

FOOD SECURITY : CONCERNS AND APPROACHES IN XII PLAN

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25th April, 2013

New Delhi

FOOD SECURITY : STATUS REVIEW

CHALLENGES

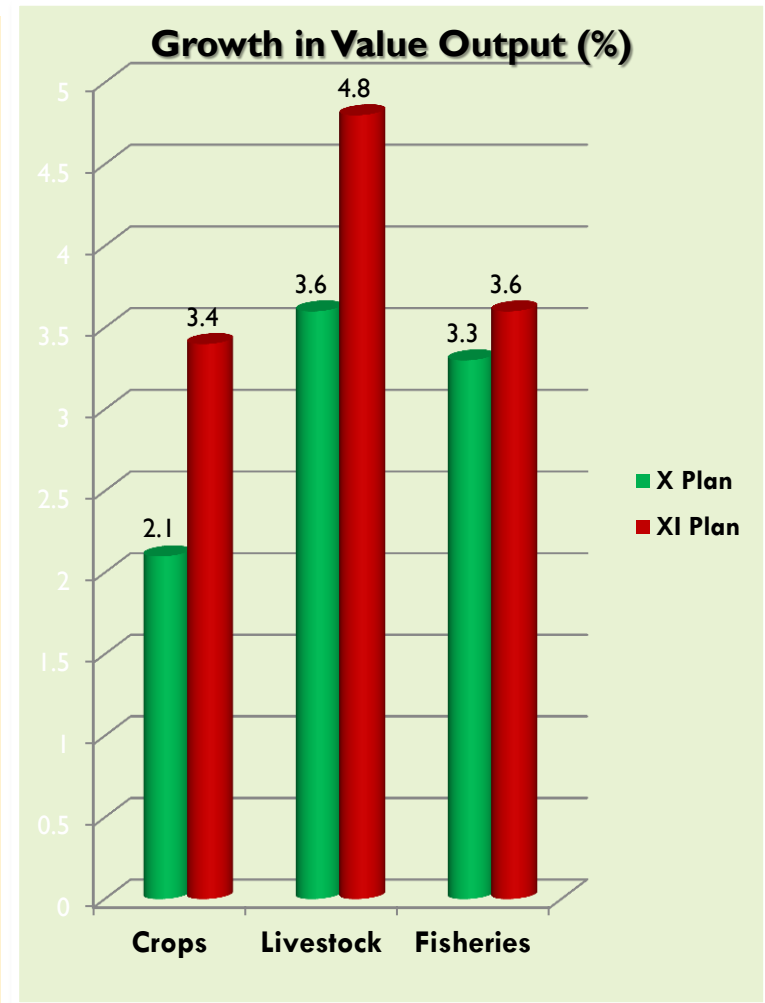
- **Limited Natural Resources**
 - 2.3 % of global Land, 4 % of global water for 17 % of global Population
 - Competing demands
 - Static net sown area (140 m ha)
 - Largely rainfed
 - **Climate Change**
- **Growing and diversified demand for agriculture products**
 - Foodgrains, edible oil, sugar, fruits, vegetables, cotton, dairy, poultry, meat products
- **Post harvest losses**
 - ~20% losses of farm produce
- **Making farming remunerative**
 - Higher returns
 - Reduced risks and drudgery
- **Targeted Distribution**

OPPORTUNITIES

- 15 distinct agro climatic zones
 - Self sufficiency
 - Balancing adverse impacts of climatic variability
- Huge untapped potential
 - Cropping intensity
 - Yield gaps
- Current focus on Agriculture, PHM and rural development
 - Higher investments
 - Policy reforms
- Food Security Act, 2013

