

## GS-3 Inclusive Growth

As per **OECD** - inclusive growth is economic growth that is fairly distributed across society & creates opportunity for all.

+ new elements - env friendly, good governance & gender-sensitive.

**NB** refers to both pace & pattern of growth, which are interlinked.

**Elements**

★ participation, non-discriminatory, pro-people, multidimensional  
social - health, edu, gender, region, social security, emp (x jobs, skill, formal)  
eco - fin literacy, inclusion, eqti, & poverty  
env - sustainable, development, biodiversity  
pol - corruption, good governance

• Skill Dvlpmnt - To harness demographic dividend

India - paucity of trained ppt + unemployment of conventionally trained ppt.

• Fin Inclusion - access to services to vulnerable groups @ affordable costs  
culture of saving → eco. dvlpmnt

• Technological Advancement - IR 4.0, digital literacy

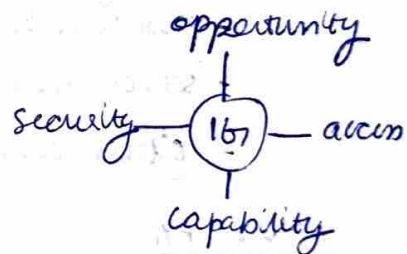
Multidimensional effects - Agri, Manu., Health, Edu, Governance  
e-commerce & small bus - UPI, GEM, ONDC

• Eco Growth - \$5 trillion - ↓ inequality, ↑ social exp.

• Agri & Industrial Dvlpmnt

• Social Dvlpmnt - Invest in social structure.

Sustainability, Transparency & Acctb., Decentralized



**Challenges/Needs**

• Poverty - As per MPI, India lifted 271 mn ppt out of poverty b/w 2005-15. Pro-people pattern.

Skill - 83%: severe MPI & 20% - vulnerable MPI

• Unemployment - As per PLFS of NSSO, unemp. rate -   
80% work in informal sector w/o social security

• Agri Backwardness - 44% of pop dependent, contribute only 16.5% of GDP. Yield & productivity ↓

• Social Dvlpmnt - gender disparity, slow growth in public exp in health & edu, poor qty delivery system, Global Hunger Index - 102

• Growth vs Development - GDP has not tickled down to bottom of pyramid (eco growth ≠ inclusive growth)



• Regional disparity - GDP per capita income - ₹4,67,998  
 Bihar - ₹43,822

Kerala - 93.1%  
 Bihar - 63.8%  
 Literacy

- Definition of poor - Multiple committees
- Infrastructure

Inclusive Development Index by WEF - India 62/74  
 (Least inclusive among 120) HDI - India (132)

Indicators like GDP, Gini coefficient miss factors like equality & forms of social inequality.

Inequality - 85 richest ppl wealth = bottom 3.5bn ppl (confam)  
 1 in 8 ppl go hungry every night & 1.4bn are overweight }★

Govt measures - MGNREGSA, Mudra Yojana, DAY-NULM, NRHM, ~~AMMA~~ JAM  
 PMEGIP, Swach Bharat, <sup>Ujjawala</sup> PM-ABY, <sup>IBC</sup> Jan Dhan, Sarva Shiksha Abhiyan.  
 PMAY-G, Gram Sadak, Kisan Sampada, PMPBY, PMKVY, Skill India, PMKVY

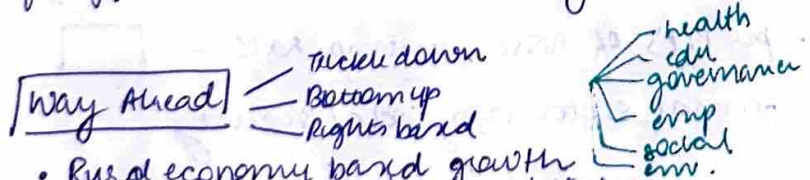
NITI Aayog - New India@75

- growth of 9-10% by 2022-23 : inclusive, clean, sustained
- Usage technology
- ensure urban poor & slum dwellers attain city services
- schools - more inclusive (accessible toilet, curriculum)
- citizen-centric policy framework

11th & 12th PYP

As per WEF - govt should ↑ public & pvt investment in citizen's capabilities & in labour-intensive economic sectors.

Synergy b/w union, state & local govt to achieve sustainable development



- Rural economy based growth → rural industrialisation
- Sustainable & inclusive agri growth
- Holistic approach to combat poverty
- Public pvt partnership
- Balanced region growth
- social sector development - health, edu, skills
- Concept of UBI

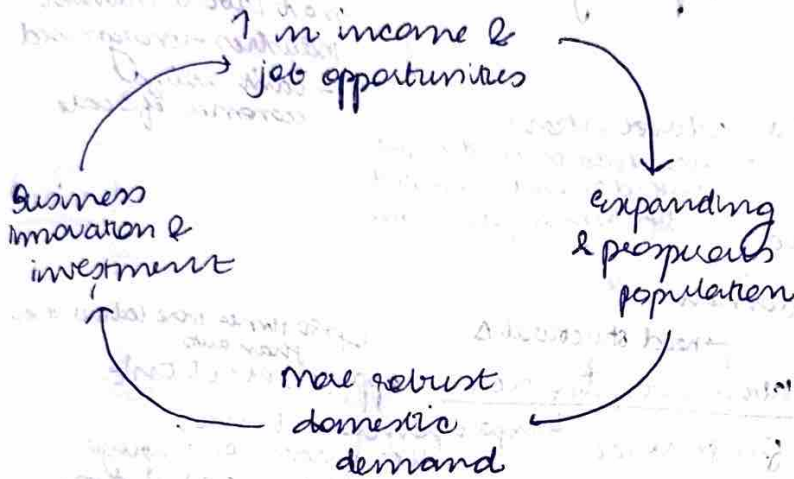
- labour-centric, broad-based
- progressive tax
- rights-based approach
- Preventive, not curative
- urban emp guarantee scheme

• MSME thrust - labour based

# Reasons for inequality in India / Challenges

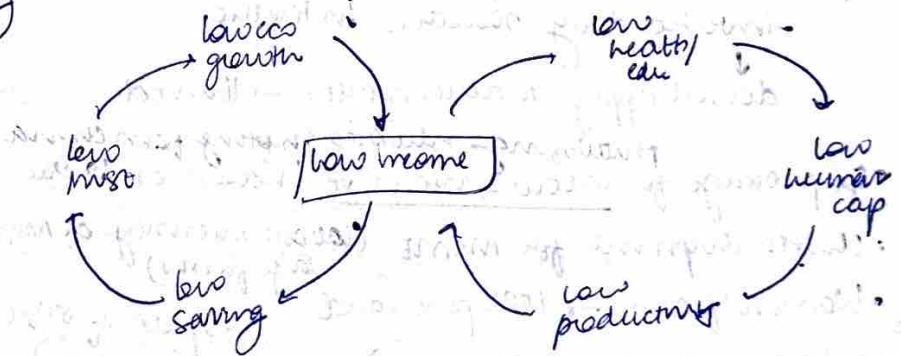
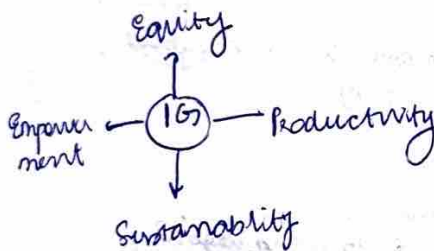
- Historical - colonial policies - reservation
- Gender differences - patriarchal
- Informal employment - 80%
- Agri-centred - huge pop<sup>n</sup>
- corruption & lack of pol. will
- failure of land reforms - ~~corruption~~ <sup>jobless growth</sup>
- Inte-state inequalities - Green Rev.
- lack of skill devlpmt, jobless growth
- 1960s reforms - made rich richer
- focus on cap intensive public sector led growth
- qnty edu & health

# Cycle of inclusive growth



## Quote

- ⊖ pol representation - const per
- ⊖ NPSA, universal immunization - Sarva Shiksha Mission
- ⊖ PM-Jan Dhan
- ⊖ Aspirational District
- ⊖ MGNREGS, PM KISAN
- ⊖ Kudumbshree



Budget 2023 - Vision for Amit Kaal - an empowered & inclusive eco  
Jan Bhagidari thau sabka sath sabka prayas

ES 20-21: Bare Necessities Index

2- growth is inclusive when it creates jobs

Inclusive growth mandatory requiremt for New India @ 2047.

