

Doubling Farmers Income



Presentation to 46th APPPA Participants

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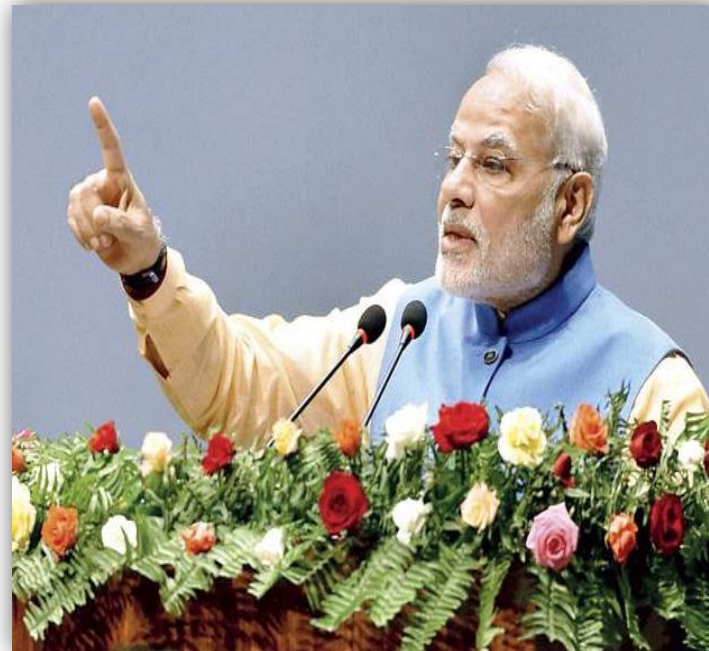
PM's Doubling Farmers Income



Prime Minister's Seven Point Strategy for Doubling Farmers' Income by 2022

1. Focus on irrigation with per drop-more crop;
2. Quality seed and soil health;
3. Investments in warehousing and cold chains;
4. Value addition through food processing;2
5. Creation of a national farm market;
6. New revolutionary crop insurance scheme to mitigate risks at affordable cost; and
7. Promotion of ancillary activities like poultry, beekeeping, and fisheries.

“The Hon’ble Prime Minister of India made a statement on 28 February 2015 at Bareilly on Doubling Farmers’ Income by the year 2022.”

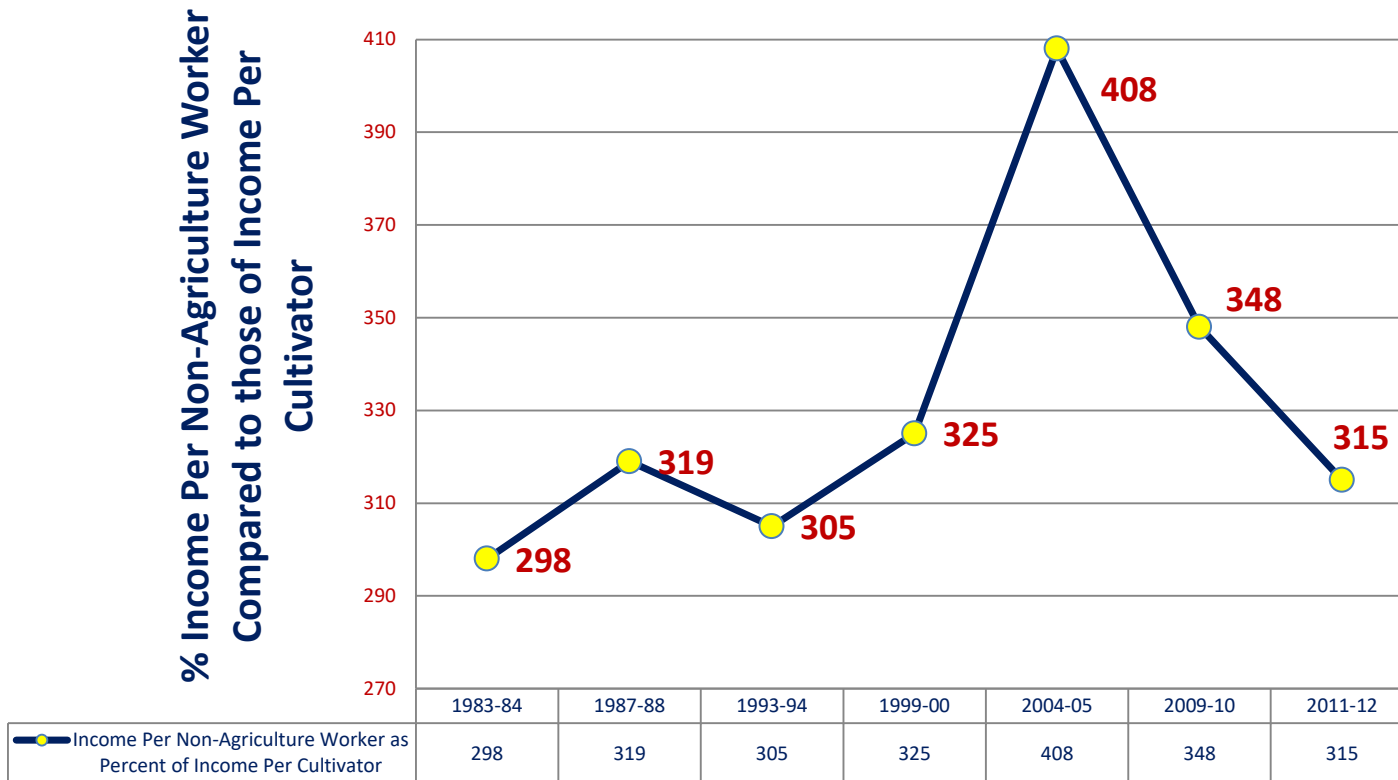


Broad Strategy for DFI

- Doubling of income in real terms (2016-17 to 2022-23 with 2015-16 as base year)
- Move from **Tonnage-Centric to Income-Centric**



