

Doubling Farmers' Income

Through Non-Farming Practices and Developing Market Mechanism

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Abstract

The farmer is said to be the God of cereals whatever he produces necessary for human survival and welfare. He serves the people of nation by ploughing and growing food grains to calm the flame of stomach. Today's vulnerable condition of farmers compelled to live on half bread or forced to commit suicide. Increasing cost of input, low value crops, dependency on monsoon and unsatisfactory price of output resist to left farming. Central as well as State government have framed many policies for their betterment but delay on timely execution and lack of awareness become unresponsive. Parlous conditions of farmers set great challenge to make them in farming. Long term retention on the occupation is riskier unless measures have been taken to double their income. It is not easy to doubling income only focusing on minimizing cost, developing and facilitating infrastructure and increasing efficiency on input uses. In Bihar, it is felt that farmers should be given proper training to adopt non farming practices. Paying more attention towards creating market and mechanism for output and conscious efforts for promoting nonfarm practices would be the reliable measures to doubling farmers' income.

Key Words: *Crop diversification, Non- farming practices, Farmers' income, online agro Market, eNAM, Economic status.*

1. Introduction

India is agrarian country. Most of the people engaging themselves in farming practices which is the major source of income. The status of these families depends mostly on growth of agricultural system.

Specially, Bihar, with its bountiful natural resources of fertile soil, abundant water, varied climate and rich cultural and historical heritage is one of the most fascinating states of India. The farmers are intelligent and hard working. Having more about 10 million population and 94.2 sq.km geographical areas makes state resourceful. Bihar is the major producer of rice, wheat, maize, pulses, mango, guava, litchi, banana, potato, onion, tomato, brinjal, okra and cauliflower.

While talking about income of the farmers in a "kisaan Rally" in Bareilly, Uttar Pradesh, on 28th February, 2016. The prime minister stated that it is his dream to see farmers double their income by 2022, when country completes 75 years of its independence. It is obvious that he was referring to double the current income of the farmer or income for the agriculture year (2015-16) by agriculture year (2022-23). It is also evident that the P.M. referred doubling farmers' income by year 2022, which is seven years away from the base year (2015-16), and, if anything is to be doubled by the year (2022-23), it will require an annual growth rate of 10.4 percent. Again it is important to clarify what is sought to be doubled, is it the income of farmers, or the output or the income of the sector or the value added or GDP of agricultural sector.

It is not easy to double farmer income just by taking care on agricultural practices. Some of the scholar and economist favored PM reference what he addressed and some expressed reverse notion. The major constraints, according to the latter, for doubling of income within 6 years are low and unrealizable Minimum Support Price (MSP), non-remunerative price in the market, low share of farmers in final price, poor penetration of crop insurance, high and increasing input cost, absence of market infrastructure.

Strategies suggested by various authors to double farmer income by nonfarm practices include expanding irrigation, diversification to high-value crops/enterprises, post production management, improving terms of trade for agriculture, technology up-gradation, non-farm activities, bolstering livestock sector, tapping solar power on farmers' fields, and so on.

It is great challenges to double the farmer income with these available resources in limited time frame. The study made an attempt to analyze and interpret the existing market is fully fit to buy or sell agro product and make recommendation to improve market mechanism.

1.1 Infrastructure of Bihar

Agriculture is the vital source of wealth in the State with about 79% of its population is engaged in agricultural pursuits. Bihar's productive contribution in food grain, fruit, vegetables, spices and flowers can increase manifold with improved methods and system management. Bihar with a geographical area of about 94.2 thousand square km rank 13th position and having total population about 103804637(census 2011) stood 3rd in the country.

