

Original Research Article

Doubling Farmers' Income by 2022

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ABSTRACT

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ICT-based agricultural extension brings incredible opportunities and has the potential of enabling the empowerment of farming communities. The rural areas in these parts are facing food and livelihood crisis, more specifically the shortage of fodder and drinking water. Government needs to proactively address the situation and make more long term farmers centric policies related to irrigation, farm diversification, farm profitability and community support programs so as to socially and economically empower farmers. Doubling farmers' income by 2022 is challenging but it is needed and attainable. Three stage strategy focused on 1) Development initiative 2) Technology and 3) policy reforms required to attain doubling of farmers' income.

Introduction

The Prime Minister had shared his "dream" first at a kisan rally in Bareilly, Uttar Pradesh. From there, it found formal mention in the finance minister's Budget speech for 2016-17. Subsequently, the Centre even constituted a special inter-ministerial committee to prepare a blueprint for realizing this dream. Perhaps, for the first time in the history of Indian agriculture a goal of doubling of income of farmers in six years is set. Indian agriculture is passing through difficult times in several parts of the country, there by resulting into wide spread

distress among farmers. Agriculture will require an annual growth of 10.41% per year for the next 5-6 years to double the income of farmers. (NITI policy paper 1/2017). This growth level hasn't been achieved even for a single year in Indian agriculture. Chairman of committee on doubling farmers' income is Dr. Ashok Dalwai. Focus on doubling farmers' income, not farm income. Farmers' income to be doubled in real terms in 7 years. Agriculture household activities comprises of crop sector (field and horticulture crop), livestock sector (dairy

and poultry) and Farm linked activities (Mushroom, beekeeping and sericulture). Use technology to increase the productivity of food crops in a sustainable way. Give due emphasis to non-wheat, non-paddy and less water intensive crops. Linking farmers and markets with integrated value chains.

Sadly, for all these concerted official efforts, there are ambiguities surrounding the dream itself. As professional economists, we feel compelled to state the challenges as explicitly as possible. We may start by saying that nothing is impossible; dreaming big, that too for the long-neglected cause of farmers, is a sign of boldness. But realization of any bold dreams requires four things: a clearly defined vision, a carefully crafted strategy for achieving it, sufficient financial resources to support the efforts and, above all, a champion minister/official/technocrat to lead and persevere on the path until the goal is reached. Various questions has raised by economists regarding the Prime ministers dream,

What is to be doubled?

Is it output?

Value added or income earned by farmers from agricultural activities?

Is it nominal income or real income that has to be doubled? 4. Does the targeted income include only income derived from agricultural activities or would it also include income from other sources?

PM's seven-point strategy

Prime Minister Narendra Modi unveiled a seven-point strategy to double the income of farmers in six years with measures to step up

irrigation, provide better quality seeds and prevent post-harvest losses. "In the past, the emphasis has been on agricultural output, rather than on farmers' incomes. These are follows,

He also listed his seven point strategy:

Big focus on irrigation with large budgets, with the aim of "per drop, more crop"

Provision of quality seeds and nutrients based on soil health of each field,

Large investments in warehousing and cold chains to prevent post-harvest crop losses,

Promotion of value addition through food processing,

Creation of a national farm market, removing distortions and e-platform across 585 stations

Introduction of a new crop insurance scheme to mitigate risks at affordable cost. Promotion of ancillary activities like poultry, beekeeping and fisheries.

National programmes for achieving the doubling the farmers' income

Pradhan Mantri Krishi Sinchai Yojana' (PMKSY)

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Electronic National Agriculture Market (e-NAM)

Pradhan Mantri Fasal Bima Yojana (PMFBY)

Paramparagat Krishi Vikas Yojana (PKVY)

Pradhan Mantri Krishi Sinchai Yojana' (PMKSY)

Har Khet ko Pani "Prime Minister Krishi Sinchayee Yojana"

Government of India is committed to accord high priority to water conservation and its management. To this effect Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending the coverage of irrigation 'Har Khet ko pani' and improving water use efficiency 'More crop per drop' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities.