KEY ACHIEVEMENTS

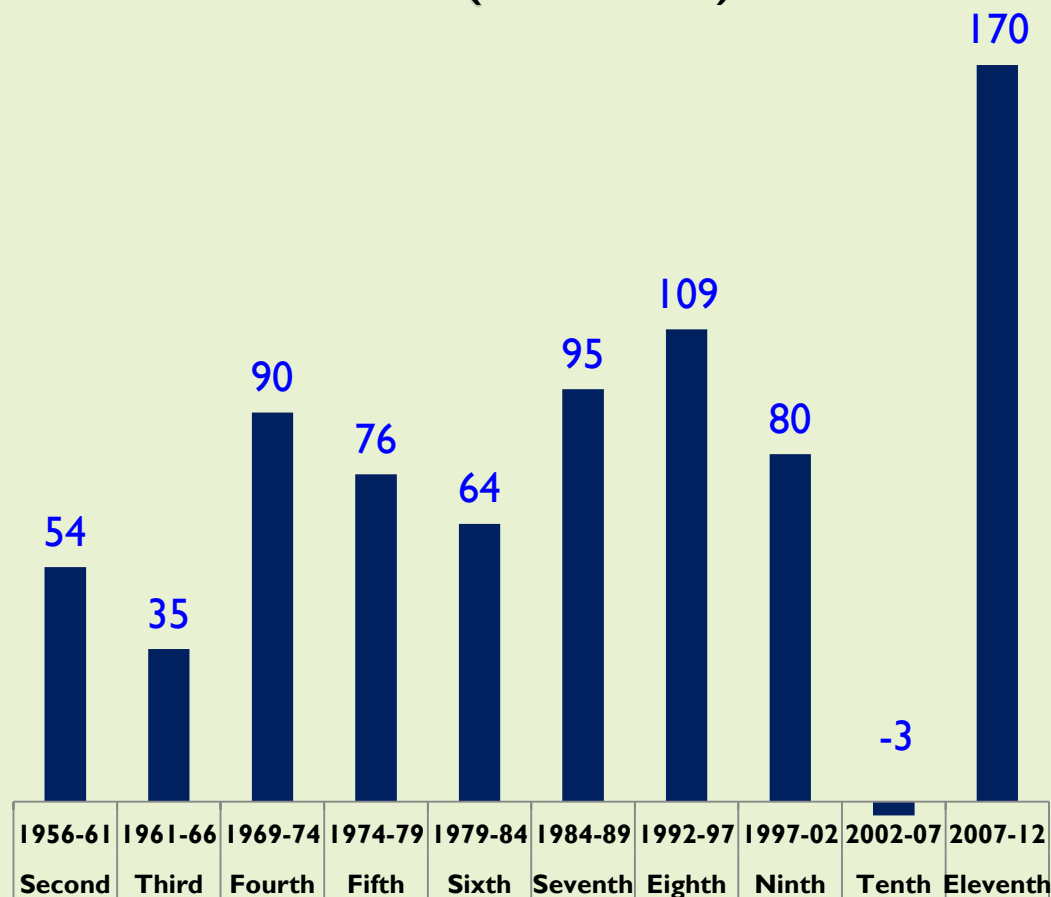
- Agriculture growth in 11th Plan – 4.1%
 - Shortfall in forestry
- Targets for production of food grains exceeded
 - More than double the buffer/strategic reserve
 - Little impact of global food crisis of 2008, 2010 and 2012
 - From imports of 6.5 million tons of wheat and export restrictions on rice and wheat, export of more than 10 million tons of rice and 7 million tons of wheat in a year
- Broad based production
