



# DOUBLING FARMERS' INCOME, AN ACHIEVABLE GOAL

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**Abstract :** Doubling the farmer's income is a focused approach to consolidate the efforts of all agencies, Ministries, Banks, Universities, farmers and various group of farmers and all other organization engaged in agriculture development. To achieve goals study taken into consideration 07 major parameters. The analysis of each parameter is made separately to complete the study. Present situation /environment got analyzed to suggest strategies. Agriculture Requirement of forward backward linkages studied at length. The pre & post covid-19 economic environment impacting agriculture production is the part of study to reach to the conclusion. Many suggestions are given on the basis of study. Study outcome is goal is achievable by 2022.

## 1 INTRODUCTION:

The impressive agricultural growth and gains, since 1947 stand as a tribute to the farmers' resilience to multiple challenges and to their courage & determination to serve to the national demand of food security and to produce raw material for their own needs. India today is not only self-sufficient in respect of demand for food, but is also a net exporter of agri-products occupying seventh position globally. It is one of the top producers of cereals (wheat & rice), pulses, fruits, vegetables, milk, meat and marine fish. Agriculture is the largest enterprise in the country. An enterprise can survive only if it can grow consistently. And, growth is incumbent upon savings & investment, both of which are a function of positive net returns from the enterprise. The net returns determine the level of income of an entrepreneur, farmer in this case. The magnitude of food loss and food waste is alarming. The markets do not assure the farmer of remunerative returns on his produce. In short, sustainability of agricultural growth faces serious doubt, and agrarian challenges even in the midst of surpluses have emerged as a core concern. Farmers' own land which is a powerful asset. Such an asset owning class of citizens has remained poor is a paradox. They face the twin vulnerabilities of risks & uncertainties of production environment and unpredictability of market forces. Faster agriculture growth is the most effective route to inclusive growth, especially when the share of agriculture in Gross Value Added(GVA) is just 20.2 per cent, (2020-21) It is 18.8 percent as per economic survey published on 31 Jan 2022 which is shared by more than half of our population. It is pertinent to mention that survey pointed reported higher growth in allied activity especially livestock. Simple mathematics shows that the per capita income of those involved in agriculture which is raising more than non agriculture households in rural population is almost one third of an average Indian. Further, within the agriculture sector, the inequitable distribution of landholdings (85 per cent of SF/MF cultivating in 45 per cent of area) makes the small and marginal farmers the poverty hotspot of the country. Hence, every effort to inclusive growth has to address the income enhancement in agriculture and those weak, within the sector. The Government of India (GOI) announcement of doubling farmers' income by 2022, announced at Bareilly on 28 February 2016. The strategy has a direct impact on almost half of the population, aiming for a sense of income security to farmers in a time bound manner.

The subject has attracted of lot of attention, generating thoughts and debates on policy, strategy and implementation to achieve the goal. The paradigm has changed from food security to income security for the farmers in a specific time frame, which calls for creating enabling environment. All the stake holders started to think on the lines that only core agriculture can't achieve the goal without growth in allied agriculture and improvements in forward back ward linkage of agriculture. The marketing opportunity is always a challenge for agriculture.

## 2 NEED OF THE STUDY:

This paper attempts to build a perspective on what do we mean by doubling the farmers income, what was the growth of farmers' income before this announcement of PM, its scope, the salient features, the entities responsible for creation of it and finally practical aspects of creating it in the given context of doubling of farm income.

The study has been broadly divided into three sections.

Firstly Present agriculture economics, the second section way forward for achieving the desired goals i.e. doubling the farmers' income third section study whether unburdening of agriculture (Theory of disguised employment).. John Maynard Keynes once said that it is necessary to distinguish the important, from urgent. Jawahar Lal Nehru ji said that agriculture can't wait for resources. In line with this principle, an attempt has been made to cover required enablers / interventions under nine broad categories

- (1) Natural Resource Management
- (2) Land related reforms
- (3) Credit availability to agriculture and allied activities
- (4) Focus on R&D and extension services
- (5) Risk Management-holistic approaches
- (6) Viability of farm mechanization
- (7) Cost effective irrigation
- (8) Off Farm/Non-Farm/Wage income and
- (9) Unburdening of agriculture.