The Cabinet Committee on Economic Affairs chaired by Hon'ble Prime Minister has accorded approval of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) in its meeting held on 1st July, 2015.

PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD & GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).

PMKSY has been approved for implementation across the country with an outlay of Rs. 50,000 crore in five years.

Achievements - in the year 2016-17, micro irrigation potential protected on 8, 39, 965 ha

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Pradhan Mantri Gram Sadak Yojana

(PMGSY) was launched on 25th December 2000 as a fully funded Centrally Sponsored Scheme to provide all weather road connectivity in rural areas of the country. The programme envisages connecting all habitations with a population of 500 persons and above in the plain areas and 250 persons and above in hill States, the tribal and the desert areas.

Rural Road Connectivity is key component of Rural Development. Promotes access to economic and social services and generates increased agricultural incomes and productive employment. Road connectivity is a key ingredient in ensuring sustainable poverty reduction.

Achievements- About 4.54 lakh km roads completed in the country.

Electronic National Agriculture Market (e-NAM)

e-NAM (National Agricultural Market) is a pan-India electronic trading portal launched by Ministry of Agriculture and Farmers' Welfare, Govt. of India, to facilitate farmers, traders, buyers, exporters and processors with a common platform for trading commodities.

It currently links 250 APMCs (Agriculture Produce Marketing Committees) from across 10 states. The Portal is managed by Small Farmers' Agribusiness Consortium (SFAC) appointed by the Ministry in association with a group of strategic partner selected for the purpose. Traders and exporters need to get themselves registered with the portal to access its services. 69 commodities including staple food grains, vegetables and fruits are currently listed in its list of commodities available for trade.

Objectives

Unified market through online trading

platform, both, at State and National level.

To removes information asymmetry between buyers and sellers and promotes real time price discovery, based on actual demand and supply,

To promotes transparency in auction process,

To access to a nationwide market for the farmer and online payment and availability of better quality produce and at more reasonable prices to the consumer.

Achievements

It currently links 250 APMCs (Agriculture Produce Marketing Committees) from across 10 states. The Portal is managed by Small Farmers' Agribusiness Consortium (SFAC).

Pradhan Mantri Fasal Bima Yojana (PMFBY)

The new Crop Insurance Scheme is in line with One Nation – One Scheme theme. It incorporates the best features of all previous schemes and at the same time, all previous shortcomings / weaknesses have been removed.

The PMFBY will replace the existing two schemes National Agricultural Insurance Scheme as well as the Modified NAIS.

Objective

To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.

To stabilise the income of farmers to ensure their continuance in farming.

To encourage farmers to adopt innovative and modern agricultural practices.

To ensure flow of credit to the agriculture sector.

The scheme covers *Kharif, Rabi*, annual commercial as well as horticultural crops

For Kharif crops, the farmer's part of premium is 2% of sum assured.

For Rabi crops, the farmer's part of premium is 1.5% of the sum assured.

For annual commercial and horticultural crops, the farmer's part of premium is 5%.

Paramparagat Krishi Vikas Yojana (PKVY)

"Paramparagat Krishi Vikas Yojana" is an elaborated component of Soil Health Management (SHM) of major project National Mission of Sustainable Agriculture (NMSA).

Under PKVY Organic farming is promoted through adoption of organic village by cluster approach and PGS certification.

The scheme envisages

Promotion of commercial organic production through certified organic farming.

The produce will be pesticide residue free and will contribute to improve the health of consumer.

It will raise farmer's income and create potential market for traders.

It will motivate the farmers for natural resource mobilization for input production. Programme implementation

Groups of farmers would be motivated to take up organic farming under Paramparagat Krishi Vikas Yojana (PKVY)

Fifty or more farmers will form a cluster having 50 acre land to take up the organic farming under the scheme. In this way during three years 10,000 clusters will be formed covering 5.0 lakh acre area under organic farming.

There will be no liability on the farmers for expenditure on certification.

Every farmer will be provided Rs. 20,000 per acre in three years for seed to harvesting of crops and to transport produce to the market.