Real growth not possible w/o inclusive growth - medh.



# Jobless growth

\* demographic dividend

- measured through employment elasticity of growth

## Reasons

- ✓ focus on higher edu degrees, not basic skills - suitable for labour-intensive
- ✓ impact oriented eco., inward orientation (source) exports
- eg - Bng. following labour intensive export-led model
- ✓ Stagnation in manu output & contraction of labour-intensive segment
  - stringent employment protection legislation
  - rigidity in labour mkt
  - service sector - biggest contributor to GDP, < 30% share in emp.
- infra bottlenecks - linkages → improve logistics
- sluggish skill developmt
- ✓ Governance failure - no targeted interventions
  - incentives provided by govt intended to avert implemt, net to no. of jobs created
- pandemic impact - WFH
- employment in agri - disguised.

most labour-intensive industries - unorganised - can't utilize economies of scale

Way forward - labour intensive, women

→ need structural Δ

- \* Niti Aayog Action Agenda + labour intensive sectors: apparel, electronic, gem & jewellery, tourism, fin-service
- export promotion scheme, reduce burden on employer for social sec. measures, FTAs
- coastal employment zones for exports

↳ 80 times more labour-inten than auto

mega parks & manu clusters in labour-intensive sectors (MITRA)

## \* Industrial & Trade Policy

- inverted duty structure in textile.

↓ doesn't apply to automobiles → thrive.

China + 1

utilising industries shifting from china due to rising wages & Jagan ppp

- Spl package for labour-intensive industries to create jobs
- cluster developmt for MSME (labour intensity of MSME is 4 times than large firms)
- \* Women focus - ↓ LFPR post covid
- Public invest in health, edu
- startups - entrepreneurial spirit.
- flexi-labour laws
- agri non-farm activities (PPI), industrialisation of rural eco
- part of GVC
- skilling
- orange eco

## GOVT initiative

- Make in India
- Skill India, Startup India
- MUDRA
- PLI
- NSDC
- ASEEM, STRIVE
- AIM
- NAPS

data - growth rate of labour force > employment growth

- 62% of population b/w 15 & 59. median age < 30 yrs

job growth rate - 1.4%

sekers - 2.2%

1.2 cr ppl enter job mkt every yr



# Gender Budgeting - SOGI 5.

- Transformation from women dependent to women-led development.
- meaning - gender-sensitive formulation of legislation, programmes & schemes and allocation of resources & follow-up corrective action
- Doesn't seek to create a separate budget but seeks affirmative action to address specific needs of women - gender mainstreaming
- Not just acting exercise, but ongoing process

## Rationale

- 2011 census - women 48% of pop.
- Bulk of public exp & policy are gender neutral - implications on women not recognized.
- disparities in access to & control over services
- earned income - 1/5th of men

100 yrs to close gender gap  
[Global Gender Gap report - 140/156]

## India

intro in Budget 2005-06 2 parts:

- Part A - Women specific Schemes - 100% allocation for women
- Part B - Pro-women schemes - 30% at least
- stands out globally - not only influenced exp. but revenue policies  
Eg - Differential rates for men & women in property tax rates
- Gender Budgeting cell - mandated to set up in all min.
- Knowledge building → institutionalizing process → capacity building  
→ enhancing accountability

quote in women 9/1

Gender Comm. Recd

## Challenges

- < 5% of total (4.4% post pandemic) [only absolute?]
- magnitude of gender budget as proportion of total ↓
- budgetary allocation for women empowerment ↓
- only few 'big budget' women exclusive schemes - BBBP, Nibhaya fund  
↳ Atwas Yojana forms the bulk
- Monitoring is weak, limited disaggregated gender-specific data
- Part B - assumptions questionable (780% allocation - 5 min. share)
- \* - lack of outcome-oriented budgeting, scheme-oriented
- share of women MPs ↓
- Mud picture - should be accompanied by multifaceted & interrelated improvement to budget

Shift from mere 'reporting' of gender allocations to 'purposeful planning' w women participation

IMF - India GDP ↑ by 25% if equal participation of women



## Measures to strengthen

- Budgetary allocation should be based on grassroot-level planning  
↳ ranking of states
  - need-based approach
  - set gender-specific goals [female school enrollment, LFPR]
  - ★ gender auditing - annual impact assessment of all schemes
  - capacity building across govt, corporate, NGOs
  - MOSPI & CSO - data collection, analysis & reporting
  - ↑ allocation, integrate gender criteria in 15th FC ★
- Gender lens is important within the fiscal discourse - creates virtuous cycle.

## Budgeting

Art 112 - Annual Fin. Statement

### Objectives

- Reallocating the resources across the nation - subsidies, tax concessions
- Bringing down inequalities - progressive tax
- Economic stability - smoothing inflation cycle
- Managing PSEs
- eco. growth - investments & savings
- Addressing regional disproportion - eco. backward regions.

- (+)ves
- disclosure of off budget borrowing
  - discussions on media
  - NCAER research
  - gender & external budgets

### Types

Revenue      Capital      Zero-Band      Outcome      Gender

### Weaknesses in Budgetary System

- ① Unrealistic budget estimates - lead to frequent revision & supplementaries  
↳ March Rush
- ① Spurred exp. pattern - March Rush  
↳ budget discussions ↓ 79% ↓ x discuss (40%)
- Inadequate adherence to multi-yr perspective & mixing line of sight
- ① No correlation b/w exp & actual implementation
- ① Ad hoc project announcements  
↳ recourse to guillotine due to time parity
- Mis-stating of financial position - fiscal irresponsibility
- ① off-budget borrowings  
↳ no public part
- ① Input focused, not outcome based - short term horizon
- ① Pol. issues - arbitrary cut/raises to programmes w Δ in govt.



Recd by Estimates Committee of Parliament

• State-wise allocation details should be incorporated

• Readability of the budget - Too voluminous

• Grants transferred to state unspent

• Advancement of budget cycle has led to 7% pace of exp in 1st quarter.

• Underspending in 1st half - should be optimally utilized

• Monitoring implementation of schemes by DEA.

• Transparency - Budget in public

Separation of Railway & General Budget

Reasons - Suggested by Bibek Debroy comm.

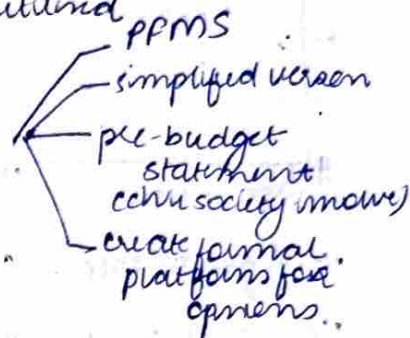
• Colonial era policy by Acworth Committee - as it entailed more funds than exp. on all other aspects combined.

• Indian Railways need not pay annual dividend to GOI on budgetary support

• New Railway outlay - 6% of total exp.