## 1 NATURAL RESOURCE MANAGEMENT:

Natural resources management in agriculture are Fresh water, clean air, healthy soils, and a thriving ecosystem are the cornerstones of sustainable agriculture systems. Explore some best practices that ensure conservation of our natural resources. Pest Management, Soil Management are the key to increase productivity and marketable quality. Electricity and all other sources of energy must be use more efficiently. It requires farmer's regular training and awareness programmes. Shift from conventional energy to unconventional energy, more use renewable Energy. Recycle more and more recyclable sources. Promotion of sustainable fishing rules, lesser use of ground water and maximization of water storage systems for Sustainable Agriculture Practices. Water is the major natural resource, in India per capita availability (quantity) and quality of water is low. Due to excess extraction the ground water table is receding even the water stress is visible in river basins. North West of India which is leader in wheat and rice production is facing maximum water stress. India is divided in 5842 water management units (2009) consisting of blocks and Talukas out of which 802 (about 14%) are over exploited, 169 (3%) are critical and 523 (9%) are semi critical. hence 26 % of water units needs close monitoring.

## 2 LAND RELATED REFORMS:

After independence major land reforms includes the abolition of intermediaries, tenancy reforms, fixing ceilings on land holdings and consolidation of landholdings. Digitized and well documented land titles are essential to end myriad disputes over land, spur farmers' interest in boosting soil health and enhance access to institutional credit and government's welfare schemes. Computerization of land records - Record of Right (RoR) helps banks to have access to information on property rights by viewing/ checking records online, including abstracts of past transactions. The 'Bhulekh programme in UP has already completed the digitalization of agriculture land records, a farmer can see and down load his land records ( khasra -Khatoni) by khata Sankhya, Gata sankhya, By name of the farmer and by change of title. Even the agriculture map describing land ownership details are available. UP Bhulekh had registered improvement in having better access on RoR, which can be replicated in other states with the support available under "The National Land Records Modernization Program (NLRMP) 12 of GoI." Almost all major States have initiated the online land record system and have accorded legal sanctity to computerized ROR by providing information on the web with the exception for a few smaller states Lakshadweep, Meghalaya, Mizoram, Nagaland, Sikkim, Arunachal etc.

## 3 CREDIT AVAILABILITY TO AGRICULTURE AND ALLIED ACTIVITIES:

Timely, adequate and affordable supply of credit is necessary to meet both working capital requirements and to accelerate investment in agriculture. It is known that if the credit delivery is not on time or not adequate, farmers tend to take recourse to informal credit which adds a hefty cost to household and undermines the advantage of sub vented credit. Not merely addressing volume, but improving the efficiency of delivery also becomes the enabler. Several other enabling interventions hold importance especially the flow of term loans to enable capital formation in the sector. The disparities existing among the stages and regions are substantial and need to be curbed as far as possible, through corrective policies.

Over the decade, credit flow to agriculture has increased tremendously but it has not been reflected in the outreach in a concomitant manner. While supply side constraints are being removed with the aid of technology, what is equally important is to improve the absorptive capacity of farmers. Security oriented lending practices, formalities involved, legal formalities of states involved still hinder credit flow especially to the asset-less farming community. In several states, loans beyond certain limits involve extra costs like stamp duties, documents /registration fees, forcing farmers to limit the loan amount sought. Rationalizing these formalities will reduce additional cost burden on farmers. Channelization of credit through Priority Sector Lending (PSL) stipulation by RBI under PS lending targets 40 % of total advance of any scheduled bank will be under PS area out of which within the 18 per cent (of Adjusted Net Bank Credit (ANBC), or off balance sheet exposure whichever is higher) target outlined for agriculture, 8 percent is prescribed for Small and Marginal Farmers. The agriculture targets are also sub divided under Direct Agriculture advances and In indirect agriculture. In case of non achievement of national goals (PS) bank has to invest under RIDF fund at very low cost. Prioritizing of investment credit to create Capital is major agenda of government of India being implemented through NABARD.