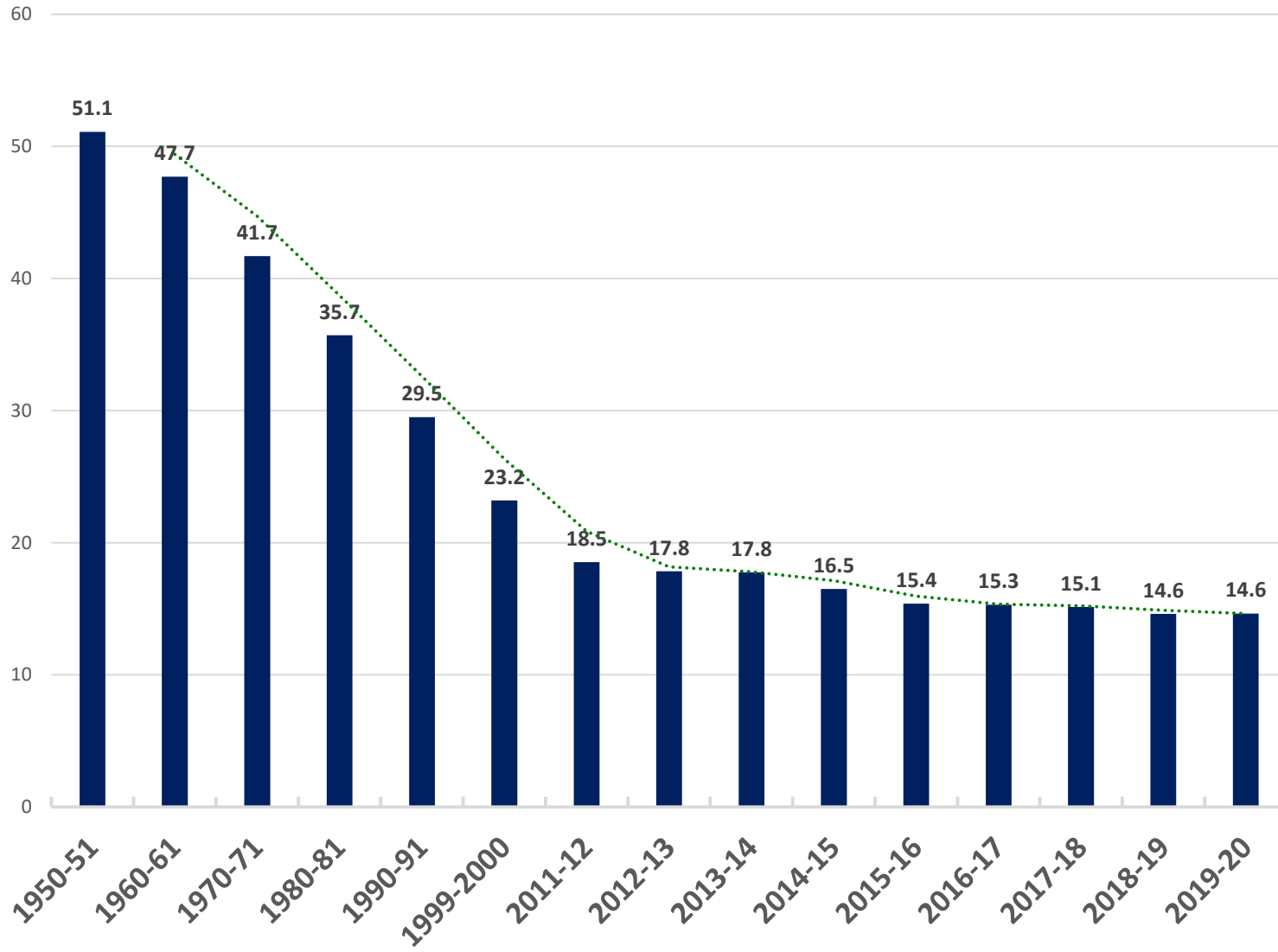
Low Levels of Farmers' Income



Equivalently, Income per cultivator has been and continues to be low in the range of 25% to 34% of income per non-agriculture worker



Declining Share of Agriculture In GVA (%)



Contribution of Agriculture

- ❖ The contribution of agriculture to the country's GVA at basic prices (2011-12 prices) is only 15% while nearly 43% of its population is engaged in the agriculture sector.
- ❖ Contrast this with non-agriculture which contributes 85% to GVA with 57% work force.
- ❖ Implicit in this is agri-labour productivity is just 23% compared to that of non-agriculture which gets reflected in low levels of farm income compared to non-farm incomes.
- ❖ Given that the country has moved from import-dependence to self-sufficiency and to a food exporting country, one would have expected concomitant and commensurate impact on farmers' income. That has not happened.



Paradoxical Situation in India

- ❖ Paradoxical situation in India where per capita income is rising, production of foodgrains is rising but there is also an increasing number of malnourished, stunted children;
- ❖ Move away from 'tonnage Centric' to 'Farmers' Welfare Centric', agriculture progress be measured by advances made in farmers' income;
- ❖ Provide opportunities in adequate measure for non-farm employment for the farm households;
- ❖ Take measures to attract and retain youth in farming.