• Railway budget was being used to dole out favours

• Will not help for autonomy but help in enhancing capex.



Against

- A separate post-budget discussion as suggested is no substitute, as focus will be more on allotments to various projects, not for performance
- Operational min - earns as well as spends, unlike other min - only spend.
- Other recs of Debroy not considered - overhaul of project financing, comprehensive acc reform, rail regulatory authority etc

Other Measures - 2nd ARC

- Assumptions made while formulating estimates - realistic and subject to audit
- Budgeting based on analysis of trends - given up. Replaced by top-down method by indicating aggregate limits
- Avoid making token provisions. & spreading resources over a large no. of schemes
- Focus on results
- Budget transparency

\* Fiscal Council - overseeing - keep govt on straight & narrow path of fiscal virtue

Direct Tax Reform - Direct Tax Code - Use of AI for compliance, faceless Assessment, charter

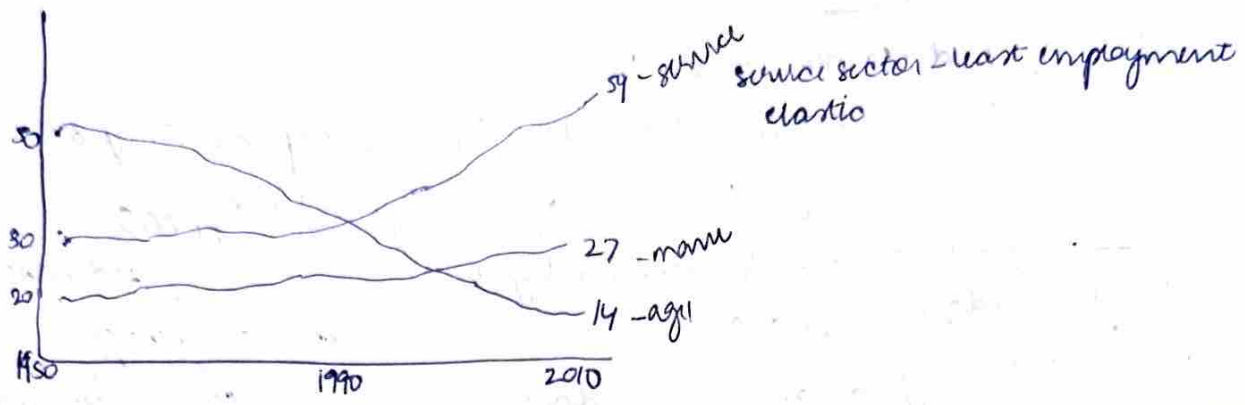
\* Public Fin Mgt System



# Effect of liberalization on the economy

Foreign reserves - adequate to finance 15 days of imports

Link to fall of USSR, China's 'open door policy' in 1980s.



- GDP growth rate - avg in 1990-2010: 6.6%, which is double the pre-reform era. regional inequality, jobless growth, global headwinds
- Industrial growth rate - stagnant while GDP grew @ 6-10%, industry -3-4%. Direct transition from agri → service.
- Small scale industries - list of reserved items curtailed. setbacks like during colonialization. But still forms backbone of eco.
- In agri - share of agri ↓, ppl dependent - similar. (55% → 43% pop<sup>n</sup> share in GDP.)
  - food v/s fuel confusion - 1bn ppl hungry but corn, sugar → ethanol.
  - GM crops - casualization - feminization
  - Basmati rice exports - (-) externalities - climate Δ
- Services - IT revolution - high value export of services
  - license for Pvt banks - FDI
  - Telecom revolution & DTH - consumerism
  - fee mkt failure in edu & health - have & have-nots
- Stock mkt performance - Diversification for investors
- ↑ In inequality
- 2004-12: 140mn ppl lifted out of poverty.

- ### Schemes
- PLI
  - land bank
  - NRI Single Window System
  - Make in India
  - Labour code

## Why industries didn't grow?

- pre '91 - license raj, restriction on foreign invst, import of cheap manu. goods.
- trade & non-trade barriers ✓
- inverted duty structures ✓
- Skilled labour w low cost → services ✓
- booming IT sector - carry money ✓
- china - competing for foreign invst. ✓
- inadequate infra ✓
- restrictive labour laws ✓
- Bureaucratic red tape ✓
- R&D, innovation, tech. adoption

## Steps

- economies of scale, labour productivity
- CE2s
- easier clearance & tax regimes
- As a part of global supply chain
- Service sector - food process, renewables
- Infusing modern tech in MSMEs
- startup ecosystem

• PM Modi - shift from command & control to 'Plug & Play'

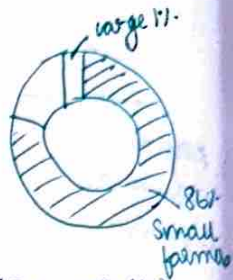


# Farm subsidies

2017 2018

2.25% of GDP (15th FC)

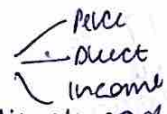
Subsidy - a benefit given to an ind. or institution by the govt., paid to supplement farmer's income & enhance their productivity.



## Need

- Act 48 - organic agri on modern lines
- 70% of Indian rural households - agri (43% labour force, 18% GDP)
- equal income dist & ↓ income inequalities (Oxfam - top 10% - 72% wealth)
- Act as complementary income → can be invested back in agri
- Access to qty inputs → productivity → income ↑
- Issues by covid pandemic
- promote risk taking among farmers
- 86% of farmers < 2 ha (Avg - 1.08 ha)
- transferring income in favour of farming

## Direct Farm Subsidies



directly provided to farmers → direct cash subsidy. Beneficiary purchases the product @ same price & compensated later.

Eg - PM KISAN, PAMAL in LPGs, waivers  
Kythru Bandhu, KALIA

(+ve)

- ↑ purchasing capacity - esp for poor
- direct cash transfer - empower citizens & gives choice to beneficiaries
- prevent misuse of public funds - ↓ leakage
- cut inefficient use of resources
- Reduces govt burden of transport & storage

(-ve)

- lack of fm inclusion
- non-farm unproductive use
- may lead to inflation
- impact food security
- Issue is identification of beneficiary
- market reform & innovation - unaddressed. (core issue)
- biometric (harsh death)

## Indirect Farm Subsidies

In which cost of product is set @ lower price than mkt price.

Eg - Power & irrigation subsidy, fertilizer, MSP (70K) - 0.5% GDP

Krup Venna Comm-pesticides (only 0.1% pesticide hit target, remaining contaminate)

(+ve)

- promote tech & infra advancement (NITI)
- enable access to qty inputs
- Δ behaviour towards sustainable practices like diversification
- food security
- Knowledge thru training

(-ve)

- creal-centric agri, distorted cropping pattern
- over usage of natural resources → desertification
- marred w corruption & leakage Eg - PDS - ghost beneficiaries
- WTO challenges - amber box
- Vote bank politics

Eg - Power subsidy - state DISCOMS bad health

Nutrient Band subsidy for PK. (NPK ratio - ideal 4:2:1, India - 8:2:3:2:1)

↳ e-Uswarak platform - DBT, NBS for urea, name urea by IPPCO



Other Issues

- corruption (110 cr PM Khan scam in TN)
- Eco survey 2018 - rich farmers benefitted over small farmers
- Huge financial deficit & burden on exchequer → fiscal imbalance
- Promote inefficiency & dependence on govt
- lead to trade wars & protectionist policies (WTO)
- subsidies in dupd countries → act as barriers to entry
- Neglect of simple pricing eco principles (mkt distortion)
- Public sector invest - 2 - 3% of total (rest subsidy)
- RD must more productive (21-211)
- cap yield in India - 50% of China

measures

Kelkar committee

reco. phased diminution of subsidies & convert them to capital investments.