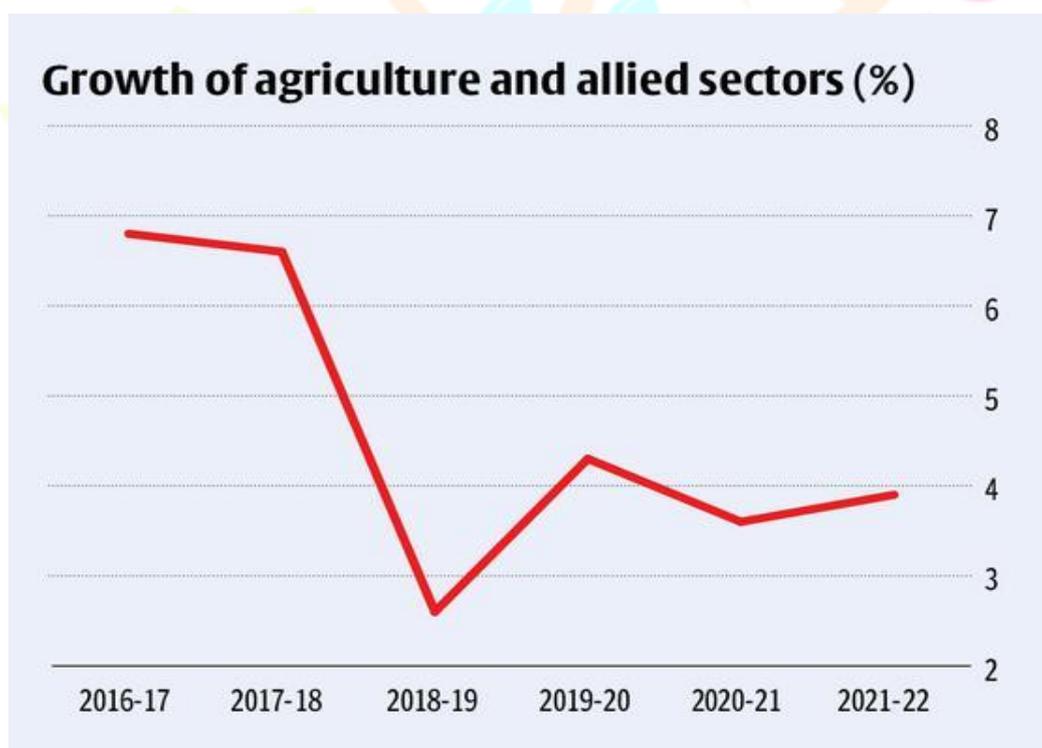
Agriculture credit has recorded a compound annual growth rate (CAGR) of 22.9 per cent during the period from 2003-04 to 2014-15. During the same period short term (ST) credit increased at a CAGR of 24.9 per cent, while long term (LT) credit grew at a CAGR of 18.7 per cent. Taking into account the cropping pattern existing in major states and the scale of finance (SoF) used for

financing crop cultivation) of 20 major crops, prevailing in 14 major states, it has been estimated that, on an average, a bank loan of Rs.42850.00 is required to cultivate one hectare land (in 2014-15). Short term credit disbursed during 2014-15 at Rs.6.35 lakh crore (P) is estimated to be sufficient to meet the cultivation requirement of about 148 million hectare of cropped area which worked out to roughly 75 per cent of gross cropped area of the country during 2014-15. If we target 90 per cent coverage of the GCA in the country with bank loan by the year 2022, and assuming almost 10 per cent annual increase in the SoF(scale of finance), the rate of growth in ST credit warranted will be in the range of 13 per cent per year, which is well within the current pace of growth of ST credit.

The sluggish yield and growth of output in the agricultural sector was associated with relatively low levels of investment compared to other sectors of the economy. At the macro level, the share of investment credit in total GLC declined from 42 per cent in 2005-06 to 24.8 per cent in 2014-15. At the same time Gross Capital Formation (GCF) as a percentage of GDP in agriculture has registered a very slow increase from 14.6 per cent in 2005-06 to 15.8 per cent in 2014-15(P)<sup>18</sup>, but continue to be far below the overall capital formation in the economy (34.2 per cent of the GDP in 2014-15). Considering the higher growth target of income of farmers, and the given Incremental Capital Output Ratio (5.32 : 1)<sup>19</sup> an investment credit requirement to double the income emanating from Agriculture and allied sources, productive capacity enhancement needed in the sector is enormous. In view of the share of Private contribution in GCF-agriculture at 82 per cent, the contribution of bank loan in that share at 80 per cent and the LT achievement in 2014-15 at 2.1 lakh crore, this target seems to be very hard to attain. We therefore, need to look at strategies for stimulating and directing the flow of investment credit, more from public sector, corporate and FDI in the sector and to focus more on value addition in allied activities.

