Biotica Research Today

Vol 3:5 294/296

2021

Doubling the Income of Farmers of the Country: Ways and Means

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Open Access

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Keywords

Agriculture, Farmers, Food security, Urbanisation

Article History

Received in 23rd April 2021

Received in revised form 08th May 2021

Accepted in final form 09th May 2021

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How to cite this article?

Verma *et al.*, 2021. Doubling the Income of Farmers of the Country: Ways and Means. Biotica Research Today 3(5): 294-296.

Abstract

India is an agriculture country and 80% population depends on agriculture. Agriculture is a platform that requires a versatile extension because most of the occupation is related to agriculture and its by-product. Urbanisation decreases the income of agriculture and it is the main reason that young generations are not interested in agriculture and agriculture-based farm. Government has taken various initiatives to raise the income of farmers. They are migrated to the industry for better income and now it is very crucial time to think that how do we increase the income from agriculture, increases the income of farmers and motivate the young generation to move in this sector for betterment of country. This is possible when we come together for the better development of agriculture. Agriculture extension program will surely change the current scenario of farmers in terms of their income.

Introduction

The dream of doubling the farmers' incomes or better status of farmers may also be possible of we think of cooperative agriculture and the society will have knowledge of marketing, production practices, uses of fertilizers, hybrid seed production *etc.* Marginal farmers should follow the methods for production of gobar gas, manure compost from solid waste, uses the vermicompost and organic manure to increase the production. Development is processed only when we get together and is proven by this quoted line, *"if someone has to walk fast then he can walk alone but he wants to walk continuously, then must walk along caravan* and its live example is *Amul Cooperative Dairy* which regularly works for the betterment of farmers and better marketization of dairy product as helping hand for farmers. If we go back to 1960, *e.g.* just after the country's independence, our country was going through a financial crisis and we had a shortage of grains which was overcome by the Green Revolution. Our agricultural scientists and Pantnagar University played lead role in the grain production through good quality seed which resulted in India being self-dependent in the production of grain. Today we also export grain. So, we are grateful to our farmers and scientists for being the backbone of the country's food security. The food grains production was achieved 272 million tonnes in 2016-17. Agricultural yield of food grains has increased by more than four times since 1950-51 and was 2,070 kg/hectare in 2014-15. In spite of all these claims the income of farmers or status of farmer is not better because of marginal land. In the end we arrive at the conclusion that if the income of the farmers is to increase, then the above-mentioned talk has to be implemented carefully (Braun *et al.*, 2005).

Government Schemes for Farmers

The question that always strike our mind that how to increase the income of farmers so that their financial condition becomes better. How young generation can join this profession and how this dream may come true. If we see today's scenario, we are facing following constraints like population explosion, environmental pollution, unemployment and limited cultivated land and other resources *etc*. to utilise the limited resources we have to reorient interventions in the farm and non-farm sectors to double the income of the farmers and also his status. Government launched various schemes like Rashtriya Krishi Vikas Yojana, Livestock Insurance scheme, National scheme on welfare of fishermen, Gramin Bhandar Yojana, Central Assistance to state plan scheme on watershed development, Capacity building to enhance competitiveness of Indian Agriculture and registration of organic product and agriculture extension programme which would be helpful to change the current status of farmers and increases their income. Farmers need to be educated on the available farmers' portal, Mobile apps (Kissan Suvidha App, Shetkari App *etc*.) and e-NAM. Enabling policy provisions can be done for large scale of corporate agricultural marketing and storage operations. Agricultural sectors income are enhanced by paramparagat kheti (traditional agriculture), planting trees on the boundaries of farmers' fields, encouraging livestock or bee-keeping and food processing or value addition units. These pillars will surely reduce the risks in farming, and augment farmers' incomes. The new schemes like soil health cards and neem-coated urea helps to monitor the soil nutrients and management. Thus, getting more crops from every drop of water will help in achieving doubling of farmers' income. Pradhan Mantri Fasal Bima Yojana (crop insurance) and e-market platform lead towards the completion of the mission of income of farmers. All these nodes are right for any meaningful agri-strategy (Prabha *et al*., 2016).

Mixed Farming Technology

The way to doubling farmer incomes would be raising productivity and diversification into high-value agriculture as well as diversification of farm employment into non-farm activities. The new technology coupled with high-value commodities such as horticulture, poultry and dairying help to increase farmers' incomes. The modernisation of farms and adoption of new technologies like adopting GM crops and using new farm equipment are some other ways for doubling farmers' income. Biotechnology can play critical role in crop and livestock production by enhancing yields, nutritional profile, stress tolerance and crop protection. The policy support accordingly is provided for the development of seed and biotech industry in the country. Similarly potential of other crops may be found out towards enhancing farmers' profitability. This is possible by using the concept of *zero budget farming*. The method involves locally obtainable natural bio-degradable materials and combines scientific knowledge of ecology and modern technology with traditionally farming practices based on naturally occurring biological processes. For this, small vermicompost units to be established in village under the guidance of some scientific persons managed by Gram Panchayat. This would create jobs in agriculture sector and young generation move towards agriculture which definitely raises the income of farmers. The organic product produced by marginal farmers is registered by government and thus we can take a step for the betterment of the farmers. The other challenges faced by farmers are post-harvest losses and storage problem. More multipurpose market yard complexes comprised of godowns, cold storage, farmers service centre *etc*. needs to be set up for farmers. This operating national platform and establishing agribusiness hubs in all the Gram Panchayat of the country will revolutionize the farm economy and create jobs. The project providing additional annual farm value, increased market opportunities and initiating various multifarious socio-economic activities, aimed at improving farm incomes were bring incredible opportunities and has the potential of enabling the empowerment of farming communities. Information technology can support better planning for option of crop, fertilizer and pesticide use planning as well as disease monitoring and prevention, both in crops and animal husbandry. Information technology can also help to improve farmers' operational and financial management and to effectively connect them with the market for better price realisation.