 - Number of States self sufficient in food production increased from 5 in 2005 to 15 in 2012
 - Increased contribution to central pool from Eastern and Central Indian States



KEY ACHIEVEMENTS

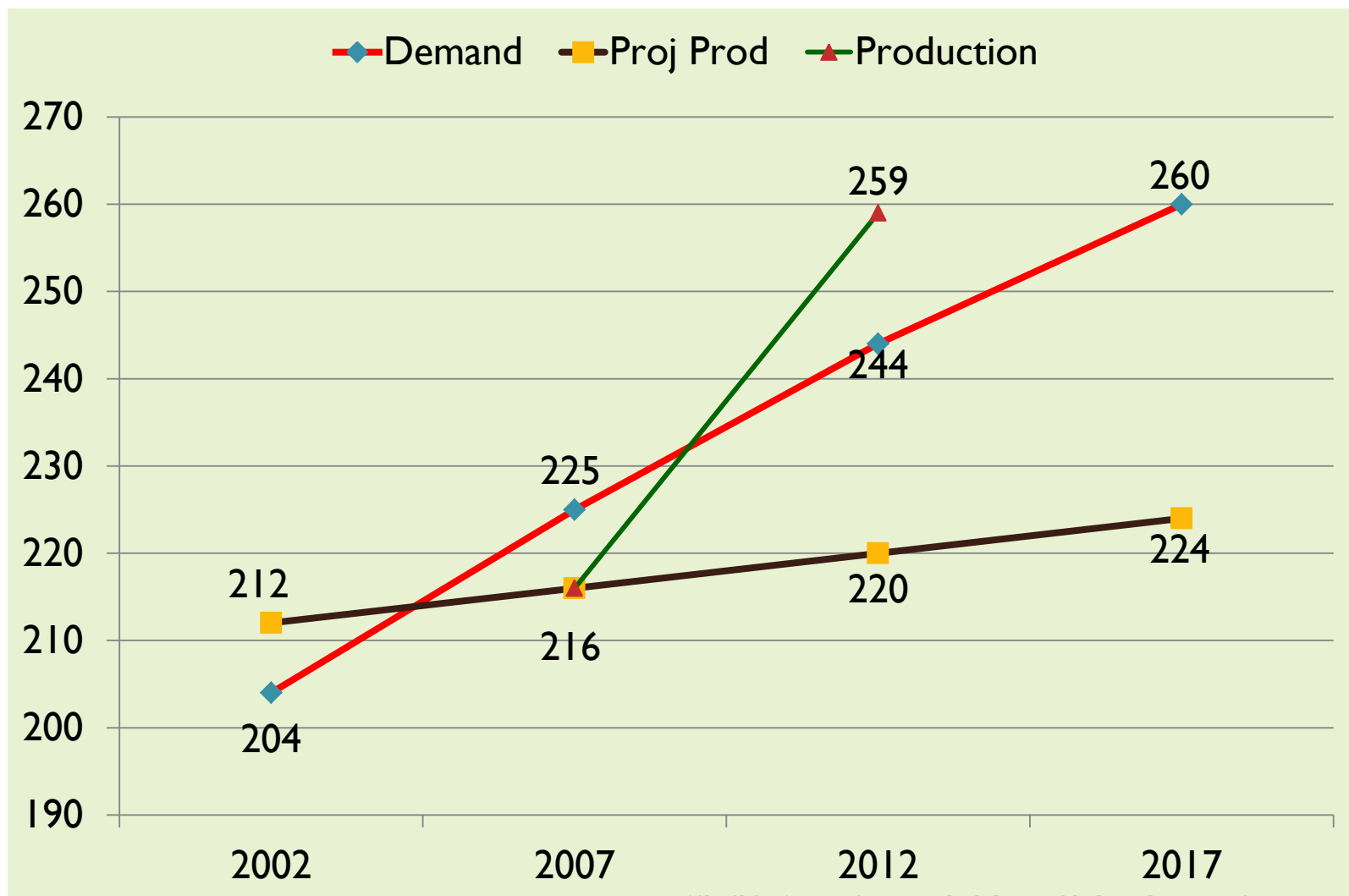
- Growth in 15 States over 4%
- Low irrigation States performed better
- Gross Capital formation improved (14.9% in 2006-07: 20% of Agri-GDP)
- Record production of foodgrains ~263 m tons; fruits and vegetable
- Higher growth in productivity of all crops