#### 4 RESEARCH AND DEVELOPMENT AND EXTENSION SERVICES

Developing countries like India spend less than 10 per cent of what industrial countries put into agriculture R&D as a share of their agri GDP. It has been estimated that Brazil has received almost \$16 benefit for every dollar invested in research establishments by improving the yield level of major crops. Several other studies across the world also highlighted that biological inputs including improved varieties and agronomical practices could claim 75 per cent in case of wheat, 50 per cent of growth in yield in maize, 85 per cent for soya-bean and 2 per cent in productivity gains. Research and Development to reduce yield gaps is intensely needed.



Investment in basic research that creates opportunities for increasing production, to the extent feasible within the climatic zone, is necessary for a reduction in yield gap. Enhancement in income necessitates intervention in people's lives and livelihoods through research learning on areas such as agricultural productivity, modern irrigation, SRI (socially responsible investment), nutrient use, livestock management etc., based on the best possible research outcomes and thereby maximize the benefit to farming community and limit adverse effects.

There is a need to shift the focus of the research and development agenda from crop-centric in irrigated areas to location-specific cropping systems in dry lands, hills and tribal areas. Greater attention needs to be directed towards horticulture crops, which are land and water-saving by nature. Efforts may also be made to harness remote sensing technologies to optimize the application of inputs, and explore areas in emerging capital-intensive biotechnology with a view to reduce yield gap. Our research agenda need to focus on nutrition, health, environmental aspects of crops, Agri- business, crop mix modeling, and climate changes etc.

#### 5 RISK MANAGEMENT – HOLISTIC APPROACH

Changing risk profile of agriculture has a significant impact on the farm incomes. Specifically, the risks agriculture faces range from - not realizing the expected yield, not realizing the expected price, not realizing the expected quality of output, risk of

deterioration in the output during the stages of storage and transportation, to the risks of various types including spurious inputs which can be broadly classified as man-made risks. With growing commercialization of agriculture the magnitude of loss due to these unfavorable eventualities is large. Clearly, the risks transcend the ambit of production and go over to the whole gambit of agriculture and rural life. Increasing agriculture incomes is a challenge especially at a time when the dimensions of risk in agriculture are changing. The current development process and lack of proper risk mitigation mechanism have adversely affected farmers in India. Though complete “de-risking” of agriculture may not be possible with the available , knowledge and cognitive powers. None of the country could achieve the Zero risk agriculture. We will keep the concept of subsidies apart. Crop Insurance is essentially a compensatory mechanism whose complete success principally would depend on both ex-ante actions of the prospective beneficiaries (farmers) in adopting CI mechanism as also ex-post actions of the agencies concerned (banks, insurance agencies, government line departments) in releasing claims. In long series of crop insurance schemes PMFBY is a modified version for short term crops.

## 6. VIABILITY OF FARM MECHANIZATION

One of the major constraints in farm mechanization is less investment capacity of farmers. Earlier when agricultural labor was easily available adequate draft animals were available in the country and suitable farm machine for different operation was not there. Now most suitable efficient all weather functional equipments are available. Even the area specific equipments are being manufactured.

According to Economic Survey, Farm mechanization and crop productivity has a direct correlation as farm mechanization saves time and labor, reduces drudgery, cut down production cost in the long run, reduces post- harvest losses and boosts crop output and farm income.