1.2 Agro-Climate Condition

Whole geographical areas are divided by river Ganges into two parts, the north Bihar with an area of 53.3 thousand square km and the south Bihar having an area of 40.9 thousand square km. Based on soil characterization, rainfall, temperature and terrain, four main agro-climatic zones in Bihar have been identified. These are: Zone-I, North Alluvial Plain, Zone-II, north East Alluvial Plain, Zone-III A, South East Alluvial Plain and Zone-III B, South West Alluvial Plain, each with its own unique prospects. Agro climatic zone I and II is located north of the river Ganges whereas the Zone III is located south of the river Ganges. Zone I is situated in the north western part of the state whereas zone II is located in the north eastern part. Zone I and II is flood prone whereas zone III is drought prone.

Potential wise all three agro climatic zones have vast untapped potential for increasing the productivity of food grain crops. Across the state soil texture is varies from sandy loam to heavy clay. However the majority type belongs to loam category which is good for crop cultivation. The natural precipitation varies from 990 to 1700 mm. Most of the rainfall is received during the month of July to September. Soil PH varies from 6.5 to 8.4. There are three crop seasons- Kharif, Rabi and Zaid. Rice, wheat and pulses are grown in all the districts however the choice of the crop and crop rotation varies across the agro climatic zone.

Like all the Indian states Bihar also reels under hot summer season during months of March to May. Average temperature is 35-40 degree Celsius throughout the summer months. April and June are the hottest months of the year. December to January is the winter season in Bihar because of its location is Northern hemisphere. The winter in Bihar is mild with average temperature being 5 to 10 degree Celsius. Bihar gets its maximum rainfall during South-West monsoon season which prevails from June to September. The average rainfall of Bihar is around 120 cm. As far as soil resources are concerned Bihar has three types of soil: montane, alluvium and marshy/swampy soil of Tarai.

1.3 Irrigation

Out of total geographical area, 57.12 lakh hectares is under cultivation which is around 60 per cent of the total and irrigated area about 49.2 lakh hectares (2008-09). Irrigation dependency on monsoon in addition the various sources exist like through Canal, Ponds, Tube well, Wells, and Others.

1.4 Land Holdings

The land holding in the state categorized in different category Marginal (0-1Ha.), Small (1-2 Ha.), Semi medium (2-4 Ha.), Medium (4-10 Ha.), Large (10-above Ha.).

There are around 1.47crore landholdings in the State of which around 91.06 percent are marginal holdings of size less than 1 hectare. With around 90 percent of the total population living in rural areas, agriculture as the primary feeder of rural economy continues to operate not only on margins of land but also on the margins of human enterprise. Without increasing returns to these margins, not much can be done realistically to develop the agricultural sector.

2. Objectives of the Study

The specific objectives can be formulated as follows:

- a) To examine extent of crop diversification and non-agriculture practices molding the economic status of farmers.
- b) To analyze whether farming is acting as a means for sustainable livelihood.
- c) To investigate whether the facilities provided by the government are being utilized effectively by the people of Bihar.
- d) To examine whether implication of online trade through eNAM and GrAM are enhancing the socio-economic status of marginal and small land holder.

3. Review of literature

(Gulati 2016) The goal of doubling farmers' income by 2022 has been dubbed as impossible and unrealistic by some expert. Calculations of some experts produce figure that agriculture will require annual growth of 14.86% per cent per year for five years to get farmers' income doubled and pointed out that this growth level hasn't been achieved even for one year in the history of Indian agriculture.

(Chand 2016) It seems that critics and sceptics focused more on five years and ignored substantive aspect of matter. The substantive points are: one, what is the period and targeted year for doubling the farm income; two, what is to be doubled, is it output, value added or income earned by farmers from agricultural activity; three, whether nominal income is to be doubled or real income is to be doubled; and four whether the targeted income includes only income derived from agricultural activities or would it also include income of farmers from other sources.

Another very important source of increase in farmers' income is the relative increase in the price of farm products compared to the price of non-agricultural commodities. Past estimate of farm income show a significant difference between growth in output and growth in farmers' income. During 2004-05 and 2011-12, agricultural output at constant price increased by 34 per cent while real farm income per farmer increased by 63 per cent (Chand et. al. 2015 p.142) in nominal term, the output became 2.65 times while farmers' income tripled in the seven years period. Therefore, doubling of farmer' income should not be viewed as same as doubling of farm output.