- Rationalizing subsidies - sunset clause
- Promote fin inclusion
- Infra developmt - cold chain, warehouse
- strengthen forward & backward linkage
- contract farming & co-op farming
- food + nutritional security → diversity, climate-smart agri
- Tech - AI, drones.

(Rootstock Tech for fruits → climate resilient)  
dupd & duping countries agreed to phase out export subsidies under

Nairobi package of WTO

Dalwai comm subsidy driven agri not sustainable

- Committee
- MS Swaminathan (Reco 'Agri' in concurrent list)
  - Atok Dalwai (Doubling Income only 15-40% share of farmers in consumer prices)

conclusion

\*\*\* viable-profitable-sustainable (VPS) agri

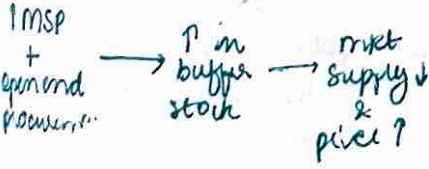
MSP (2018)

5Is - Irrigation, Infra, Investmt, Insurance, Intensification  
Guaranteed min floor price that farmer must get. To ensure price stability.  
Reco of CACP. works as an insurance policy if price falls.

Starting during mid 1960s for HYV seeds. - ship in mouth situation  
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- (+)ve → social (↓ suicide, food sec)
- massive storage → grain surplus
- food security - MDM, PDS, NFSA
- ↑ in prod<sup>n</sup> of grains
- stability in prices (92% farmers surveyed in support of MSP - NITI)
- ↑ in income
- eco transformation of PN, HR

- (-)ve → eco env mkt
- excessive prod<sup>n</sup> of wheat & rice - distortion of cropping pattern
- nutritional security (pulses, oilseeds) (only 0.66% of oilseeds procured)
- excessive buffer stock - ↑ in stockholding - storage cost, wastage
- water-guzzling, not land-intelligent
- Protein band food inflation
- fiscal burden of subsidies (2-5%) (persistent?)
- regional inequity (only 6% farmers have access to MSP - NSO)
- implementation snags procurement - NSO
- demand side criterion not considered
- Open-ended procurement 2% limit
- payments delayed (dependency syndrome)



India largest producer, consumer, but importer.

- detour path invest (Cambodia)
- challenge in WTO (200)
- favours large farmers (ES'14)



Problems of MSP compounded by:

- viability of agri - small & marginal size of land holding
- high volatility - monsoon failures (irrigation - 48%)
- & growth in agri (ICV - irregular, cycle, uncertain)
- unfinished agenda of land reforms - 80% small & mg.
- tech backward, inadequate access & avibility of farm credit
- failure of manu. to absorb excess labour.

can't be solved by MSP

Fundamental sol<sup>n</sup> - scientific approach to agri

- irrigation facility
- ↑ productivity
- insurance coverage
- public invest in infra
- edu & skill development
- village-level labour intensive industries
- institutional credit
- land reforms

Alternative to MSP

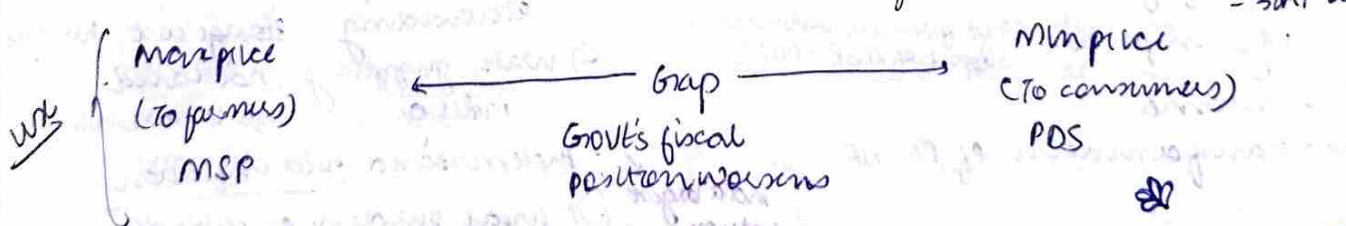
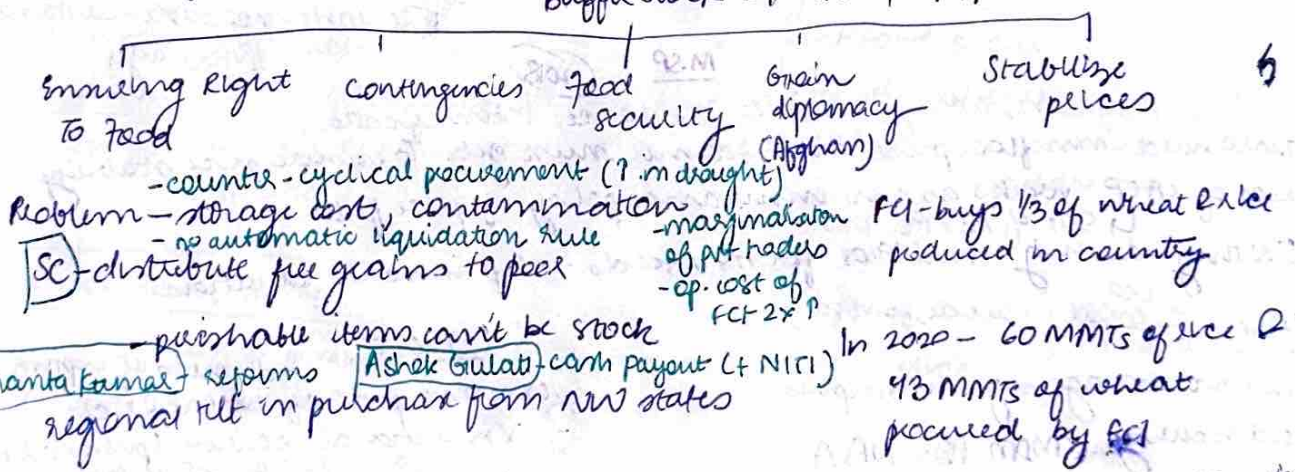
- Price Deficiency Payment System (Srinivathan Commission)
  - Area Planning
- M's effort - Bhavantak Bhugtan Yojana - NITI MSP → M Reserve P.
  - Income support instead of price support - on per hectare basis
- Localized MSP - red rice in UK

diversifying crop portfolio - millets

PM-AASHA

PPDS PPSS

Buffer stock - 1% in 4th PYP



ES 2014 - farmers not producing from demand pattern, but govt policy on procurement (hand-aid sell)  
 Venkaiah Naidu - what farmers need are permanent projects, not populist schemes

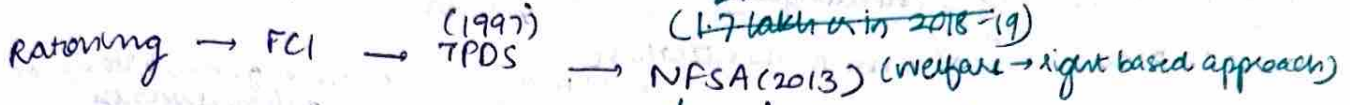
W/f - M O C K T A - I L S  
 mkt sign (FPOs) credit 20% non-inst sources knowledge admn. invest insuranc - only 25% agri household (NAARD) sub-sector subsidies



- Indian food security systems for poor ppl, under MOCAPED.
- significant for emerging economies

CGI - procurement, storage, transportation & bulk allocation  
 SG - distribution