**Additional Production of Foodgrains
(million tons)**



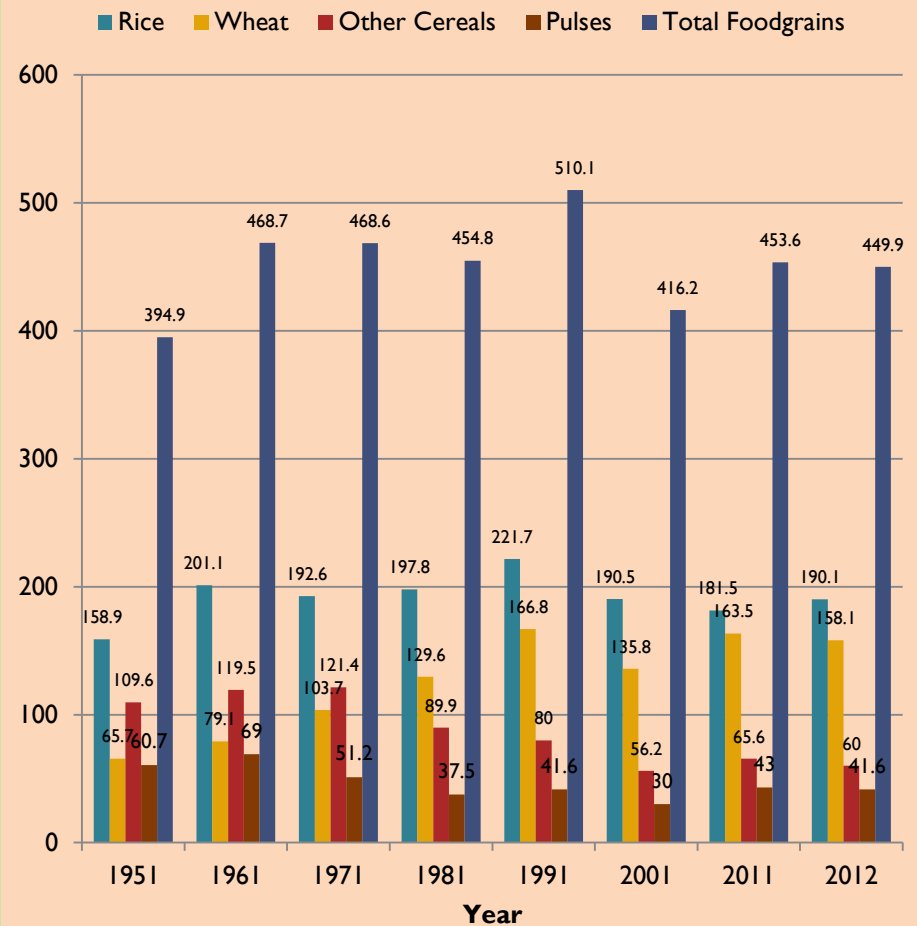
SUPPLY RESPONSE TO DEMAND

FOODGRAINS



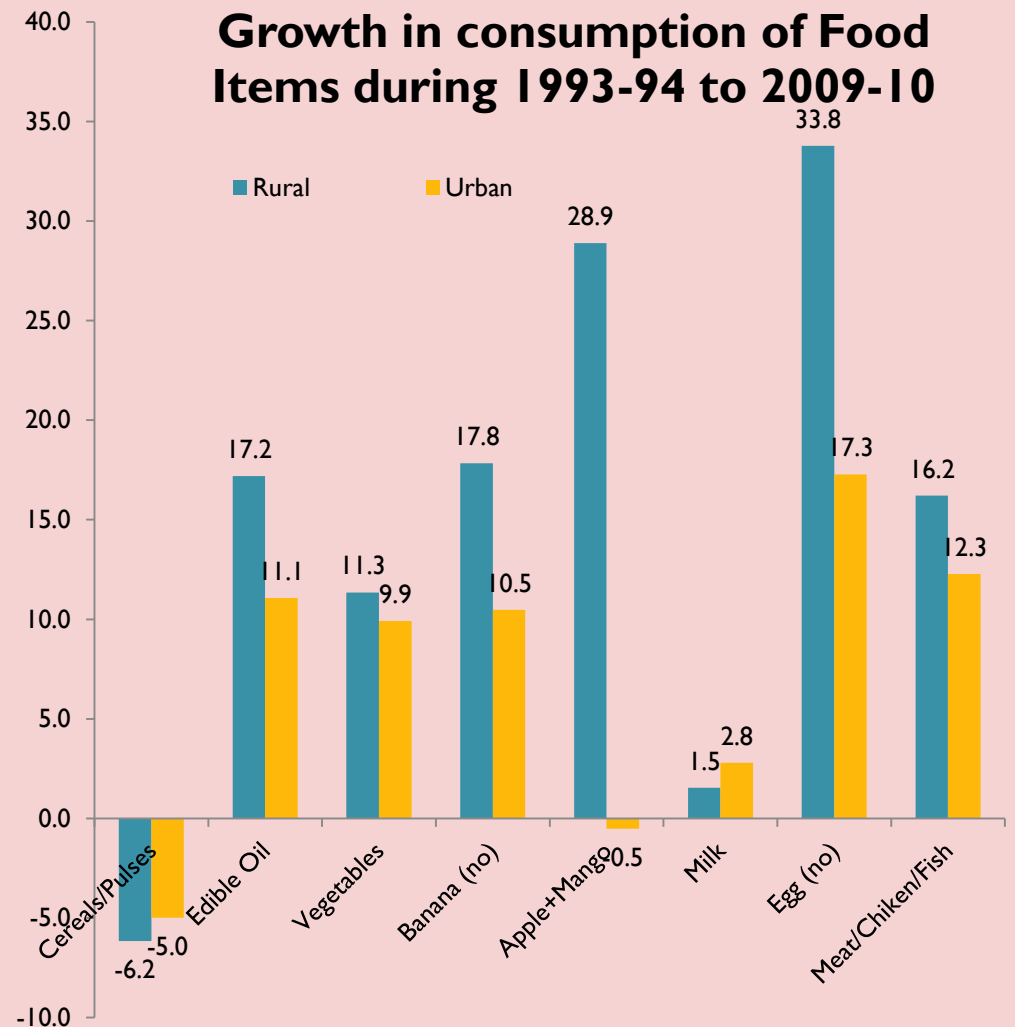
DYNAMICS OF FOODGRAIN AVAILABILITY

- Share of rice is static (40-46), wheat increased from 17 to 35%, pulses declined from 15 to 9% and coarse cereals from 28% to 13%.
- Modest increase in calorie intake from 2250 K Cal. per day in 1987-93 to 2310 K Cal in 2005-2010.
- Contribution of milk, meat, vegetables and fruits increased.
- Offset the likely adverse impact of reduced consumption of Cereals.