(SK Goel 2016) He agreed to Dr. Swaminathan's comment that farmer is in grip of two monsters i.e. monsoon and market and we are unable to provide complete solution to him and therefore, the formula of green revolution should be applied with risk mitigation strategy so as to prevent crisis. He suggested the strengthening of value chains like that in Amul and seed value chains. He aimed that in coming 5 years every farmer should be part of one value chain or the other which includes soil moisture security, more crop per drop and market integration. He suggested the incorporation of an agency which can bring factors of production together.

4. Causes of the Income Growth

Having rich and abundant natural infrastructure seems quit impossible to increase farmers income. There are various factors which affect the growth of income as follows:

1. Maximizing input prices.
2. Low value crop production.
3. Lack of infrastructure.
4. Prices of fertilizers.
5. Under developed term of trade.
6. Uncertainty.

5. Research Methodology

The Descriptive study has attempted to analyze various factors causing income growth and tried to suggest optimal solution to double farmers' income.

6. Measures to Grow farmers Income

Bihar has farmer of marginal and small land holder who work on 0 to 2 acre of land inadequate for survival of whole families with limited income received from it. Members of the family also struggle with these resources. Marginal cost of agricultural production is very high and total yearly productions remain same by applying same methods of cultivation. Another issue like growing only two types of crops viz rabi and kharif causes limits the farmer income also. So there is growing demand of crop diversification and crop rotation Instead of it requires uses of small share of land of total land holding for horticulture and non-farm practices as poultry, livestock, beekeeping etc.

Lots of initiative has been taken to double the farmer income but so far no any states have achieved the milestone. Central and state government launches many schemes and policies for doubling income. The distress of small and marginal farmers has been drawing the attention of policy makers. In 2004, the Government had set-up a National Commission on Farmers, headed by Dr. M.S. Swaminathan. The Commission had submitted the reports in 2006 (Govt. of India, 2006) aiming at "faster and more inclusive

growth". It came out with several useful recommendations to revitalize agriculture and protect farmers from vagaries of nature and price volatility. The key recommendations were:

- i) Improving farmers' income from farm and non-farm sources,
- ii) Enhancing efficiency in the use of resources,
- iii) Minimizing expenditures on non-renewable inputs, and remunerative price to farmer at 50% higher than the minimum support price (MSP).

7. Development of non-farm practices

Laborious farmers of Bihar holding Small piece of land are full time dedicated in agriculture. They have only investment resources like time, labor and small piece of land. Only these resources can be invested for long term by farmers. To gain optimal return from these resources, it is required to increase other associated resources i.e., other variables used with these resources to maximize production or return. Some of these other factors which makes impact at greater extent to doubling income. Horticulture, dairying, food Processing, poultry, sericulture, beekeeping and fisheries, bolstering livestock sector and post production activities can play important role in doubling income if farmers do these complimentary work with their limited investment resources. It is well-known fact that law of increasing return applies where some of fixed factors yield greater return by increasing variables factors. Therefore, government should ensure that each farmer should have complimentary work with agricultural work by which income of farmers can be extended.

8. Development of Online Market and Mechanism

Besides above all these responsible initiatives the present study focuses on analyzing existing market and its trading mechanism and offers suggestion to improve trade of agro market.

The processes of marketing of farm goods are totally different from industrial or processed goods. Industrial goods easily sold to market at right price and government also acquire these goods from market at justifiable price but farm goods are unable to gain right price in the presence of government buyer because of low and untimely demand and increased supply. When producer go to sell his product at that time the producer of same product go to sell his product that's why supply of farm goods increase and other hand there is no any certainty of buyer to buy at expectable price whereby farmer compelled to sell his product at lower price due to that, price discrimination is observed here, Buying behavior of government and government agencies are also beyond expectation. Their delay in payment system, unjustifiable price, waiting in queue for long and unnecessary paper work demotivate farmer to sell his product at lower price. This means that industrial goods are sold easily into market by timely and conditional demand but farm goods don't take such market advantage. So there is need to improve market and mechanism for trade of agro products.