The overall level of farm mechanization in India is 40-45 per cent (i.e. tillage about 40 per cent, seeding and planting about 30 per cent, plant protection 35-45 per cent and harvesting and threshing about 60-70 per cent for rice and wheat and less than 15 per cent for other crops) Farm machines are not readily available in the all parts of the country. New to huge investment in R&D by private players machines are being sold at higher prices with huge margins. Long term bank lending at lower interest rates by Nationalised Banks is available but again farmer’s income is less sustainable to repay. Most of the farmers are poor and cannot afford to buy or own farm machines. Land tenure system, Land fragmentation and system of ownership like communal are major hurdles in using of farm machines. We can never achieve the goals without 100 pc mechanization like other advanced counties. Few remedies may be higher subsidy on investment credits, reduction of cost by private players (they will take the advantage of Economy of scale), better credit delivery, contact farming and NGO approach etc.

## 7 COST EFFECTIVENESS OF IRRIGATION.

Another primary factor of production, namely, water is also under stress. Climate change is beginning to challenge the farmer’s ability to adopt coping and adaptation measures that are warranted

About 52 per cent of cropped area in the country is irrigated. Although the ultimate irrigation potential in India is estimated at about 140 million hectares, the widening gap between the irrigation potential created and the capacity utilized is a matter of concern. Water productivity defined in terms of kilogram per cubic metre of water in major states is very low especially in case of crops like rice, sugarcane, etc. Increased importance needs to be accorded to enhance water use efficiency as productivity in agriculture in terms of ‘crop per drop’ approach is gaining importance and being advocated. This is an area where we need to introduce water saving devices and implement carefully. Involvement of local bodies, farmers groups, FPOs in generating awareness and demonstration effect holds importance.

In India, approximately Rs.34.90 lakh crore has been invested in development of Major and Medium Irrigation (MMI) over the last 60 years and an irrigation potential of about 42.35 million hac has been created. The gap between the created and utilized irrigation potential is 18.87 per cent for the major and minor irrigation (MMI) sector, and 12.6 per cent for the Minor Irrigation (MI) sector. The overall irrigation efficiency of the major and medium irrigation projects in India is estimated at around 38 per cent, which is low. Efficiency of the surface irrigation system can be improved from about 35-40 per cent to around 60 per cent and that of groundwater from about 65-70 per cent to 75 per cent.

The introduction of irrigation technologies which are both economically and technically efficient drip and sprinkler can improve water use efficiency. The adoption of sprinkler irrigation in the cultivation of groundnut and cotton in Gujarat and Andhra Pradesh resulted in 35 to 40 per cent savings of irrigation water. Similarly, the adoption of drip irrigation resulted in 40 to 65 per cent savings in water for horticulture crops and 30 to 47 per cent for vegetables.

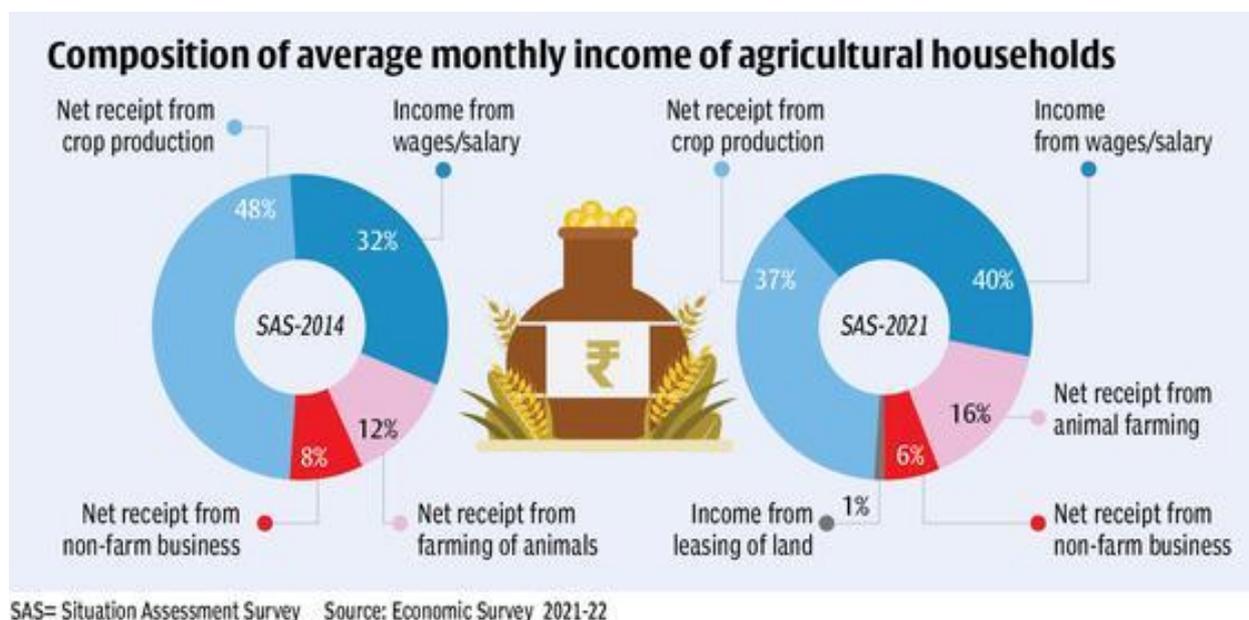
Capital investment in water efficient devices like sprinkler, drip pipelining, etc. seems unaffordable to SF/MF, even after considerable subsidy under various schemes. There is a possibility of group based approaches, enhancing subsidy component etc. which can be explored to attract more farmers to adopt such vital tools for reducing water wastages.