Organic farming will be promoted by using traditional resources and the organic products will be linked with the market. It will increase domestic production and certification of organic produce by involving farmers.

Recommendations of national round table conference on doubling the farmers' income

Indian Council of Food and Agriculture organized a national consultation on 30 April, 2016 in New Delhi under the chairmanship of Dr. MS Swaminathan.

Increasing incomes by improving productivity

Biotechnology is set to play critical role in crop and livestock production by enhancing yields, nutritional profile, stress tolerance and crop protection. India must have a clear vision of the GM crops. As per studies BT cotton alone has contributed more than Rs. 80,000 crores of additional output value to

farmers. Similar potential many other crops may have for Indian agriculture and towards enhancing farmers' profitability.

Improving agricultural productivity in rainfed regions of India, which 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 lifesaving irrigation for the crops.

Bridging yield gaps among the States is important in improving national productivity i.e. the gap in rice yields almost 3 times between Punjab and Chhattisgarh. There is urgent need for developing a strategy document for assessing the present trends of crop productivity vis-à-vis the potential yield of major crop systems, so that specification plans can be taken up for bridging the yield gaps, which in turn will contribute to enhance productivity of farming systems.

Increased Budget on Farmers Inter-State Exposure Visits and Training Scheme of MoA. This is a powerful scheme towards helping Farmer Bridge the yield gap.

Water and inputs

Fertilizer Subsidy and Rationalizing the NPK pricing for maintaining NPK ratio in the soil and better application technologies to improve efficiency and reduce fertilizer subsidy by Rs.25,000–30,000 crores annually. Policy on promoting crop specific speciality fertilizers and fertigation, besides setting standards and regulating bio-fertilisers under Soil Health Mission is needed. Since the year 2010, NP/NPK fertilisers have been reformed and put under Nutrient Based Subsidy (NBS) whereas Urea continues under direct control. Crop losses in India are huge and estimates range from Rs.90,000 to Rs.1.50 lac crores

annually. Pesticides play an important role not only in crop productivity, cost reduction and quality improvement but also in protecting crops from pests and diseases. The cost benefit ratio in using pesticides is heavily in favour of farmers.

Farm Mechanisation in India has been a story of tractorisation. Time has come to promoting efficient equipments and tools and small engine driven tractors to address mallfarm requirements adequately.

There is a need for integrated water use policy. India should critically examine several ongoing initiatives and develop its country-wide system for judicious and integrated use and management of water. A national commission on efficient water use in agriculture should be established to assess the various issues, regulatory concerns, water laws and legislations, research, technology development and community involvement. This will especially help resource-poor farmers in the rainfed ecosystems, who practice less-intensive agriculture.

Farmer show ever needs to be educated on water usage systems to drift them away from flood irrigation systems, which affects productivity and wastes water. 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. For example high water consuming crops like paddy and sugar cane should be grown in high rainfall areas.

Integrated farming system

Promotion of Integrated farming system approach involving 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 use of resources and providing much needed resilience for predicted climate change scenario.

Dairy husbandry is a boon for small farmers, as a family with three cows or buffaloes can earn an annual income of Rs.50,000 to 60,000, while conserving our precious native breeds. With stall-fed, high yielding animals, the dung availability will increase by 3 to 4 times, giving a boost to biogas and agricultural production. With introduction of good goat husbandry practices by appointing local youth to facilitate the activities as Field Guides, 35 million goat keepers in the country who are living below the poverty line, can enhance their income by four folds from Rs. 8000 to 35,000 per-annum (BAIF's experience in Jharkhand, Odisha and Rajasthan).

Promotion of intensive vegetable production using improved varieties, organic manure and drip irrigation, can provide five times higher annual income, to the tune of Rs. 2 lakhs per acre (BAIF's experience in Andhra Pradesh, Karnataka and Maharashtra).

Better market price realization

Revision of the APMC Act and monitoring its implementation in the states. Need to amend APMC act by all the states to encourage competitive marketing environment and participation in NAM. Direct marketing and contract farming should be made easy for the farmers.