The state government of Karnataka has created APMCs (Agricultural product Market Committee) in many towns to enable farmers to sell their produce at reasonable prices. After that government of India has made mandatory to create APMC but unacceptable of some provision like contract farming and set up own market in this act restrict other states to implement APMC. Another portal of online trading of agro product like as eNAM launched by "Ministry of Agriculture", Government of India. The electronic market pilot across India was launched on 14 April 2016 by Prime Minister of India, Narendra Modi. The Portal is managed by Small Farmers' Agribusiness Consortium (SFAC) with technology provider, NFCL's iKisan division.

National Agriculture Market or eNAM is an online trading platform for agricultural commodities in India. The market facilitates farmers, traders and buyers with online trading in commodities. The market is helping in better price discovery and provides facilities for smooth marketing of their produce. Over 90 commodities including staple food grains, vegetables and fruits are currently listed in its list of commodities available for trade. On the eNAM platform, farmers can opt to trade directly on their own through mobile app or through registered commission agents, beside these GrAM, and AgMarknet portal of online marketing is working.

So far as the development of online agro marketing is concerned is at the stage of developing. Attempt should be taken to associate all states and UT to inclusively participation. Process of market and mechanism should be flexible at extent that state couldn't oppose the policy implemented for farm trading.

Briefing about online farm trading policy APMCs, and portal eNAM, GrAM, and AgMarknet designed to provide price information of best buyers in transparent way but some problems encounter experiencing online trading. The prices of farm goods listed on portal are outdated, mentioned half information of buyers, difficult procedure of payment restrict small farmer to sell his product through online portal. Delay in payment, costing involve in transfer of goods from one place to another place, Uncertain timing of Delivery of goods result damage and spoilage of product are the reason that affect e-trading. Therefore, most of the states have not joined yet eNAM, GrAM, and constituted even APMCs besides some of them implemented partially due to that most of the farmers are not getting benefit.

Specially, talking about Bihar has no any APMCs, eNAM, or other facilities. The farmers of the state are totally depends on state government policies to sell their agro products.

9. Suggestion and Conclusion

Analyzing and examining lump sum all factors of doubling farmers' income. We have reached to recommend useful suggestions.

The existing online trading farm market like eNAM, GrAM, and AgMarknet are working but need to connect entire farmers of the nation. If some improvement in trading portal modified then it will work in efficient way. APMCs will also be accepted if certain changes taken place suggested by some states. This will lead to create a big platform where all states working together under an umbrella. Then, it will be possible to sell farm goods at right prices. Efficient market will help in developing farmers income and economy altogether. It will also help in getting appreciable price of product, creating employment, farmer's per capita income, maintaining economic status and so on.

Online trading platform is the demand of today's scenario. A well planned, digital and centralized regulated system should be developed to connect each registered players and participants from all around the country enabling trading smooth and faster. Government must be the key buyer of farm goods in case of food grains. The entire cooperatives society and government agency must connect as a buyer from his parent state or head quarter through registered identity. Intermediary, third person willing to buy or sell the farm goods can also enter with its identity. List of farm goods include vegetables, food grains, fruits, and organic products must be attached with its past, present and future trends of prices. The information furnished on portal must be complete and updated which would be accountable and reliable. Player and participant must be recognizable by his registered unique identity. The payment process must be done automatically when online transaction happens, either it may spot transaction where spot delivery of goods and payment or future transaction where future delivery of goods and future payment happens. It will help in transfer of farm goods on time without damages and spoilages. Identification provided to player and participants must be issued from regulatory agency it should be unique in nature.

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