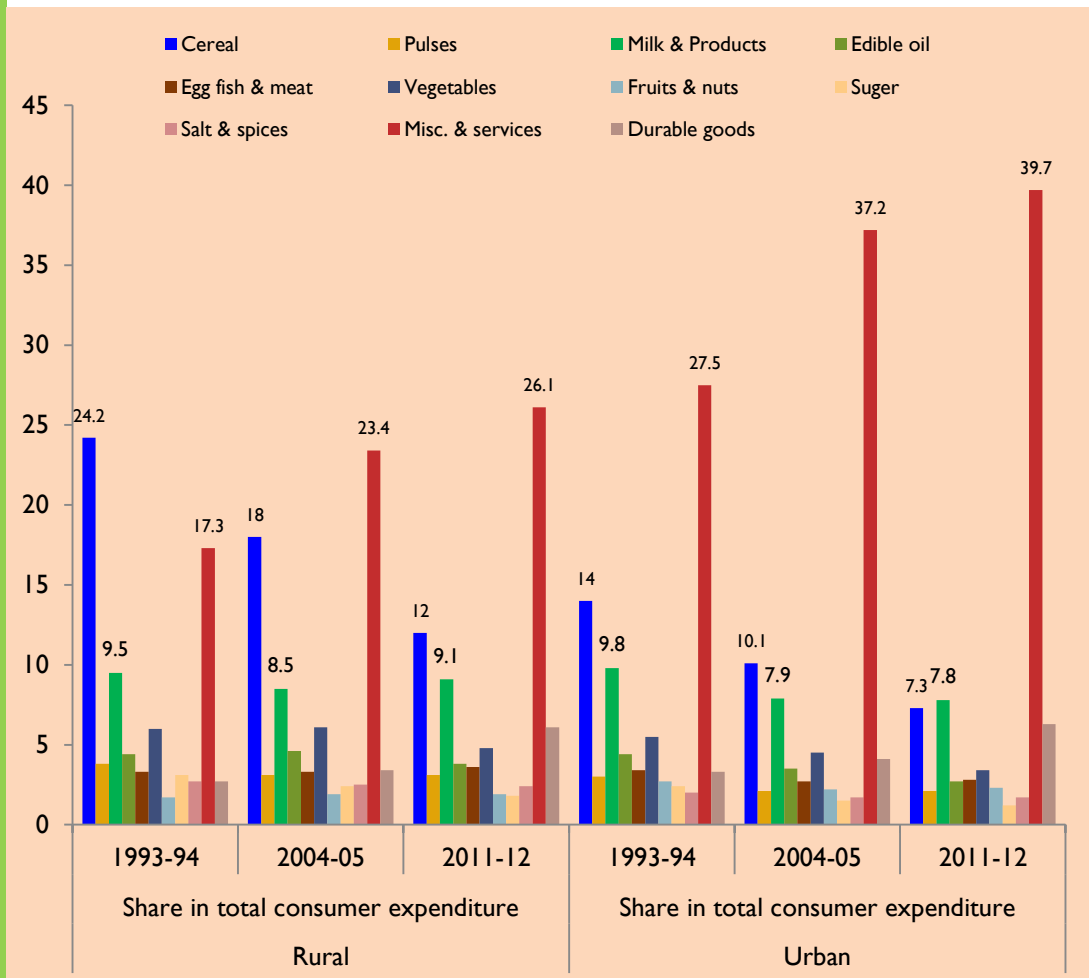
DIVERSIFYING DIETARY INTAKE

- Substantial growth in consumption of all food commodities between 1993-94 to 2009-10, more in rural areas.
- Dietary intake diversified towards milk, meat, egg and fruits since 1993-94.
- Decaling cereal consumption affected the calorie intake, though the income is increasing.