The launch of NAM require seasing of norms of licensing to enable participation of buyers from across the country, movements of goods without restriction, harmonization of tax laws (including a uniform GST), standardization of grades and recognition of electronic trades.

Reforms to the APMC Acts to permit pan-India trades, electronic auctions and trading in ware housing receipts. Enactment of policies that enforces the standardization of agricultural produce such that graded product would have a form of a logo or label mandatorily attached to it to signify that the product meets all the standardization and grading requirement for packing, sealing etc., and only traders who are willing to follow the regulation are given "Certificate of Authorization".

Agri infrastructure, storage systems and market yards needs to be strengthened. More multipurpose market yard complexes, comprised of go downs, cold storage, farmers service centre etc. needs to be set up for farmers to directly participate, especially online in NAM. Farmers need to be educated on the available scheme of the Government. Enabling policy provisions can be done for large scale play of corporate in agricultural marketing and storage operations.

Reducing post-harvest losses by strengthening grain storage infrastructure, cool chain systems for perishables, post-harvest processing and value addition, transport, marketing, commerce and trade. FPOs can play an important role, provided they are provided proper training. FDI policy in food sector need to be relooked and allowed with more research inputs available now on its benefits.

Special measures

Review of current scenario of farm credit and subsidy disbursement system. All financial benefits, mainly the subsidies in different forms, should be provided and transferred directly to farmers account through e-governance through which

tracking of farmers' application, status and approval of all schemes is available online. Gradually phase out all subsidies including fertilizer and only transfer money to farmers, calculating aggregate measure of support. This improves efficiency of govt. investments.

Implementing ambitious Agri business Hubs Model, operating on a national platform and establishing 2.40 lac multi-functional Agri business hubs in all the Gram Panchayats of the country.

This will revolutionize the farm economy and create jobs. The project outlines creating 10.0 million jobs, 50,000 crores of additional annual farm value, providing increased market opportunities of Rs.50,000 crores and initiating various multi farious socio-economic activities, aimed at improving farm incomes.

Information technology can support better crop, fertilizer and pesticide use planning as well as disease monitoring and prevention, both in crops and animal husbandry, besides improving farmers' operational and financial management and to effectively connect them with the markets for better price realisation. Diversification of agriculture in the First Green Revolution areas such as Punjab, Haryana and Western U.P. seems need of the hour.

To promote diversification on ecological principles, will require making monetary equivalence (profit margin) between the replaced crop/commodity and enterprise with the ones planned to be introduced.

Strengthening Organic Food Program for India to make 10% of the global 60 billion USD market for each. Major parts of India such as NER, HP, J&K, Uttarakhand, MP, Chhatisgarh, Jharkhand, which are organic

by default, must be made Organic by Process for the producers to get advantage of market value.

Establishing Special Agriculture Zones (SAZ) by selecting export oriented and industrial use crops. Likewise livestock, fishery, apiary and sericulture belts shall also be created across the country with the objective to improve production and export.

The low level of income and year to year fluctuations in income is a major sources of distress.

Doubling farmers' income by 2022 is challenging but it is needed and attainable. Three stage strategy focused on 1) Development initiative 2) Technology and 3) policy reforms required to attain doubling of farmers' income.

NSSO's Situation Survey 2002–03 and 2012–13 are the only sources of data on farmers' income.

Annual growth rate of real income for farmers falls to 3.5 per cent. With this growth rate farmers' income will double in 20 years.

But at the same time, barring Bihar and West Bengal, in other states we do see an increase in average income in real terms.

Diversification can be a major game changer.

The country need to increase use of quality seed, fertilizer and power supply to agriculture by 12.8, 4.4 and 7.6 per cent respectively every year.

Area under irrigation by 1.78 million ha and double cropping by 1.85 million ha should be increased every year.

Area under fruits and vegetable is required to increase by 5 per cent each year.

Policy measures aimed at increasing net income of households from animal farming will be the key driver of incomes in agricultural households.

If concentrated and well-coordinated efforts are made by the center, state and agri. universities the country can achieve the goal of doubling the farmers' income by 2022.

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