Paradigm Shift : Green Revolution to Income Revolution

🌱 **Shift from Green Revolution to Income Revolution for farmers**

🌱 **Doable if we focus on six broad measures:**

- I. Creating an enabling policy framework
- II. Intensification of farming, diversification to high value agriculture
- III. Reforms in Agri-Marketing and agri-logistics
- IV. Stable Agricultural trade policy
- V. Transfer of Technology : Labs to Land
- VI. Agriculture Insurance to cover risks

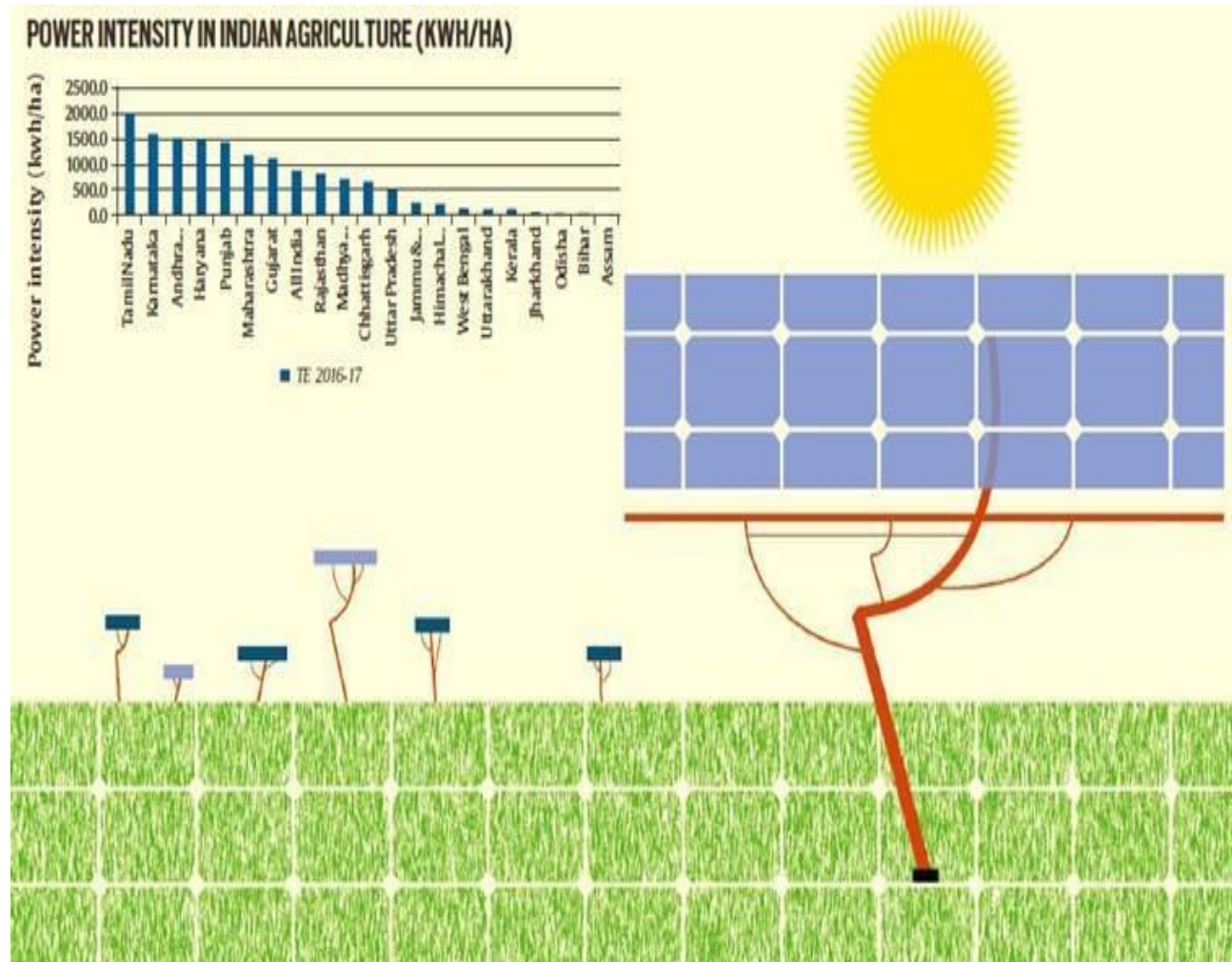


I. Creating an Enabling Policy Framework

- Land is inelastic - yet activities can add income elasticity – disguised employment
- enable farmers to be producer of solar energy (urjadata), just as an example, and be frontrunner in the International Solar Alliance for clean energy
- encourage the right and optimal kind of rural industrialisation that captures more value from the produce and generates jobs through near-farm or on-farm activities.
- The cost of labour (i.e. wage rates) going to outstrip the cost of capital
- promoting farm mechanization, Custom Hiring Centres ‘on pay per use basis’ like ‘Uberisation’



Urjadata



Source: Gulati, Ashok 'Annadata as Urjadata Harvesting solar on farms', FE August 5, 2019



Urjadata : Salient features & pre-requisites

- Nudge 'annadata' to become the urjadata (producer of solar power); encourage farmers to grow "solar trees" on their lands at a height of about 10-12 feet in a manner that enough sunlight keeps coming to plants below
- The PM has set a target of producing 100 GW of solar power by 2022.
- the country to be one of the frontrunners in the International Solar Alliance for clean energy.
- practised in countries such as Japan, China, Germany, and India is ripe for this.
- One can have 500 solar trees/acre in such a manner that even tractors can move through and farmers can keep growing their normal two crops.
- would not impact the productivity as there is ample sunlight coming from the sides for photosynthesis.
- the solar tree generates a lot of excess power. For financial viability, the states to be ready to do the power purchase agreement (PPA).