## 8 OFF FARM /NON FARM WAGES / INCOME OF AGRI- HOUSEHOLD:

What is composition of farmers’ earnings /income is subject matter of study.

In 2012-13 (during the 70th NSS round), the average monthly income of agricultural households was Rs.6426.00 of which Rs.2071.00 came from wages, Rs3,081 came from crop production and cultivation, Rs.763.00 from farming of animals, and Rs.512.00 from a nonfarm business. While As per the survey conducted by NSSO during its 77th round (Jan-Dec 2019) the latest estimate of the income of agriculture households, the average income per agriculture house hold, from all sources, was estimated at Rs.10218.00 Year 2018-19 in comparison Rs.6426.00 in the year 2012-13.Hence the farmers’ income had risen by 59 percent till 2019.During the period farmers raised their income from wages than from crop production in 2018-19.

Table appended below is showing the composition of agriculture household.



### 9. UNBURDEN THE AGRICULTURE PRODUCTION UNITS.

A rise in production results in rising in income. The meaning of productivity is Production divided by resources. The Minister of Agriculture told the Lok Sabha in April this year that in 2013-14, the budget allocation for the Department of Agriculture was Rs.21,933.50 crore, increased to more than 5.5 times to Rs.1, 23,017.57 crore in 2021-22. The increase the production is one factor but income comprised production factors also. The agriculture sector of India had the highest number of employees that amounted to nearly 152 million as of financial year 2021. Employment in agriculture (...% of total employment) (modeled ILO estimate) in India was reported at 41.49 % in 2020, according to the World Bank collection of development indicators, compiled from officially recognized sources (GVA) is just 20.2 per cent, (2020-21) It is 18.8 percent as per economic survey published on 31 Jan 2022 which is shared by more than half of our population

Agriculture is the primary source of livelihood for about 58% of India's population. Farm reform 2020 (The Essential Commodities (Amendment) Bill, 2020) aims to exclude items from the list of essential commodities such as cereals, pulses, oilseeds, edible oils, onions, and potatoes. This will alleviate concerns of undue regulatory intervention by private investors in their business operations.

Table No 1  
Number of people employed across the agriculture sector in India from financial year 2017 to 2021

YEAR	People in Millions
2017	145.66
2018	143.84
2019	143.4
2020	145.88
2021	151.79

Reduction of burden on agriculture (disguised unemployment) directly correlates with the growth in industry and services. Low employment in rural in non agriculture sector is one of the major constraint. Data for year 2020-21 indicates the remigration of urban semi skilled labor to villages as agri- labor.

### SITUATIONAL ANALYSIS

Requirement of forward backward linkages is the buzz word for agriculture. Landlessness, fragmentation and smallness of operations is not a new phenomenon, but the stage at which it stands now, has serious consequences in almost every aspect of agriculture growth and development be it production, storage, transporting, marketing and most importantly incomes. Whether it owns and using modern technology, farm equipment; in accessing inputs or services like extension or high transactions cost of reaching out to them. Continuous declining of average size of land has implications for agriculture credit outreach too. Banks find it increasingly difficult to finance asset generating investments as they are not viable on marginal and small farms, unless they are also leased out to neighboring farms which is uncertain.

