land, but own 75% of the bovine (Free Press Journal, 2016). For a marginal, small farmers and landless person, dairying is one of the best occupations.

In India, dairying has been considered as one of the activities aimed at alleviating the poverty and unemployment especially in the rural areas in the rain-fed and drought-prone regions. Moreover, this sector is crucial for reducing income in equalities. Dairy is the best insurance against the vagaries of nature like drought, famine and other natural calamities (Ramphul, 2011). India ranks first in milk production, accounting for 20 % of world production, achieving an annual output of 176.3 million tonnes during 2017-18 (NDBB, 2018). Thus, the dairy sector rearing has vast scope for improving economic and in turn, the nutritional status of such people mainly coming from rural area. The progress in this sector results in a more balanced development of the rural economy (FAO, 2009).

Union budget 2016-17 aims to double farmers’ incomes by 2022 to tackle suicides among them (PTI, 2017). The budget emphasizes the need to go beyond food security and provide farmers a sense of income security. However, certain issues need to be addressed in order to effect a turnaround in the economic condition of our farmers. For this, the following innovative measures to enhance productivity and quality need to be explored and implemented.

A) Improving productivity of milch animal

India has the world’s largest livestock population of 512.05 million numbers. The total number of female cattle is...
122.9 million while female buffalo is 92.5 million. Owing to this huge bovine stock, though India has managed to attain numero uno position in milk production, the full potential of Indian milch herd remains unattained. Over the last three decades (1982 to 2012), average productivity of Indian cattle and buffaloes have grown from 1.9 to 3.9 kg per day and from 3.7 to 6.2 kg per day, respectively. The average daily milk yield for crossbred cattle is better at 7.1 kg per day, but still significantly lesser than the best of global standards — UK, US and Israel are at 25.6, 32.8 and 38.6 kg per day, respectively (Ministry of Agriculture, 2014).

The major causes of low productivity in India are both intrinsic (low genetic potential) and extrinsic (poor nutrition/ feed management, inferior farm management practices, ineffective veterinary and extension services and inefficient implementation of breed improvement programmes).

(1) Breeding initiatives
A cattle and buffalo breeding policy needs to be framed, keeping in view the production traits, economic performance and draftability of breeds of animals in context with the agro-climatic factors, existing infrastructure and support systems. Government initiatives such as the National Project on Cattle and Buffalo Breeding (NPCBB) have contributed significantly to strengthening artificial insemination (AI) services. At present the AI coverage in India is a mere 40% — another cause of poor animal productivity and a prime concern for the dairy sector. AI efforts should be undertaken to expand AI services. But lack of focus on progeny testing due to unavailability of technical manpower, small herd size and inefficient implementation has been an impediment (Narke, 2017).

Cross-breeding with high yielding exotic breeds should be encouraged in areas with adequate facility for feed and fodder. Genetic upgrading by way of breeding non-descript cattle with defined indigenous breeds needs to be encouraged in resource deficient areas. India should emulate Brazil which successfully improved Zebu cattle and made it more heat and disease resistant. Also, efforts are on all over the world to develop stable synthetic breeds, an excellent example of which is Gironda (Gir x Holstein). To improve breeds the Government should evolve a policy to encourage selective breeding. It should allow import of high progeny Gir semen from Brazil and also embryos from Zebu superior genetic animals for developing a stock of breeding animals (Narke, 2017).

For developing sustainable breeding strategies it is also necessary to have comprehensive national level mapping and database development on number of species of livestock and their breeds, available animal genetic resources, breeding infrastructure and development facilities.

(2) Feed management
With rapidly shrinking land and natural resources, availability and quality of feed and fodder is increasingly becoming a challenge. The current deficit of green fodder and concentrates is 34 per cent. Further, there is a supply demand gap for quality forage seeds as well.

Imbalanced nutrition is a major factor responsible for low livestock productivity. The use of total mixed ration blocks will help reduce gap between demand and supply of fodder and would scale up the ongoing ration balancing activities like the one implemented by NDDB. The National Dairy Development Board (NDDB) of India has developed user-friendly computer software for advising milk producers on their doorstep to balance the ration of their lactating animals with the available feed resources and area-specific mineral mixtures. Innovative approaches to attain feed and fodder sufficiency such as the use of silage, azola and technologies including hydroponics need to be explored and implemented.

(3) Veterinary Services
High quality veterinary services are required for improving animal output. But currently due to unavailability of trained manpower and lack of mobility, the services provided are not able to create desired impact.

B) Farm management practices
On-farm practices should ensure that milk is produced by healthy cattle under sustainable economic, social and environmental conditions. It is important to note that good management of a farming system constitutes the grassroots of the system’s economic, environmental and social sustainability. The value of clean milk production throughout the dairy chain needs to be inculcated. Managing cattle in a scientific manner with hygienic and clean housing conditions, deworming of cattle etc are measures that need to be expeditiously adopted.

C) Government subsidies
A subsidy is a monetary aid or support that a government organization provides to company/institutions/individual firm, with the intention of promoting economic and social policies. Presently, National Bank for Agriculture and Rural Development (NABARD) provides subsidy for establishing dairy farm/ milk chilling centre/dairy plants under Dairy Entrepreneurship Development Scheme (NABARD, 2019).

Governmental support by way of subsidies is also required for calf rearing programmes. Such calf rearing programme at farmers’ doorstep will enhance milk productivity and reduce mortality by approximately 5% in cow calves and 15% in buffalo calves (Narke, 2017).

D) Minimum support price for milk
Minimum Support Price (MSP) is a form of market intervention by the Government of India to ensure agricultural producers against any sharp fall in farm prices. The minimum support prices are announced by the Government of India at the beginning of the sowing season for certain crops on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP). MSP is price fixed by Government of India to protect the producer - farmers - against excessive fall in price during bumper production years. The minimum support prices are a guarantee price for their produce from the Government.