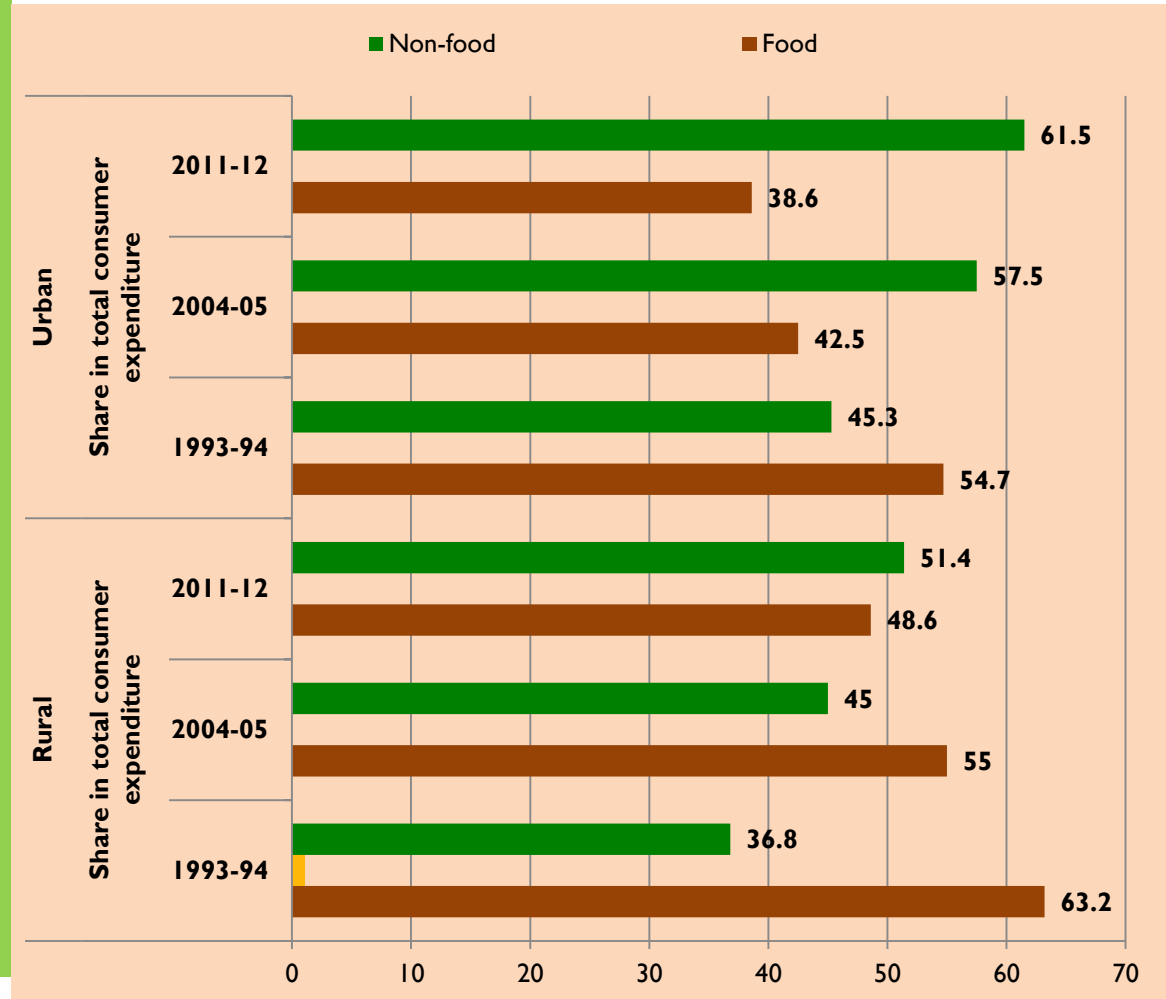
DECLINING SHARE OF EXPENDITURE ON FOOD

- Cereals share declined from 24.2 to 12 in Rural and 14 to 7.3 in urban, misc. and services has increased from 17.3 to 26.1% in rural and 27.5 to about 40% in urban.
- Expenditure on milk and products is almost static in rural but declined in urban areas, similar trend for egg, fish & meat.



WIDENING GAP IN FOOD & NON FOOD EXPENDITURE

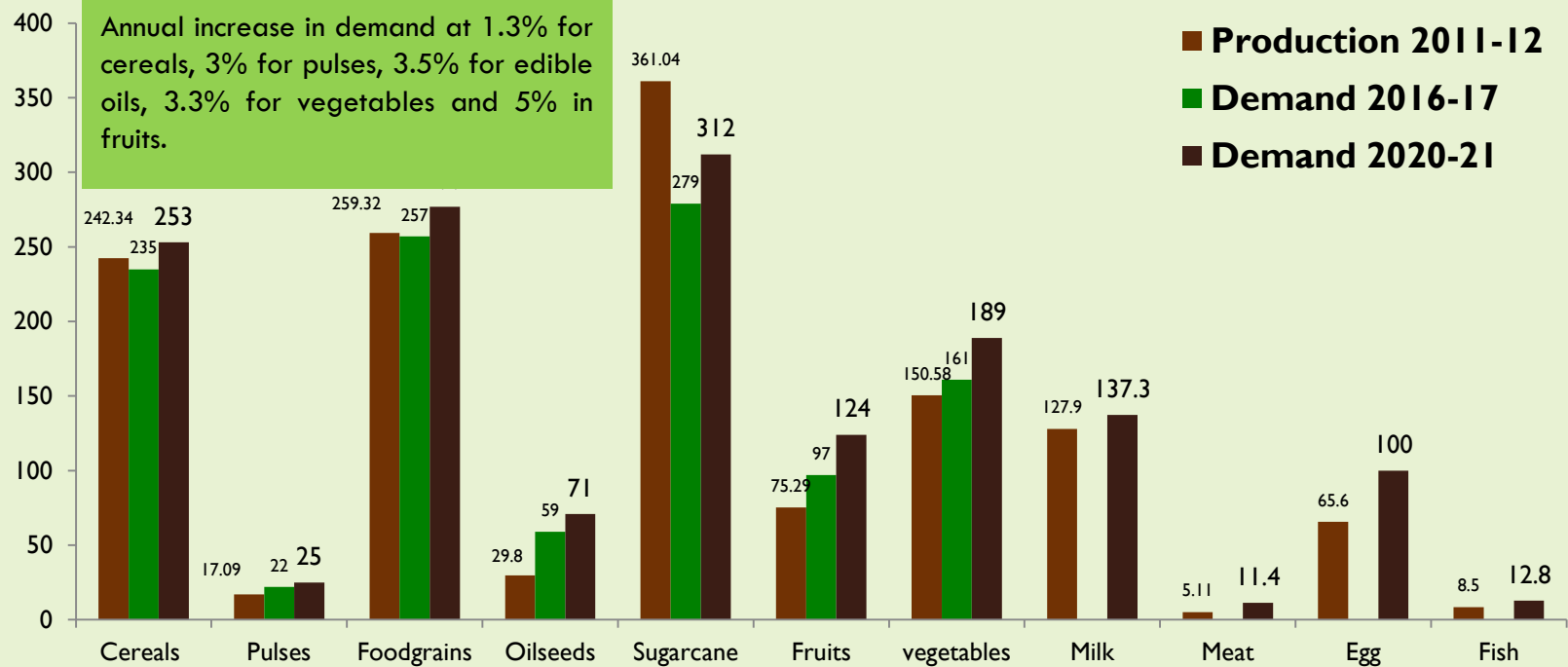
- Share of non-food expenditure increased from 45 to 62% in urban and 37 to 51% in rural areas.
- The food items share declined from 55 to 39% in urban and 63 to 49% in rural areas