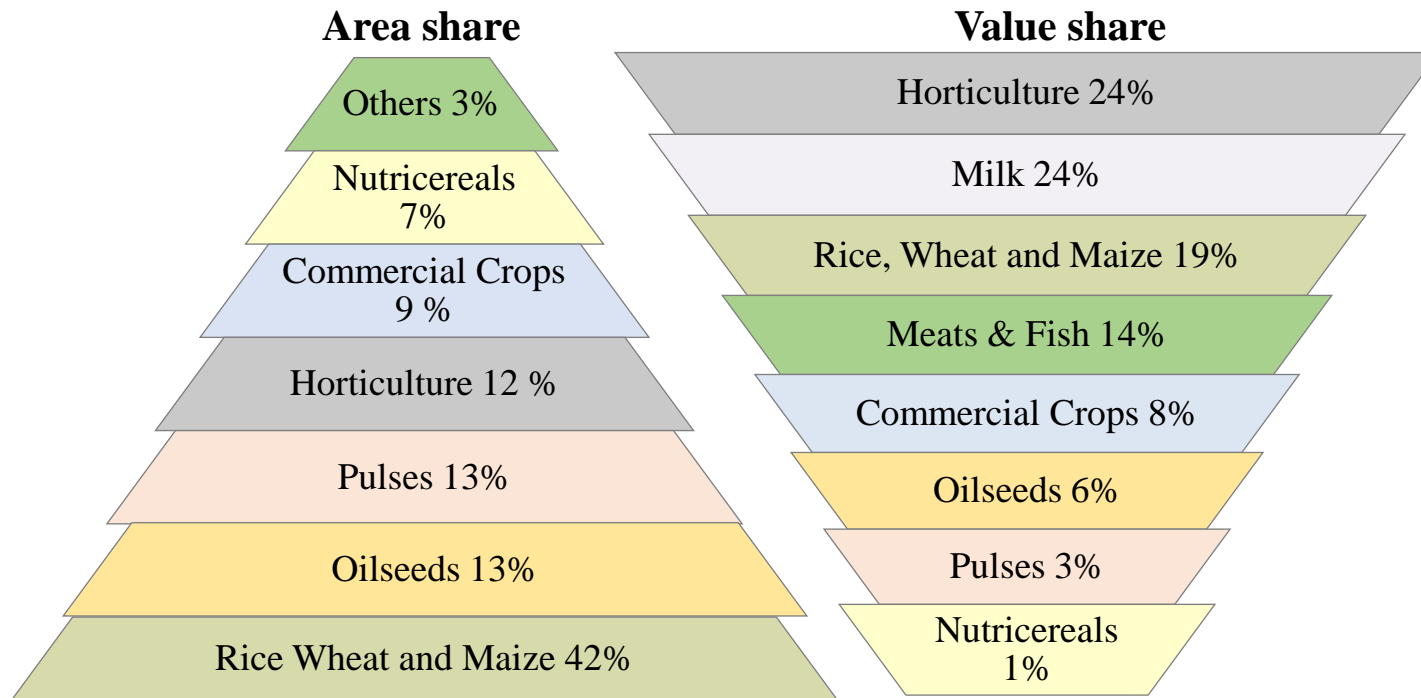


II. Intensification of Farming, Diversification

- ❖ increasing production and productivity alone do not augment farmers' welfare and their total income
- ❖ Capture more value from available land which needs to be used more judiciously
- ❖ **Crop geometry**, for instance, shows that rice, wheat and corn together command 42% of land under crop cultivation and account for 19% of the value. In contrast, horticulture occupies 12% of land and gives 24% of value
- ❖ A case to release surplus land under cereals for high value commodities exists.
- ❖ enhance farmers' income through appropriate intensification and diversification strategies. Increase farmers' incomes through allied activities like dairy, poultry, fisheries and food processing.



Crop Geometry: Area & Value



Based on Gross Cropped Area – Triennium Ending 2017

- Release surplus land under cereals for high value commodities.
- Diversify and align production system to take advantage of demand.



III. Reforms in Agri-Marketing and agri-logistics

- ❖ Move from **'plate to plough'**- production decision be demand driven.
- ❖ Crops be cultivated based on the food habits of people and those which are highly demanded, rather than being independent of demand.
- ❖ It should emit signals to farmers as to **what to produce, how to produce and for whom to produce.**
- ❖ move from **'plate to plough'**- production decision be demand driven.
- ❖ indulgence called for to nudge farmers not to cultivate the same crops *en masse*, else it leads to **the 'Cobweb Syndrome'**



Cobweb Syndrome

- When price of a commodity surge, farmers produce more of that crop next season and price falls down due to excessive supply
- Farmers change crop, the supply reduces next season, and the seesaw cycle repeats
- The price signal is ex-post (after sales), and the farmer's reaction is ex-post facto (after the fact has relevance)
- temporal increase in price of a crop gives a false signal to farmers to sow more of the particular crop in the next season
- lag effect between price signal and sowing patterns - an acute failure of the marketing system
- This fluctuation is a result of unguided, action and reaction
- At the end of round, future growth stunts, while price and supply balance to reach a steady state