This MSP scheme is given only to the grains and cereals (agricultural commodities) but not for the milk. If the scheme is applied to dairy sector, dairy farmers will get fixed price for their milk irrespective of milk production.

E) Special budget for dairying
Special provision shall be made in the union budget for putting the dairy sector back on progressive track. The world’s biggest dairy development program, operation flood
has transformed India from milk deficient to the world’s largest milk producer. But to meet the demand of ever increasing population, country needs to plan a suitable widespread dairy development programs which will have its impact on all the parts of country.

Currently, National dairy plan (phase I) is in implementation with a total investment of about Rs. 2242.00 Crore. The objectives of includes to increase the productivity of milch animal and to provide rural milk producer with greater access to the organized milk processing sector (NDB 2019).

In the Union Budget 2017, Rs 8,000-crore dairy processing and infrastructure development fund has been provided. This would strengthen India’s numero uno position as the world’s largest milk producer. The special fund will help set up processing capacity of an additional 500 lakh litres of milk per day in the country (NABARD, 2017).

Along with this, National Programme for Dairy Development (NPDD) under the Central Sector Scheme “National Programme for Bovine Breeding and Dairy Development (NPBBD)” is approved during 2013-14 with the budget provision of Rs.600 crore for implementation during 12th Plan. The objective of the scheme is to create dairy infrastructure for improved procurement, processing and marketing of milk and milk products.

F) Cold chain infrastructure
The lack of sufficient and efficient cold chain infrastructure is a major contributor to food losses and waste. The basic challenge in the development of cold chain for dairy is that the producers are small and scattered. At present there is no cold chain facility for small producer of dairy products.

Big producers have got their own arrangement. Creation of cold chain network at the farm level will result in a win-win arrangement for the farmers, agents and processors as well.

G) Value addition to the milk
Value added dairy product fetch more profit compare to fluid milk. The profit of margin for value added dairy products is around 12-15% while for the fluid milk it is only 5-6%. In addition, value added dairy products have larger shelf life than raw milk.

So, farmers should start cottage level milk product manufacturing unit using traditional manufacturing technologies. These technologies require small investment and processing equipments/materials could be easily arranged at village level.

H) Implementation of AMUL-Milk Co-operative Federation model throughout the India
Cooperative movement is an attractive mechanism for pooling farmer’s meager resources for solving common problems relating to credit, supplies of inputs and marketing of agricultural produce. For instance, AMUL, a dairy company that was founded by a few farmers with mission to stop the exploitation by middlemen, gradually became the biggest brand in the nation. It is managed by the Gujarat Co-operative Milk Marketing Federation Ltd. (GCMMF), which is jointly owned by more than 3.6 million milk producers of Gujarat. AMUL spurred the white revolution in India, which placed India at the top of milk producing nations. “GCMMF has successfully quadrupled the income of its dairy farmers in last seven years, demonstrating the efficacy of Amul model”, the dairy giant stated in a statement issued after its 43rd annual general meeting in Anand on Thursday (AMUL 2017).

Financial results of the apex body of dairy cooperatives in Gujarat, declared in the 43rd annual general meeting of GCMMF held on 15th June 2017 that the income of its dairy farmers-members has quadrupled in last seven year, demonstrating the efficacy of the Amul model in exceeding the national goal of doubling farmer’s income in six years (AMUL 2017).

I) Animal insurance
Implementation of the livestock insurance scheme would encourage farmers to insure their milk cow and buffaloes.

A system should be developed to sensitize farmers to go for animal insurance. Government should launch a low premium insurance cover for milk cows and buffaloes with an objective to create a protection mechanism for farmers and cattle rearers against any loss of their livestock during natural disasters.

J) Availability of feed and fodder in the drought affected areas
Drought conditions greatly reduce the available forage for livestock. Drought is a part of the normal production cycle. Dealing with these dry periods and decreased feed supplies needs to be part of the overall management plan. Inadequate green fodder will affect the productivity of the animal. Severe drought situations force farmers to sell their milch animal.

Frequent droughts in several states have also brought out the need to develop fodder banks in vulnerable areas and strategies for improving the supply/transportation of fodder from one region to other region in the country. Government of India should give a grant to the farmers on purchase of feed and fodder in the drought affected areas.

K) Establishment of Farmers Dairy Training Centre/Dairy Vigyan Kendra
Training is necessary to provide a constant support of recent technological knowledge to farmers and training is one of the best methods to do so as it provides an opportunity to inculcate necessary skill along with gain in theoretical knowledge. It is commonly used devices that impacts knowledge and skills of the trainees. It can be successfully bring about certain changes in the outlook and attitude of the farmers and thereby making them capable of rendering this task more effectively and efficiently.

Like Krishi Vigyan Kendra, a specialized training centre i.e. dairy Vigyan Kendra providing exhaustive trainings on dairy farming, milk processing and dairy product manufacturing shall be established in each districts.

L) Mobile Training Centre
To reach out to every farmer especially those in the outskirts, farmers that due to proximity seem to be denied by opportunities to grow, to learn and be updated on the new beneficial know-hows, mobile training centres should be provided with respective district agriculture extension departments.
CONCLUSION

Persistent low level of farmer’s income has resulted in distress among farmers and lead to increase in farmers suicide. To secure the future of agriculture and to improve livelihood of half of India’s population, past strategies for development of farm sector needs to be reviewed. Doubling the farmer’s income by 2022-23 from the base year 2015-16 is challenging but it is achievable. The agriculture allied sector will have to play crucial role in achieving the target. The above discussed measures would go a long way in increasing productivity and its benefits would automatically accrue to the farmers positively impacting their economic conditions.

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