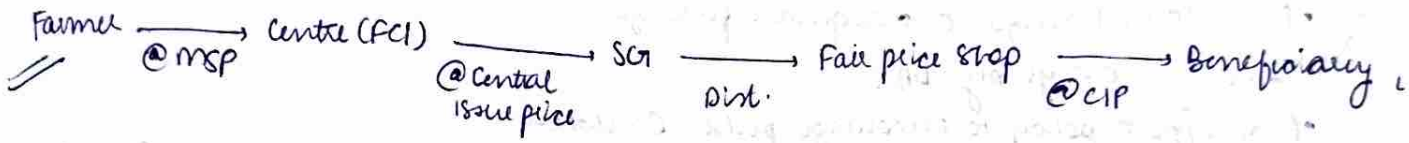
welfare → rights based approach



NFA not operational in all states (social audit), state food comm. net setup, no seamless flow of info b/w FCI & states; qnty

**Objectives**

- food security to vulnerable
- mediating influence on open mkt price
- socialisation
- buffer stock
- redistribution of food grains
- right to food



Brazil case study - 'Bolsa Familia' - involves conditional cash transfers to poorest families, conditions - vaccination, school attendance

'Peace clause' - WTO

**Issues**

- Identification of beneficiaries - lack of qnty data, ghost cards - 61% of eligible pop. excluded from BPL list, inclusion error - 25% (CAG)
- Shortfall in storage capacity w FCI - not in line w T procurement
- Rising subsidy & fin burden - cost of prod (6 times the sale price) (Eco survey 21) CIP hasn't been revised since 2013
- Inconsistent qnty - Shanta Kumar - 40-60%
- Corruption & leakages - direct commodities to open mkt for higher price
- Lack of transparency in selection of PDS dealers
- not able to ↓ malnutrition - rice & wheat focus (25%) (15%) - area focus
- open-ended procurement - paradox of hunger amongst plenty (GHI)
- digital barriers - failure of biometric authentication (Aadhaar)

SC on setting grains - PVCL v/s VOI - adopt LT & ST measures

Also - community kitchens

- construct adequate FCI storage
- T allocation to BPL
- opening FPS for all days
- dist food grains to beneficiaries @ no cost

Recent reform - ONOR - PM6KY

- Aadhar seeding of beneficiaries w Ration cards - elimination of bogus beneficiary

- Aunne PDS (Arunachal) - electronic POS - Bio-fortified



Review

- end-to-end computerization
  - to prevent diversion
  - to secure identification (cereal centre policy → mutations centres)

Justice Wadhwa Committee on PDS ★ e-PDS - IMPDS

- universal PDS - Eg - TN GIS-based ration card
- Digitalisation - Eg - Chhattisgarh - digitized ration card, AI, ML, IoT QR code, GPS, SMS
- Use of Aadhar - real-time authentication
- DBTs - subsidy transferred to a/c
  - ↓ need for physical movement of grains, ↓ storage cost
  - ↓ leakages, better targeting, dietary diversity
  - fin inclusion, open mkt access
- improve storage - PPP mode
- checking corruption - preference given to SHCs & Panchayat in licensing of FCI
- 7 distribution pts - door step delivery - 'give up' option (100%)

Shanta Kumar Panel recd ★ - Decentralized Procurement Scheme

- Direct cash transfer to deregulate fertilizer
- Save ₹30000 a/yr by DBT
- Price support policy to encourage pulses & oilseeds
- Δ NFSA to reduce beneficiaries from 67% → 40%, rain supply from 5kg → 7kg
- FCI - innovation in food mgmt
  - withdraw from major states, focus on NE.

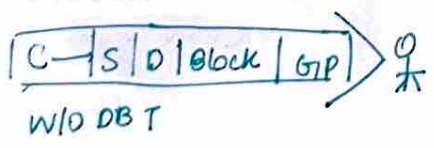
Ajit Banerjee, Amartya Sen - Temp. ration card for 6m w minimal checks to everyone in need. (cost of missing many who are in dire need vastly exceeds social cost of letting in some)

Pandemic has again driven home the importance of well-designed & meticulously implemented food security policies

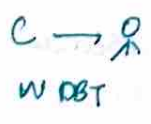
Bio-fortification, social audits, qty, capacity building ★

- Alternative
- universal PDS
  - food coupon
  - DBTs
  - eRuPI

On April 2022, central pool - 74 mt foodgrains (300% of strategic & operational reserve norm)



WB - growth in agri & poverty 2 times in comparison to growth of agri



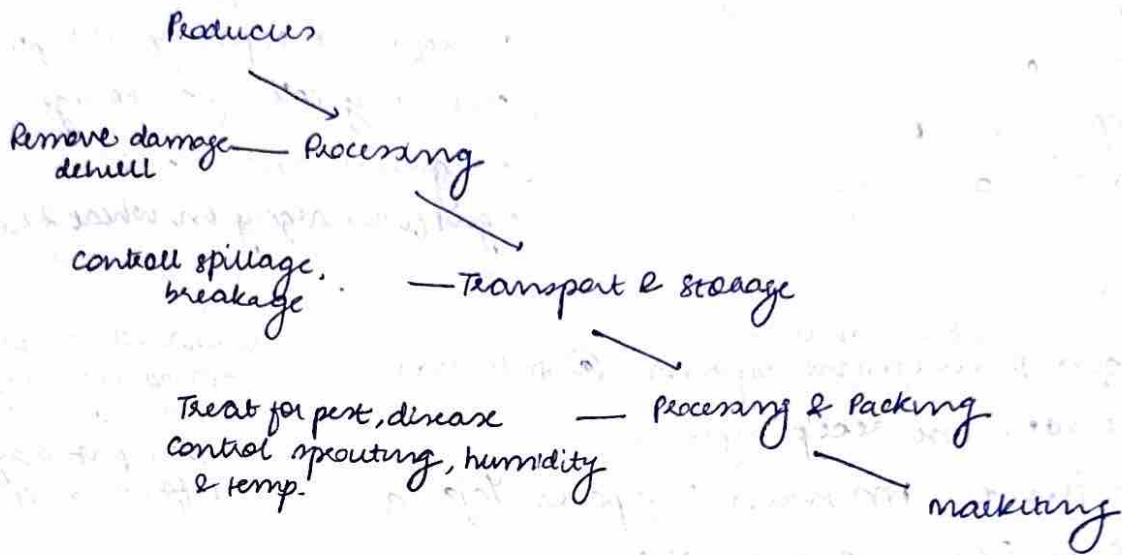


## Storage, Transportation & Marketing

\* Indus valley - grains stored in granaries

Harappan seals - info on agri produce, transport, marketing

Post-harvest technologies - Process that occur from time of harvesting until produce reaches the customer.



### Challenges in India

- Huge post-harvest losses
- lack of better price realisation for farmers
- Bottlenecks in logistics
- weak supply chains

- Lack of storage facilities
- Ineffective marketing
- Lack of quality control

Institutions involved - FCI, Warehouse Deptt Regulatory Authority, NAFED  
Negotiable Warehousing Receipt

pesticides - endosulfan spraying in Kasargod on cashew plants → poisoning

- in Saram, Bihar - students died due to MDM contaminated w pesticide.

### Best Practices

1. Rice fish culture, Kerala
2. Strawberry cultivation, Meghalay - horticulture \*
3. Mission Kakatiya, TL
4. Pani Panchayat, Odisha / Pani Samities
5. Hiware Bazaal, MH (water shed mgt)
6. Artificial glaciers, Ladakh
7. Total Rice Campaign, Kerala (full value chain)
8. Poultry farming, Kerala - X middlemen
9. Shetishala (farmer field school), MH.