The additional income sources involve synergic blending of crops, horticulture, dairy, fisheries, poultry, *etc*. seems viable option to provide regular income and at site employment to small land holder, decreasing cultivation cost through multiple uses of resources and providing much needed resilience for predicted climate change scenario. Integrated farming of fish, crop and livestock are the most impressive aspect to hike the income of farmers. Vegetables, fish and livestock products contribute to a high degree of self-reliance. The silt from the ponds which is used to fertilize crops increases the yield of crops at a lower cost and the dependence on chemical fertilizer will be greatly reduced. It is estimated that about one third of all the fertilizer requirement of the farmer in the country may be fulfilled by fish ponds. The freshwater pearls production along with fisheries is another way of income. Promotion of intensive vegetable production using improved varieties, organic manure, drip irrigation and mushroom cultivation can provide five times higher annual income. Mushroom training centre should be established to train the marginal farmers to increase their income. To promote training programme like preparation of pickle, sauce, papad and packaging of such product gives better market value. In India, different types of medicinal and aromatic herbs can be grown naturally at Trans Himalayan region of India. Though

the value of raw material may be less, but the products like secondary metabolites and extract oil can be sold with better prices. The herbal products like high grade scents, flavoured food products, cosmetics, toiletries, various types of scented soaps, talcum powders, face powders, creams, agarbatties, repellents *etc*. contain extracts of aromatic plants. Diversification into high-value agriculture requires a value-chain approach, and we are lagging behind in that area also. Instead of reducing costs of inputs, it should be necessary to empower farmers through infrastructure development in rural areas to promote agribusiness, food processing, water management, soil health enhancement, dairy, poultry, fisheries and enterprises *etc*. This will boost up agriculture sustainability and farms profitability.

Irrigation and Challenges

If we look our resources, we have only 4.2% of water and 2.4% of land. Our population is increasing and we are going to surpass the population of china by 2050. This problem is further compounded by rising input costs. Improving agricultural productivity in rainfed regions of India constitutes more than 50% of the country's arable land. Besides watershed management, constructing check dams and farm ponds should be taken up in a mission mode for providing life-saving irrigation for the crops which ultimately raising the income of farmers. The most important part is the crops planning, which needs to be done keeping water resources of a region and the water intake by various crops in mind. Micro-irrigation along with the nutrient application can be highly efficient and priority should be given to empower farmers with micro irrigation on a very large scale. Micro-irrigation can play a pivotal role in doubling the farmers' income as at least 40-50% increase in income. We should critically examine several on-going initiatives and develop its country-wide system for judicious and integrated use and management of water. This might be helpful for maintaining NPK ratio in the soil and better application technologies to improve efficiency and reduce fertilizer subsidy to enhance the income of farmers. Establishing small tractors in mountain areas can improve the financial status of farmers of hill area (Qadir *et al*., 2010).

Conclusion

We may conclude the whole story in few sentences to emphasize the concept which really helpful to augment the income of farmers which is cooperative agriculture planning at Panchayat level, Zero budget farming by establishment of vermicompost unit and Gobar-gas plant, use of better seed, hybrid seed, fertilizer subsidy, e-market *etc*. We have to use the advance technique of watershed management and solid waste management which will lead to a multi-directional development of agriculture. Increasing investments in post-harvest technology can have a major impact on reducing post-harvest loses and increasing the food supply leading to improved incomes. Mushroom training centre, floriculture, Oil distillation unit and small industries establishment at Panchayat level will be definitely help our farmers' income. Maintaining quality, especially flavour, nutritional content, ensuring safety and organic product registration must be the aspect of future research and extension activities to raises the income of farmers. When all these factors come together our dream of farmers' incomes and his better status will crosses the all barrier.

References

Braun, J.Y., Gulati, A., Peter, H., Mark, W.R., Ruel, M., 2005. Indian Agriculture and Rural Development - Strategic Issues and Reform Options. International Food Policy Research Institute (IFPRI), Washington DC, pp. 1-6.

Prabha, R.K., Rai, B.N.J.P., Singh, S.R., 2016. Role of government schemes in Indian agriculture and rural development. *Indian Agriculture and Farmers,* pp. 92-102.

Qadir, M., Wichelns, D., Raschid-Sally, L., McCornick, P.G., Drechsel, P., Bahri, A., Minhas, P.S., 2010. The challenges of wastewater irrigation in developing countries. *Agricultural Water Management* 97(4), 561-568.