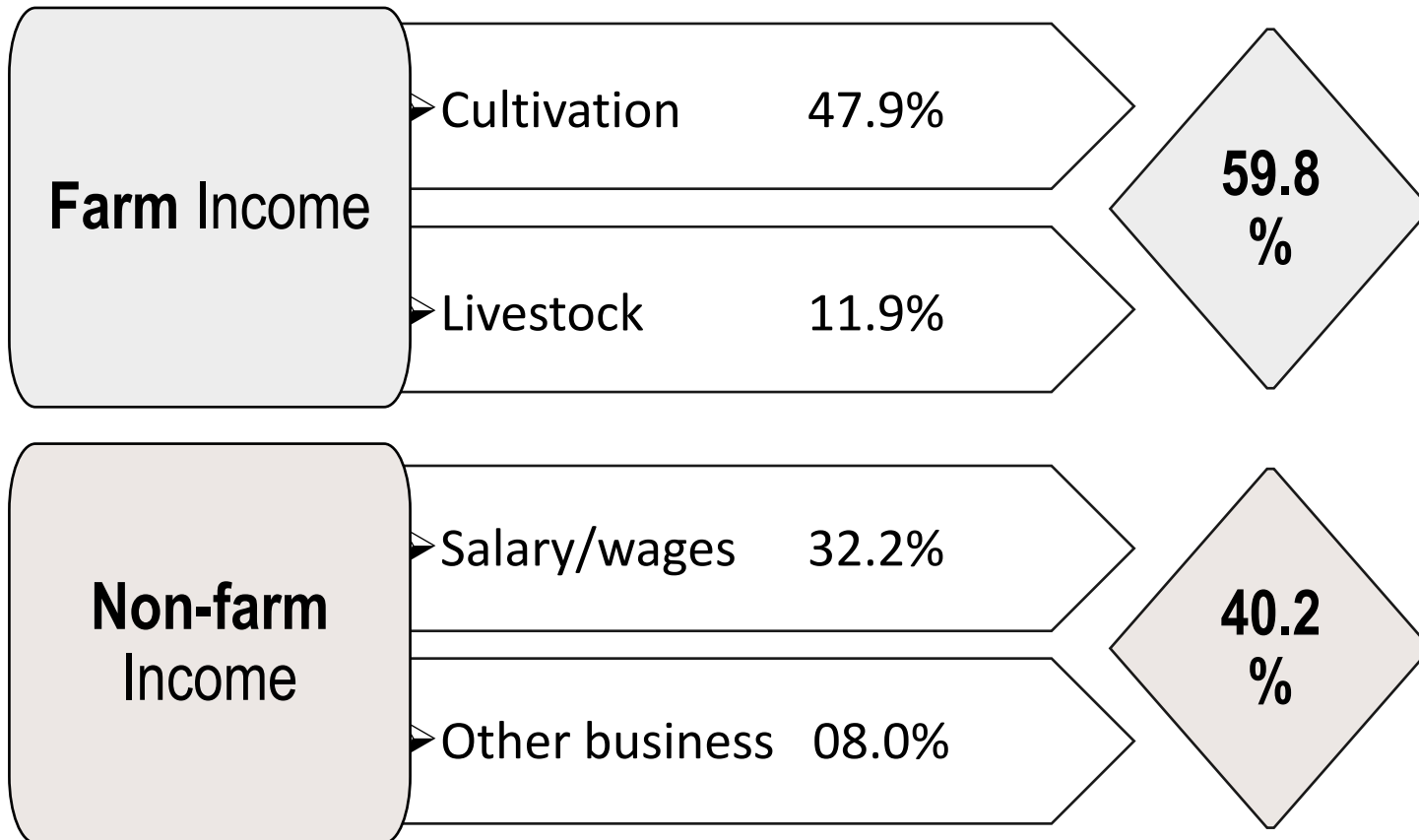


Efficiency of Marketing system

- ❖ Marketing system to be made efficient by providing a price signal that is ex-ante.
- ❖ Enable farmers to cultivate crops according to demand to make agriculture profitable.
- ❖ For instance, palm oil cultivation in coastal areas be promoted as India is deficient and imports large quantities of this commodity.
- ❖ India can consider designing 'One [village](#) one competitive product' (OVOP) as a [business](#) to gain sales [revenue](#).
- ❖ Such a model is in vogue in countries like Japan, Thailand.
- ❖ Due to gaps in the storage and marketing infrastructure, poor handling practices, lack of proper storage infrastructure and absence of post-harvest protocols, the country suffers huge post-harvest losses.
- ❖ Reforms needed in storage and agri-logistics including integrated cold chain, warehousing and food processing:



Composition of Farmers' Income



Ratio of farm income to non-farm income is 60:40

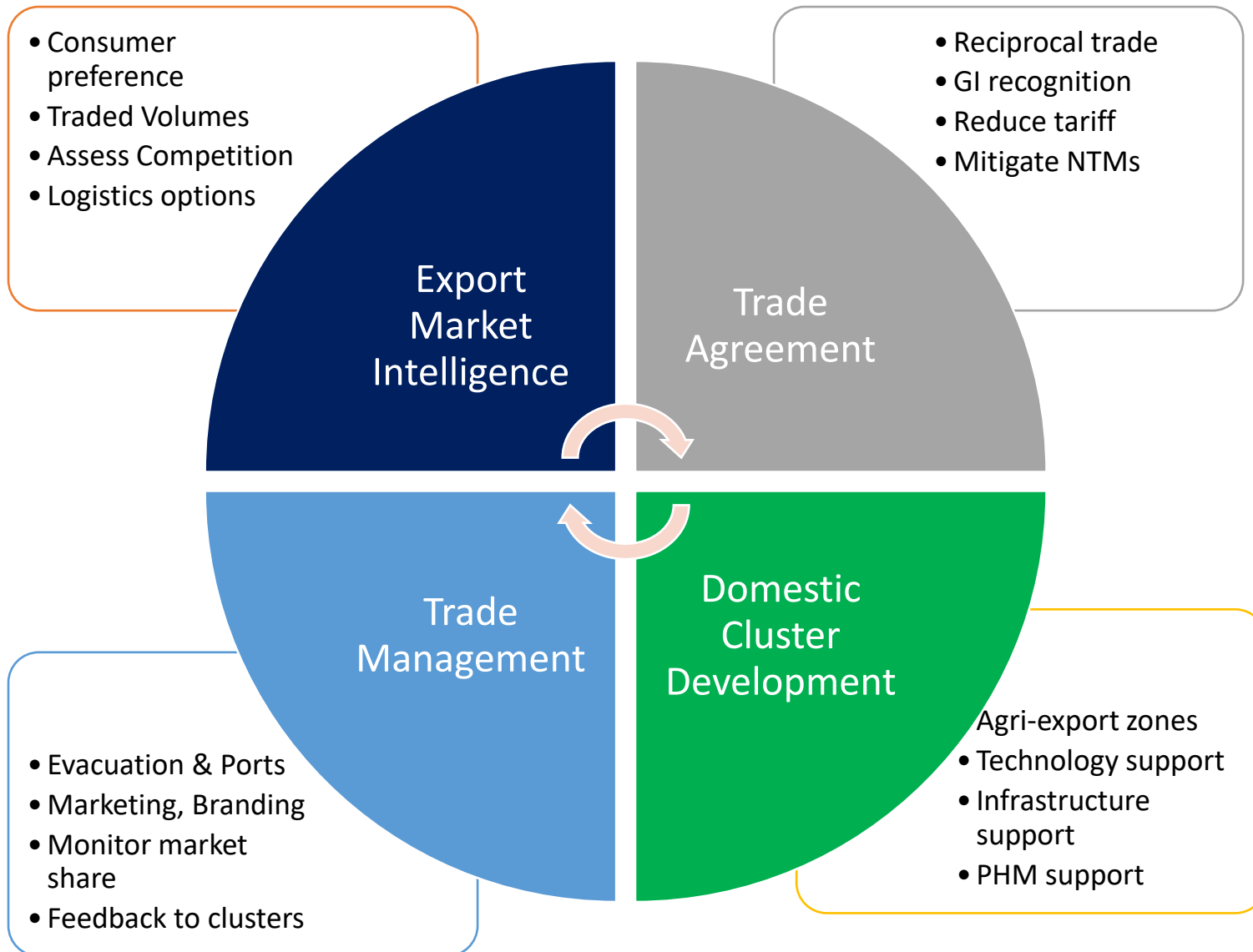


IV. Stable Agricultural Trade Policy

- A cogent agricultural trade policy ought to be rooted in the long term food and nutritional security concerns of the country alongwith promoting farmers connection with the global markets
- Trade regime, export promotion tend to have an inadequate focus on the interest of farmers
- the instrument of international agri-trade, often used to control prices in the domestic market, in reaction to short term supply bottlenecks
- This tends to negatively impact farmers' incomes
- focus on putting in place a neat, and cogent blueprint of agri-export policy to avoid abrupt restrictions on exports of agri-commodities
- a stable trade regime be designed to maintain a long term view to help farmers build market relationships at the global level
- *A long term usually takes 3 years view as in case of Foreign Trade Policy announced by the Department of Commerce*



Managing Export Supply Chain



Source: Report on Doubling of Farmers Income, Vol. IV (p.169)

Prof. Ashok Vishandass



Trade and Exports

- Steady and long term trade policy (10 years)
- Duties and trade windows - Institutional mechanism
- Strengthen India's Embassy system with Agri-trade Officers - orient the focus on aggressive export strategy.
- MoA&FW need to interact proactively with the Indian Heads of Missions