**Storage** - holding & preserving goods from time they are produced until they are needed for consumption.

Need - food security, ↓ wastage, ↑ income  
Importance:

- ensure continuous flow of goods
- protects qty of perishable products
- helps to cope w seasonal demand
- stabilization of prices
- provides employment & income through price advantages

post harvest losses - 9000 cr (NITI)

- Issues
- Poor condition (2/3 cold storage used for potatoes)
  - lack of enough space
  - low investment by pvt sector
  - inefficient capacity utilization
  - not using scientific storage
  - regional imbalances
  - govt focus largely on wheat & rice
  - >75% mktbl surplus procured → ↑ inflation

Steps taken

- Decentralized procurement system - @ state level (Shanta Kumar panel)
- Negotiable warehouse receipt system
- Agri Infra fund, PM Kisan Sampada Yojana
- Village Storage Scheme - Budget 2020

Shanta Kumar comm  
 - Hand over storage fin to state  
 - Allow pvt players  
 - Reforms in FCI

Further measures

→ Tech (drying, temp & moisture control), traditional methods (bamboo & mud storage)  
 - Modernization of Bulk Grain Handling Infra, PPP

manpower FCI reforms

**Dalwai comm** - integrated agri-logistic system  
 - prepare district, state wise storage plan (decentralization)

Budget '21 - NWR integrated w ENAM  
**NABARD** go tagging of agri warehouses

**Transport**

Importance:

- enables agri - 1 prod<sup>n</sup> - revenues to sell
- best possible return for farmers
- retain value chain @ robust level
- helps improve exports - ↓ wastage
- ensuring food security - check inflation

Issues

- Road & rail infra - all weather road
- full regional connectivity - NE & Himalayas (monsoon)
- few options that can cover long distances in short time
- mobile cold storage

Steps taken

- Kisan rails - 1st multi-commodity trains
- Kishi Udan scheme - Budget (top pt agenda)
- Transport & Marketing Assistance for exports
- PM Gram Sadak Yojana next (Walmart)
- Kisan Rath mobile app
- Dedicated freight corridor
- PM Gati Shakti

measures

- shift from road → rail
- Dedicated freight corridor for agro
- Investment
- Inland waterways (< 2% of freight)
- Encourage PPP (97%) (2%)

Dalwai - need to shift from road → rail  
 Shanta - transport in subs w/ gummy bag.



Marketing - FCI, Cotton Corp, Jute Corp, CACP (2015)

exchange fn Physical fn Facilitating fn

Importance

- Better prices for farmers
- Protection from price fluctuation
- ↓ subsidy burden for govt - MSP
- ↓ role of intermediaries
- food security
- competitive trade

Steps

- eNAM - pan India trading portal
- KCC, [FPOs] (one district one product)
- Market Intelligence & Early Warning System
- e-Kushal (Kishu Udan) AMIF
- GRAMS NITI - Agri Mkt & PF Reform Index

China spends a lot more on agri knowledge & innovation system, includes agri R&D - modern agri industrial parks  
 Ashok Gulati - direct selling F/PO → consumer (Apri mandis eg)

(80 km<sup>2</sup> area - MC Swam)  
 • Avg area served by APMC - 500 sq km

Issues

- lack of grading & std. - Mkt inst
- high mkt charges & cost
- licensing barriers
- calcitization, high user fees
- large no. of (middlemen centric setup)
- fragmented supply chain
- pushable nature of agri - produce
- dependence on rural primary mkt means - weekly haat
- cluster-based organization
- [PPP] direct selling - farm gate model
- use AI, Ag Tech startups
- bring agri commodities out of APMC (50% sold)
- more in concurrent mkt

Agri exports - 10th in exports, 2.4% of world trade, \$50 bn exports

Challenges - poor competitiveness, logistical challenges - perishable products, inconsistent & restrictive policy, flip-flop govt policy (wheat ban), quality issues - WTO SPS, training, post-harvest mgmt (90000 d)

Govt Initiative - APEDA, Agri Udaan, TMA

Way forward - resolving issues of farm subsidies, divpmnt of global & domestic value chain, increase focus on high-value agri commodity, incentivize & encourage exports, harmonization w int'l std, divpmnt of food processing industry

State led export promo agri R&D

NITI@75 - stable export policy w 5-10 yr agenda

Agri export Policy 2018 - To double agri exports (\$60 bn) by 2022 &

\$100 bn 2025

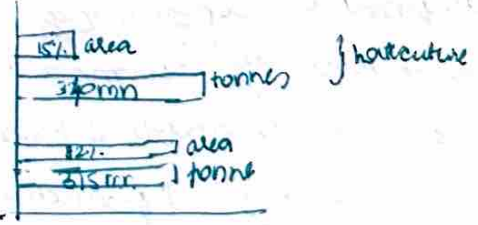
- productivity - 12.5 tonne/ha (current - 22.10/ha)

Horticulture - < 15% area, 33% of agri GDP, 2nd largest producer of fruit & veg.

Livestock - 25.6% of agri GDP, 30% of agri GDP, 12% public cap of agri.

Fisheries - 5-6% of agri GDP, inland - 65%, 5th largest producer

Oilseeds - 13% gross cropped area, 70% harvested





# Land Reforms

Visualized as an instrument of social justice - against concentration of landholdings in hands of absentee / non-cultivating owners.

## Means

- Agrarian Reforms committee under JC Kumarappa - all intermediaries b/w state & tiller should be eliminated
- Abolition of zamindari - successful in Kerala & WB due to political will and strong rural mass social base
- Tenancy right - 2nd FYP: abolition of intermediary tenure
- Land ceilings
- Land consolidation
- Land reform + democratization + PRI = lower castes more organized.

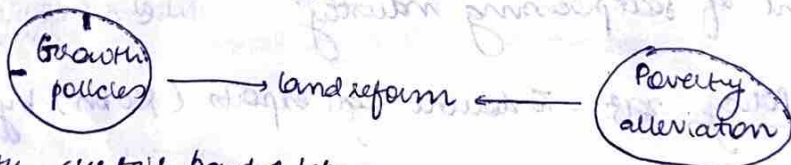
Bhoodan movement - 1951, after peasant uprising in Telangana  
To persuade landowners & leaseholders to renounce their land rights  
→ egalitarian redistribution & jt. cultivation.  
- Urota Bhava: failed

## Land Reforms → Agri Productivity (2013)

- ✓ Small farms tend to be more productive than large farms  
- inverse farm-size productivity
- ✓ Owner cultivated land - more productive, scientific methods
- Land consolidation - easier irrigation, land improvement
- ✓ Easier access to credit
- ✓ Modernising - mechanization, farm Tech

## Reforms

- Digitization
- Land bank
- Land monetization
- UAR
- Swaminathan
- NERDP
- UPR



- land equity, curtail bonded labour
- devt of coop farming
- tenancy reforms - distributing dividend of agri growth
- redist - sustainable & boost ecological diversity
- land ceiling - ↑ productivity



## Success of Land Reforms (206)

- Breaking down stranglehold of zamindars & absentee landlords
- distributed surplus land among landless
- security of tenure, avoid exploitation
- inspired by Gandhi's non-violence
- motivated cultivators to invest & improve agri practice

( > 70% formal lending) - 80% to large farmer

- India: food surplus country  
- 1 socio-eco status

Factors - Pol. will to insert 9th schedule, abolish right to property, state subject - (Kerala & WB), literacy & awareness, civil society & cooperatives, HYV

## Failures

- lack of pol. will - land: state subject
- triggered Naxalism
- legal terms have left room for interpretation (60% of cases pending)
- distribution of land - skewed. - SC & ST X
- wide gap b/w land distributed & its actual occupation
- outdated land records, bureaucratic apathy, bogus training
- lack of votabank
- no corresponding reforms in tech, land records
- land fragmentation