FOOD BALANCE SHEET

Item / Marketing Year	Rice	Wheat	Maize	Pulses	Edible Oils	Sugar	Onion	Potato
	2013-14	2014-15	2013-14	2013-14	2013-14	2013-14	2013-14	2013-14
Supply								
Beginning Stocks	23.0	19.0	0.6	2.0	1.6	8.8	0.7	2.5
Production	106.5	97.5	23.5	19.7	10.0	24.5	18.3	44.8
Imports	0.0	0.0	0.0	3.5	10.3	0.0	0.0	0.0
Total Supply	129.5	116.5	24.1	25.2	21.9	33.3	19.0	47.3
Demand								
Exports	9.0	4.0	3.0	0.2	0.1	2.0	1.0	0.3
Domestic use	98.0	92.5	19.9	23.0	19.2	23.0	17.3	44.6
Utilisation	107.0	96.5	22.9	23.2	19.3	25.0	18.3	44.8
Closing Stocks	22.5	20.0	1.2	2.0	2.6	8.3	0.7	2.5

DEMAND - SUPPLY DYNAMICS



With current pace can achieve the cereals. Pulses is difficult task- Needs technological breakthrough for plant types and also NRM

Needs much higher investment for sustaining the turn around in horticulture- quality storage, cool chains, ripening infrastructures- marketing

Very promising for future growth-needs overall systemic changes in production to delivery services, health and disease control and management

SCOPE

- Improving Agriculture Production
 - Crops productivity and production
 - Livestock/Fish/Poultry Productivity and Production
- Agricultural Diversification
 - Broad based food production system
 - Sustainable use of natural resources
 - Income diversification –Hort./livestock/fish
- Post harvest management
 - Sustaining diversification
 - reducing wastage & enhancing income
 - attracting the rural youth