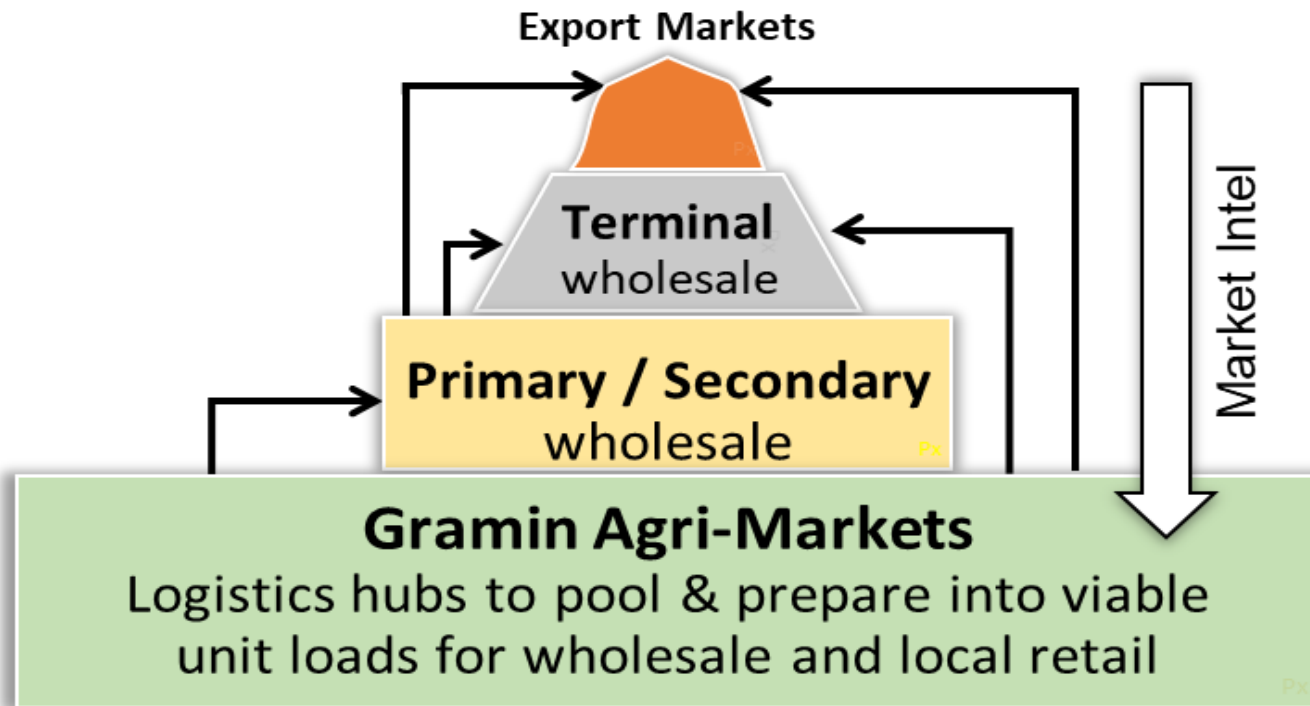


V. Transfer of Technology : Labs to Land

- The linkage between the research in labs and its use by the farmers needs considerable strengthening.
- Adoption of high tech is low
- Development of suitable extension programmes inevitable to improve farmers' incomes
- Agricultural Universities should guide farmers on 'what', 'when' and 'how' of farming, depending upon local conditions
- integrated farming system models for small-holders in different agro-climatic conditions needs to be popularized through KVKs and State agricultural universities on a massive scale
- Emerging technologies, AI, IOT and Blockchain be adopted under the agriculture sector



New Market Architecture : Connect farmers with terminal customers



Aggregate - Dispatch - Retail - Wholesale



V. Science of Delivery

- ❖ Reorient research – farm systems and income-centric.
- ❖ Expand collaborative research – Public & Private
- ❖ Special emphasis on revamping production systems in accordance with agro-ecological status
- ❖ Incorporate and update drought prone districts on the basis on new IPCC assessments
- ❖ Graduate from basic ICT to emerging techs - IOT, WOT, etc. - for widespread sensor based management across the agri value system (irrigation, soil, INM/IPM, logistics, etc.)
- ❖ Utilise Big Data Analytics and AI for sharing real time and more meaningful advisories with farmers
- ❖ Develop an inter-operable management information system MIS to output a centralised dashboard.