- PS Appu comm
- cooperatives exploited by zmd
- lack of budgetary support
- intermediaries abolished X
- tenancy reforms excluded sharecroppers
- land records X

Ralegaon Siddhi case study - every member has proprietary right over harvested water → water avail is ltd → large landowner forced to lease part of their land to marginal farmers who have water rights, but no land. → allowed access of land to landless

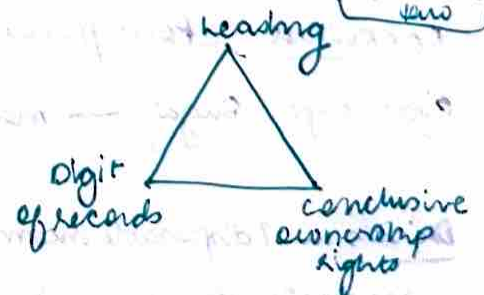
## Way ahead

- on one hand → consolidation: agri efficiency through economies of scale & mechanized farming
- But social equity compromised

Balance land ceiling & consolidation → cooperative farming

eg - Beampagat Kishi Vikas Yojana promotes organic farming

- model contract farming law
- NRI Policy on land record - Svamlitra





# Food Processing Industry

- sunrise industry

Processes RM & intermediate products derived from agri.

Transformation of agri into industry → has become 7 responsive to mkt forces & ↑ integrated in network of industrial interdependencies.

Food-based industry - homogeneous w same end-use. Processing is to a large extent for the purpose of preservation.

Upstream - extracting RM

- engaged in initial / 1<sup>st</sup> stage processing
- eg. rice, flour milling, cotton ginning

Downstream - processing

- 2<sup>nd</sup> stage manufacturing
- needle & thread making, spinning

Potential - Abundance of agri raw material & low-cost labour  
 // less than 10% of products processed, 75% of industry unorg.

factors determining location (RF TLC)

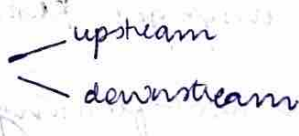
- Transport - most agri products weight losing or perishable
- Labour - intensive
- Power - To run cold chain storage
- Infra
- RM - contribute to rural underemployment

Facts  
 // contribution 91% to manuf GDP

Exception - for grains, shipment of RM in bulk is easier, while bakery products are highly perishable - require prod<sup>n</sup> close to mkt

Linkages - capability of an industry to generate demand for products of other industries.

- Forward: rubber → tyre, footwear, leather product
- Backward: food processing → agri RM
- Sideways: sugar → molasses (alcohol & ethanol)



Drivers - ↑ disposable income, urbanising, nuclear fam, Δ lifestyle, packaged & ready-to-eat, loose-branded packaging, Atmanirbhar



Significance agriculturist → agripreneurs

- link b/w agri & industry
- can absorb disguised unemp. from agri (2024)
- prevents food wastage (740%) → food security
- requires less space for storage → help stake-off the rest farm gate infra
- export → forer. (Banmati exports) value addn - organic fruit jam MFP (Hiba's)
- doubling farmer income, ↓ malnutrition (fortification)

Potential

- India: major food producer
- Buried w resources
- curbing migration & food inflation
- ✓ Sapal pas avlbt throughout the
- ↑ consumer choices

Challenges

(20S)

- Small size co. - low value-added
- Lack of good labs in India - SPS measures & Tech
- Lack of skilled workforce

- Infra - roads overburdened, storage, ICT (NITI - annual post harvest loss 900000)
- Limitations in supply chain & qty - shelf life constraints, Δ in qty while processing the supply chain cold chain infra

- Variability in qty & qty of supply from farmers' end, primitive farming methods → price volatility of tomato & potato → affect Retchup & chips
- Wholesaler/Retailer - variability of qty/qty, seasonal supply, conditioned transportation reqd.

Too many middlemen - artificial price rise

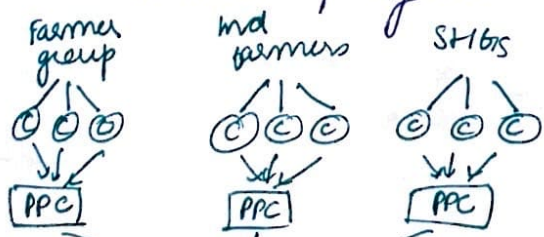
- Asymmetric Information
- Cultural preference India - homemade/fresh food
- lack of consumer awareness insufficient regulation (allegation of pesticide in cold drink)
- Unorganised segment - 75%

farmer's share in TOP crops final price - 30%

location - coastal states - Andhra, Karnataka, MH, GJ → map!

Suggestions

- storage capacities & infra? lab to land, fork to farm
- contract farming promoted
- 2nd Green Rev - integrated w food processing
- domestic startups
- agri RRD
- pubt participation
- climate smart enterprise (millet based products, lab grown meat)
- academia & industry - courses in food packing, processing, biotech.
- global best practices (CSR - CPTA)
- village level procurement centres - GI & AMS
- conducive policy env - Governance cell of MoFPI set up



C = collection centres  
PPC = primary processing centres





PM-KISAN - qualify for green box subsidy of WTO.

Benefits - ↑ prod<sup>n</sup> - access to qnty seeds, inputs

- resilience against mkt volatility

- ↑ risk taking capacity

- distortion in cropping pattern minimal

★ - prevent exploitation by moneylenders

- generation of rural demand

★ - generate large scale farm/beneficiary data

Bottleneck - alienates landless, women, tenant

- Delay in disbursement

- high fiscal cost

- 6000 - meagre amt

households ★★  
- only 21% eligible for recd cash

Can't be substitute for structural reform

- literacy low

- inactive a/c

↓  
for all schemes

Steps - extend to tenants (KALIA scheme)

- update land records (Rythu Bandhu)

- IT infra in hinterlands - strengthen

- Timely disbursement

- support like BC for banks

- use tech (NITI Aayog)



# Niti Aayog: India @ 75

## Agriculture

- Seed - ↑ SRR to 33% for self-pollinated crops.
  - uniform ntl procedure for seed licensing
- Fertilizer - subsidy on liquid fertilizers to encourage fertigation w micro-irrigation.
- HVCs - Rootstock Tech: <sup>climate smart</sup> resilient to climate stress
  - integrate Blue Rev<sup>n</sup> w MGNREGA
- Stable export policy w 5-10 yr horizon
- CACP replaced by tribunal (323B)
- Raising MSP/prices is not a LT sol<sup>n</sup>. Fair prices can be realized by creation of a competitive, stable & unified ntl mkt & LT trade regime favourable to exports.
- India needs to accelerate growth in manu, service & export sectors to wean labour away from agri, resulting in higher productivity & ↑ income for farmer.

- Value chain - pledge financing @ warehouses through Vegetable Warehouse Receipt
  - Green channel @ airports for perishables
- value extension - PPP in EVKS, ↓ post harvest

## labour

- Labour MIS which identifies skill shortages, training needs & employment created should be made functional.

## Innovation (lab to land time to long)

- DST should create Ntl Tech Data Bank
- District Innovation Fund for grassroot level innovation

## Industry

- FDI → India as world's workshop
- Need to harmonize Indian qty std w global std (for exports)
- e-commerce will be the driver of overall eco growth in nr. future

## Fir litu. acy

- Athik Shiksha Abhiyaan - school curriculum

## Housing

Indian cities should focus on vertical growth, 1/4th horizontal growth

## minerals

- Double the area explored from 10% of GDP to 20%
- Launch 'employ in India' to facilitate participation by pvt players
- National Mineral Regulating Authority can be formed.