Ironically, it is also true that small and marginal farmers account for a substantial share in vegetables and milk, cereals and fruits produced. But, with very little marketable surplus, their farming is hardly commercial. Smaller farms, smaller volumes of

produce, higher transport cost, reduced ability to negotiate for better prices are the other consequences leading to lower prices and lower incomes for farmers. And that is why even interventions like MSP and procurement prices do not touch these farmers with negligible marketable surplus. Unless land leasing laws are modified urgently that allow leasing out land on long-term basis, even the benefits of commodity exchanges and market reforms will not reach the farmers. Declining incomes due to reducing farm sizes are a serious disincentive for farmers to continue farming.

The small piece of land, although not providing sufficient employment and income, cannot be sold as it is considered as last piece of insurance and gainful sustainable employment outside agriculture does not come easily. Neither the State nor the Market has been able to provide a satisfactory solution to this chronic problem. Possible answer lies in finding out ways to aggregate farmers, to make some minimum viable size of operating farms without the individual landowners losing their ownership rights. If this happens, transaction costs of providing and availing services and inputs will come down and minimum volumes will be produced on each operating farm which would enable the owners to negotiate for better prices. Cooperative farming, collective farming, producers organizations, joint liability groups (JLGs), leasing out land, or contract farming are some possible ways of aggregation.

Going by the trend, fragmentation is unstoppable and/or increasing the average size of ownership holding is improbable. What can possibly be done is, increase the operational holding size by encouraging land leasing. We may have to allow land leasing on a long term basis primarily by protecting the interests of the owners. Land leasing on a long-term basis needs to be made legal with an unequivocal undertaking that the tenant would acquire no right on land. This single step would ensure that minimum size of operated holding which would make productivity enhancing investments possible and also result in a volume of produce emendable to storing, processing or marketing. Such a provision will enable farmers to retain their land ownership and receive a pre-negotiated lease rent when they lease out, and enable the tenant to create operational holdings of that minimum size which will make agriculture viable. The State therefore may have to consider amending the land leasing laws which will encourage freely operating land lease market. This move will be contrary to the earlier thinking on land reforms and is a politically sensitive issue, but this policy decision is urgently required.

There is no uniformity across the states in the country on the legal status of tenants and land leasing law thereby, creating obstacles for developing a vibrant land lease rental market.

Econometric evidence exists to show that land rental increases the productivity of land use at the plot level. Experiences in Asian countries showed positive results in agricultural entrepreneurship, productivity, production, rural diversification, income.

## CONCLUSION & SUGGESTIONS

Although Government of India has not provided any concrete data on the doubling of farmers' income, the available data on farmers' schemes provides some insight into the current status of farmer's income. MSP have increased and spending on farm mechanization, insurance etc had contributed in terms of capital creation (investment credit) and de-risking to farmers. One major constraint in such schemes like other schemes for farmers is lack of awareness.

During the 70th NSS round in the year 2012-13, the monthly income of agriculture household which was Rs.6426.00 of which Rs.2071.00 came from wages and Rs.3081.00 came from crop production and cultivation, Rs.763.00 from live stock and Rs.512.00 from nonfarm activity. While 77th round, 2018-19 average monthly gone up to Rs10218.00 out of which Income from wages is Rs.4063.00, from crop cultivation Rs.3798.00 and Rs.1582.00 from live stock ( animal farming). Wages income was Rs.763.00 in year 2012-12, the substantial rise of 96 percent. The income from wages which was 32pc in year 2012-13 has risen to the 40 percent of total income in 2018-19. It implies that farmers are switching from farm activity to daily wagger. They are leasing out land and switching over to higher income from non farm sector. Generally farmers said that cultivation cost has doubled and their incomes do not commensurate with rising inflation on input cost and consumption cost.

What are farmers' earnings?