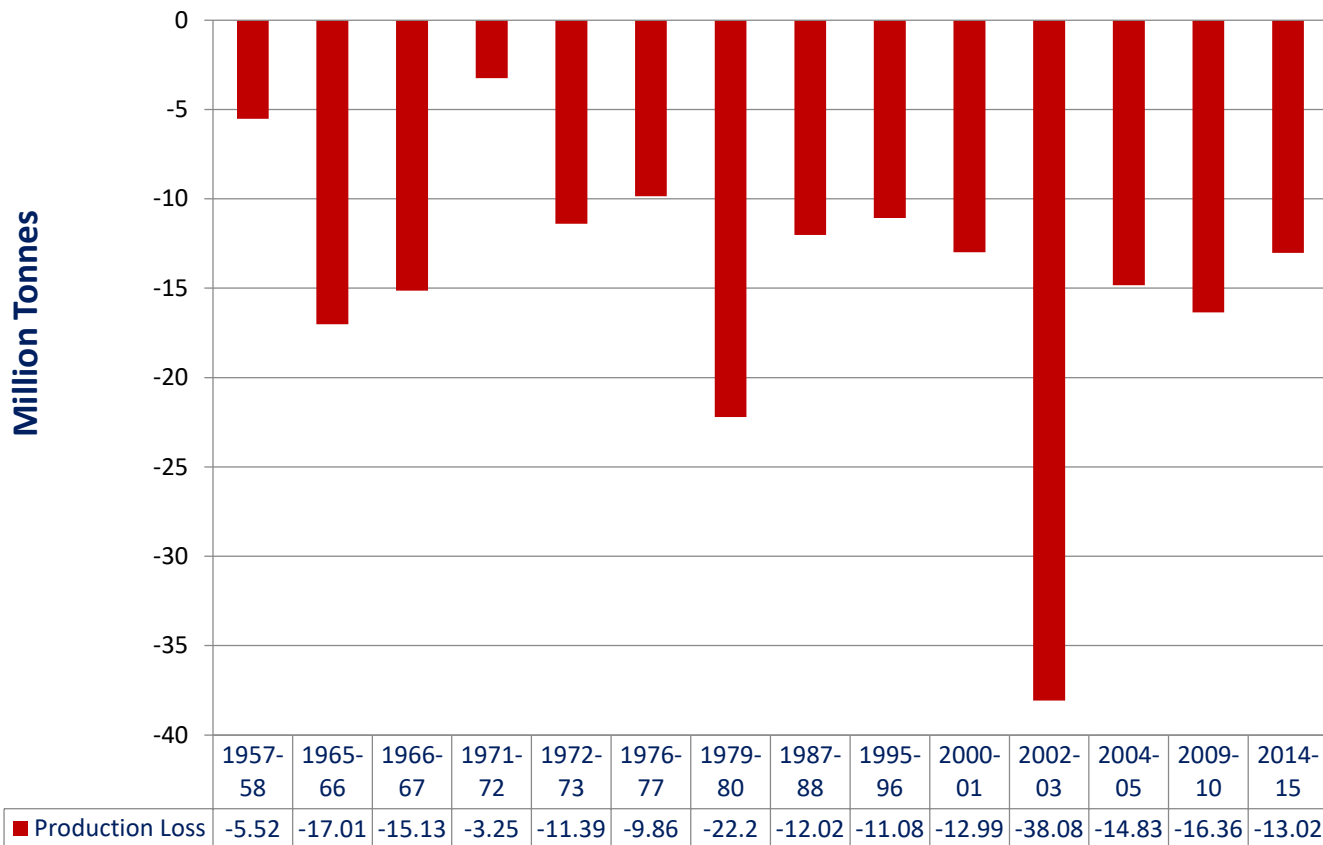
Extension & ICT

- Extend the Extension to address across agricultural sub-sectors – crops, horticulture, animal husbandry, etc.
- Re-deploy ATMA staff proportionately.
- Extension to have a market-led approach and address the full value system across pre-production, production, monetisation
- Reorient Extension staff accordingly.
- Reorient Extension machinery, to enable farmers to realise higher net income from their enterprise on a sustainable basis.
- Strengthen technology back-stopping through KVKs, SAUs, ICAR centres etc. – all along the value system
 - Create **common platform for converging technologies** from all sources
 - **Leverage private extension** Public Sector Bank branches, etc., as extension nodes – **robust ATMA**.



VI. Crop Insurance : Why Necessary?

Production Losses of Foodgrains-Some Examples



VI. Low Penetration of Insurance

- ❖ low level of acceptance of crop insurance bears a testimony to **flaw in the design of the crop insurance scheme itself.**
- ❖ To enhance wider acceptability of the crop insurance as a product, it should have five important ingredients *viz.*
 - ❖ **Adequacy** (of sum insured)
 - ❖ **Affordability** (of farmers to pay premium)
 - ❖ **Suitability** (customised according to needs)
 - ❖ **Timeliness** (in settlement of claims)
 - ❖ **Transparency** (in determining premium & claims)



Adequacy

- ❖ Sum Insured of crop should be approximately equal to its GVO. Therefore, SI ought to **determine**, and **not be determined by, the premium**.
- ❖ Capping pricing of insurance premiums will discourage insurance companies from accepting high risks crops/districts and eventually the objective of **reaching higher penetration** will not be achieved.
- ❖ Premium worked out on the basis of GVO will be way above what framers can probably afford; the **balance premium** be paid by way of **subsidy**, without taking recourse to scaling down the sum insured.



Affordability

- Given the farmers' low propensity to pay premium, the government should lend 'hand holding' by giving 90 percent subsidy, to be shared equally by the Centre and states under 'cooperative federalism', i.e. farmers should pay 10 percent of premium.
- USA, for instance, support 80% of the premium



Suitability

- ❖ **Area Specific Approach** : **'One size fit all'** defies suitability criteria. For instance, damage in Punjab has always been less than 10 percent in terms of yield. If indemnity is kept at 90% for Punjab also, there will not be any claim payable to them. This calls for **'customising'** the design of the product (crop insurance) so as to align with the needs of the area being insured.
- ❖ **Unbundling of risks** : At present, a number of risks are bundled together while calculating the premium rate for a particular crop.
- ❖ Instead, the most critical risks associated with a particular crop should be identified first and the insurance product be designed accordingly.
- ❖ This will reduce the loading on premium, thereby reducing the rate.
- ❖ Other risks can be included as additional benefits with incremental premium. The feasibility of designing schemes covering limited but critical perils needs to be explored.



Transparency

- ❖ The premium of Crop Insurance is determined at least by three factors namely risk, sum assured (SI) and administrative cost.
- ❖ **Probability of occurrence of damage to a crop is independent of SI.**
- ❖ Then, **why premium should increase in direct proportion to SI?**
- ❖ Determinants of premium needs to be rationalised. Just think of railways' fare being '**telescopic**' in nature.
- ❖ The percentage conceals more than what it reveals. It is hard for farmers to comprehend the premium in **percentage terms**. It is better to get the **premium payable translated into per hectare basis instead of percentage**.
- ❖ A no claim bonus should be introduced to encourage farmers to participate in the Scheme.



Timeliness

- ❖ The time frame for disbursement of compensation has to be laid down alongwith a suitable penalty clause in the policy itself.
- ❖ This can be accomplished by use of available technology. One way to do this is to capture details of crop loss through satellite imageries and link it to farmers' Aadhar Cards.



FOC

- ❖ The compulsory deduction of premiums from loans to farmers, who take institutional credit, basically protects the banks from potential bad debts, but not the farmers
- ❖ No Policy document is issued to farmers, ostensibly on the ground of reducing the premium.



Way Forward

- ❖ To transform the rural economy, greater emphasis should be given to allied sectors with a major focus on dairy, poultry, fisheries and rearing of small ruminants.
- ❖ Reorient governance to enhance farmers' incomes by placing their prosperity at the centre of the development agenda.



Together We Swim and Help the Farmers



Quiz

- 1. The Hon'ble Prime Minister of India made a statement on doubling the farmers' income by which year?**
 - a) 2025, b) 2029, c) 2022, d) 2026
- 2. What is implicit in 'plate to plough'?**
 - a) Production decisions be based on demand
 - b) Production (supply) creates its own demand
 - c) Production takes place independent of demand
 - d) None of these
- 3. Ratio of farm income to non-farm income is?**
 - a) 50:50, b) 60:40, c) 40:60, d) None of these



References

1. Ramesh Chand (2017) 'Doubling Farmers' Income: Rationale, Strategy, Prospects & Action Plan' Available: <http://agricoop.nic.in/sites/default/files/NITI%20Aayog%20Policy%20Paper.pdf>
2. NABARD (2016) 'Doubling Farmers' Income by 2022' Available: http://agricoop.nic.in/sites/default/files/NABARD_Monograph.pdf
3. Government (2017) 'Report of the Committee on Doubling Farmers' Income', Available: <http://agricoop.nic.in/doubling-farmers>





Thank you