## Energy

- Oil, natural gas - bring under GST - to enable ITC.
- privatising state distribution utilities and ux of franchisee model

## Roads

- sosmark 10% budget for road maintenance

## Ports

- open dredging mkt to intnl players to ↑ & maintain draft depth
- Inland waterways transfer < 2% of freight

## Agri R&D

- 0.5% → 1% of agri GDP

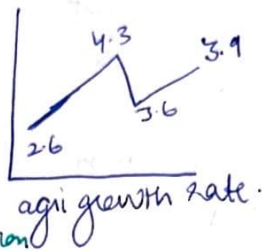
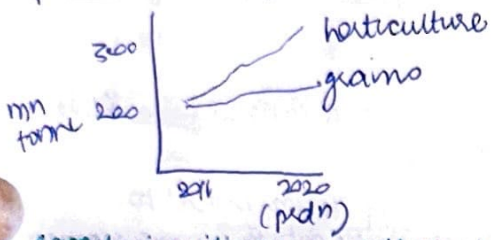
## Fisheries

- integrate Blue Rev<sup>n</sup> w MGNREGA



# Agriculture ( fodder ) Beej Se Bazaar tak reform

- SDG 2 & Aichi Biodiversity Target - conserving genetic diversity of plants, livestock
- Horticulture - golden revolution, MIDH, CHAMAN, eP Green, NHM, mega food park



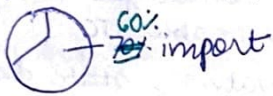
(↑ tomato price)

export, diversification, nutrition, ↑ migration

- Economics model

Barahmaja system of UK - crop diversification system for cultivating 12 crops

- challenge for oilseeds - popularity of vanaspati (palm oil), irrigation, post harvest



70% self-sufficiency

★ NMEO-OP, Yellow Revolution, alt. oil - rice bran, annual import ciling  
launch GM mustard safely.

Millet - nutri-cereals, largest producer

2023-24M.

★ Sri Anna

★ in PDS - jhangaru laddoo (UK)

'famine reserves'

measures - ↑ MSP, inclusion in PDS & MDM, Dindori model of MPA

Benefits → health, eco, em

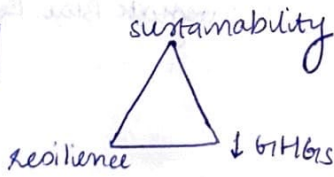
★ orphan grain → wonder grain

Conservation Agri

3 principles →  
 - min. soil disturbance (low tillage)  
 - Permanent soil cover (mulching)  
 - crop rotation / intercropping

Climate smart agri

ZBNF Integrated farming



conservation agri  
 - zero grazing  
 - hydroponics.

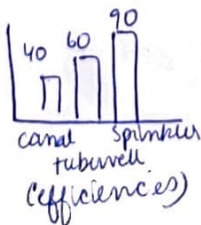
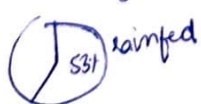
Precision farming

appl<sup>n</sup> of precise & correct amt of inputs @ correct time  
 by making use of digital farming tech, ICTs, wireless sensor, robotics, drone  
 better cropping decision, sustainability, less crop damage (pest detection), resource efficiency, export (SR)

eg - tractors fitted w sensors - till land to exact depth reqd.

PMKSY, SENSAGRI (sensor based smart Agri), mkisan, mkRISHI

micro-irrigation, BT, climate smart (Niti @ 75)



net water exports.

- precision agri, vertical farming, dryland, rainwater harvesting

★ Mihir Shah - permaculture

★ SDG 6 - sustainable irrigation



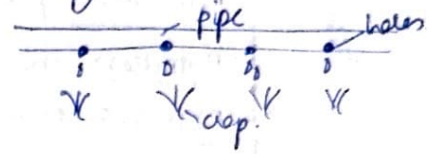
**micro-irrigation** - 10% of total irrigated land.

swastha dhara khet kara

NITI - micro-ir tech ↑ farm productivity by >150%.

Types - drip, sprinkler, pivots, rain guns, subsurface fertigation

Healthier foliage, prevents fungus (mildew)



ANABARD - fund.

Dalwai Comm - Adv - fertilizer & water

(-)ve: power outage, voltage fluctuation, unscheduled interruption, pvt invest, delays in subsidy disbursement.

Efficiency: Tube well - 40%. drip - 90%. precision - >95%.

**Participatory Irrigation Mgt** - coop & involvement of farmers in opn, mgt, & maintenance of irrigation, by organising themselves in formal bodies.

Eg - Parri panchayats (Odisha)

Need -  
- oem cost, recovery of irrigation charge  
- fiscal ability  
- timely ability of water, leakage

\* Women's role  
\* rationalize water rate

**FPO**

Need - SEM farmer, middle men x, ↑ profit, ↓ post harvest loss (Jammu oriental FPO dripd cold chain infra), failure of coop, economies of scale in purchasing inputs, processing, mkt (Kash. Vishwanath FPO - new products by value addn to veg), ↑ access to govt service.

Budget '20 - 10000 FPO in 5 yrs

Vietnam model

Integrate e-NAM w FPOs.

- YK Alogh Comm

JJ Nam Comm (sp act for FPOs, delink from Co-Act)

- CACP commodity specific FPO under ODFP.

**e-Tech**

- Digital fin & insurance payouts (JAM)
- Knat - SAMRAKSHANE for PMFBY
- Precision agri using data analytics (MKICAT, MKRISHI)
- online agri mktplaces (Knat - ReMS, eNAM) *Rashtriya e Mkt Service*
- AI (govt + IBM), drones
- Farm advisories - real time price discovery (AGMARKNET)
- startups (Animall)
- transportation (Kisan Rath)
- Geo tagging (GEO MGNREGIA), warehouses
- e-choupal (ITC)

Agistack - farm, farmer & crop stack

↓  
mkt intelligence, asymmetry in info, crop insurance, personalized soln

**Fisheries**

- Drip Kumar Comm

- B Meenakumari Comm (deep sea fishing)  
- Budget 21 - Sagar Mitras & Fish FPO

**Bcs**

- Integrated Farming System

**(-)ve of legalising MSP**

- mkt equi (low govt intervention sector like milk, fish - grow)
- MH - experiment to legalise (2018) - failed
- FRP in cane (statutory) → 100s of cr in arrears
- experts
- FCI dues - 2 lakh cr + Buffer



**Fertilizers**

NITI - only 35% fertilizer subsidy reaches beneficiary

70000 cr. (0.5% GDP)

largest importer, 2nd largest consumer urea - most consumed (76%)

challenges

- Regulation - price control, urea subsidy (black mkt)
- Distribution - movement & distribution, demand-s gap
- externalities - worsening soil qty, biomagnification (Punjab - canco)
- Fiscal - import dependence, subsidy burden

Reforms

- PM PRANAM (natural farming) - liquid nano urea
- PM Kisan Samruddhi Kendras - nbs
- PM Bhartiya Janurvarak Pariyojna - e-urvarak
- (one nation one fertilizer, Bharat Brand) - soil health card
- fertilizer flying squads

Wf - bio fertilizer.

Rythu Bhavasa Kendra - Andhra

Eco survey 18-19: govt should shift focus from 'land productivity' to 'irrigation water productivity'

- pebbles
- GW
- water intensive crops
- fragmented holding

agro-climatic zoning

Regenerative agri

- natural inputs, minimum till, mulching, multi-cropping
- & sowing diverse & native varieties
- step ahead of sustainable agri -> not only maintaining but ↑ resources (soil, water)
- ↑ soil structure & organic carbon content