In 2012-13 (during the 70th NSS round), the average monthly income of agricultural households was Rs.6426.00 of which Rs.2071.00 came from wages, Rs3,081 came from crop production and cultivation, Rs.763.00 from farming of animals, and Rs.512.00 from a nonfarm business. Table appended below is showing the composition of agriculture household.

### A RISE IN PRODUCTION RESULTS IN RISING IN INCOME:

To quote, at the cost of repetition, The Ministry of Agriculture told the Lok Sabha in April this year that in 2013-14, the budget allocation for the Department of Agriculture was Rs.21933.50 crore. This increased by more than 550 percent to Rs.1 23017.57 crore in 2021-22.

Food grain production increased to the highest ever, from 265.05 million tons in 2013-14 to 305.43 million tons in 2020-21 (third advance estimate). Horticulture production has increased from 280.99 million tons in 2014-15 to 320.48 million tonnes in 2020-21 (second advance estimate), the highest ever for the horticulture sector. The growth is almost at the normal growth of last 15 years but increase in MSP increased the income flow of farmers.

## FARMERS BENEFITING FROM SCHEMES

The government had increased the MSP for all the mandated Kharif, Rabi, and other commercial crops with a return of at least 50 per cent on the overall India-weighted average cost of production from 2018-19. The MSP for paddy was increased to Rs.1 940 per quintal in 2021-22 from Rs.1310 per quintal in 2013-14, marking an increase of 48 per cent. The MSP for wheat was increased from Rs.1400 per quintal in 2013-14 to Rs.2015 per quintal in 2021-22 an increase of 44 percent. Paddy and wheat growing households dominate the charts of MSP awareness and output sold under it. With over 14 per cent of 14.6 crore landholding farmers (2015-16) getting benefits from the MSP, most farmers are out of the MSP net and continue to sell their produce below the MSP.

The government of India launched the PM-KISAN in 2019 to provide Rs.6000 per year in three equal installments. A total of Rs.1.8 lakh crore has been released to over 11.7 crore farmer families. This benefit does not necessarily go into the capital expenditure in farming as small and marginal farmers struggle to fulfill their basic needs, such as their children's education and health expenses. It is almost equal to the subsidized rate of interest Of KCC for Rs.150000.00 (If account is running regular)

## INSURANCE, CREDIT, AND INFRASTRUCTURE:

About 29.29 crore farmer applicants enrolled themselves under the Pradhan Mantri Fasal Bima Yojana (PMFBY), launched in 2016. Over 8.99 crore (provisional) farmer applicants have received claims of over Rs.103903.00 crore. During this period, farmers paid nearly Rs.21448.00 crore as premium, against which claims of over Rs.103903.00 crore (provisional) were disbursed For every Rs.100 of premium paid by farmers, they have received Rs.484 as claims. Yet, many States, such as Maharashtra, are now opting out of the scheme saying that farmers are unhappy with the claim settlements. Farmers sowing the long term crops like sugar cane are also showing their reluctant for CI. Institutional credit for the agriculture sector had increased from Rs.7.3.00 lakh crore in 2013-14, with a target to reach Rs.13.6 lacs crore in the year 2020-21 with target of Rs.16.5lakh crore in 2021-22.

## SUGGESTIONS AND RECOMMENDATIONS

- Comprehensive policy needed Farmers say that the government schemes will not help them double their income unless the government policies on agriculture are comprehensive, grant freedom of technology and market, and infuse more money into infrastructure development. The agriculture infrastructure scheme for Rs.100000.00 crore will certainly improve the investment credit and will create capital.
- Government cannot ignore the rise in food inflation only to support the farmers hence low cost of input factors is one of the remedy which is already being adopted by all welfare states.
- Efficiency improvement is always needed in such situations still we are not at par of productivity of developed nations, better use of farm mechanization, new irrigation facilities, high yield seeds, optimum use of tool ( cooperative method) are few factors to improve agriculture production efficiency.
- The country faces deficit of pulses & oilseeds which are the import substitute up to some extent hence farmers should be motivated to cultivate of high quality pulses and serials.
- The availability of fruits, vegetables and, milk & meat & fish has increased, thanks to production gains over the decades. It is less price elastic food products and cheap source of proteins. This segment may be one of the significant to source to increase the farmer's income.

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