FOOD SECURITY: AGRICULTURAL DEVELOPMENT STRATEGY

AGRICULTURE GROWTH AT 4 % PLUS

Increased
public
investments

Policy Reforms
for private
investments

Development
of Agriculture
Infrastructure

Food Security

Increased and
diversified
food
production

Make
agriculture
sustainable
vocation

Support Services

Water,
Energy and
Land
resources

Credit and
Insurance

Procure
operations

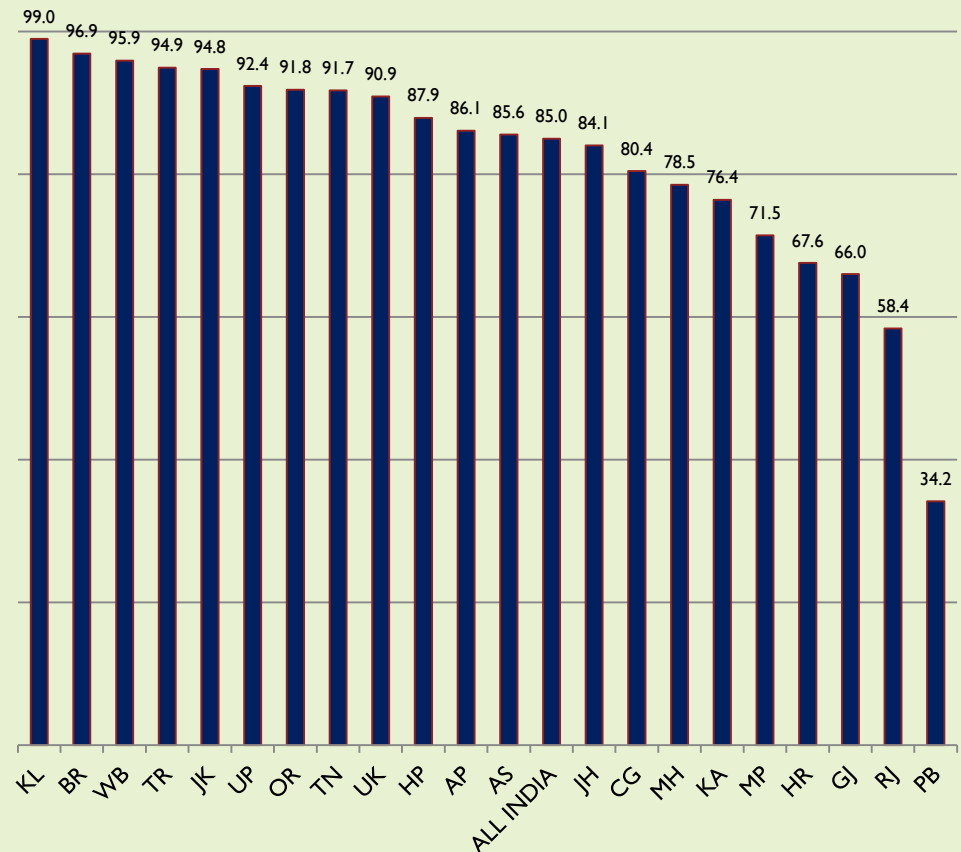
Seeds ,
Feed/fodder
& Fertilizers

R & D and
Extension

FARM VIABILITY AND FOOD SECURITY

- Building capacity of institutions to encourage group formation
- Small and women farmers at all points of value chain
- Formation of FPOs- appropriate policy and legal initiatives
- Extension reforms- use of ITs for precision farming

Distribution of Small & Marginal farmers



FOOD SECURITY: SUPPLY STABILITY

- **Promoting crops/livestock/fish in appropriate agro-ecology**
 - **Focus on farming systems/cropping systems**
 - **Rice based in eastern India**
 - **Maize instead of rice in north western states**
 - **Pulses and oilseeds in upland rice areas**
 - **Agri-Horti-pastoral in arid regions**
- **Rainfed/Dry land agriculture**
 - ***In-situ* rainwater harvesting and recycling**
 - **Micro irrigation**

FOOD SECURITY-FOCUS ON EASTERN INDIA

Technology promotion in compact blocks of 1000 hectares

- Rice ecology specific technologies
- Hybrid rice/stress tolerant varieties
- Resource conservation technologies for wheat crop
- Involvement of Progressive farmers

Asset building

- Water source development
 - Shallow tube wells
 - Borewells and dugwells
- Water pump sets
- Zero till seed drills

Site specific local needs

PLANNED MEASURES

**Crops/Livestock
production,
health**

- Missions/Schemes for
 - Foodgrains
 - Horticulture
 - Oilseeds & Oil palm
 - Sustainable Agriculture
 - Livestock & dairy development
 - Fisheries Development
 - Mega Food Park
 - NMPH

NUTRITIONAL SECURITY: GROW MORE PULSES

- Plant nutrient and Plant protection centric promotion
 - Targeting 30% loss due to pests and diseases and 20 % yield gain by secondary and micro nutrients
- 1 000 Clusters of 1 000 hectares each for five main pulses crops
 - Increased involvement of extension officials and farmer friend
- Technical backstopping by NCIPM
 - Pest surveillance, monitoring and management support

NEW INITIATIVES-PULSES AND NUTRI-FARMS

- **LINKING PULSES FARMERS TO MARKET**

- Setting up farmer producer organizations through SFAC
- Building pulses value chain in PPP (Rallis)
- Procurement operations by FPOs backed by SFAC-NCDEX

- **NUTRI-FARMS**

- Pilot Scheme in 2013-14 in 100 high malnutrition burden districts of 9 States.
- Bio-fortified food crops enriched with critical micro-nutrients.
- Integrated support for production, processing & value addition and marketing support.
- Procurement tied up with SFAC to be supplied to the Mid-Day Meal Programme of Integrated Child Development Scheme (ICDS) in identified districts.

FARMERS PRODUCERS ORGANIZATION

-Linking farmers to value chain

- **Small Farmers Agri-business Consortium (SFAC) – vehicle to promote group formation and agri-business of SMF**
- **Equity Guarantee and Venture Capital Fund of Rs. 250 crore during XII Plan to facilitate SMF in project formulations and mobilising funds from Commercial banks.**
- **920 FPOs targeted for EGF during XII Plan**

GLIMPSES OF SUCCESS

West Bengal

Improving livelihood of the marginalized farmers through access to technology and market

Bhangar Vegetable Producers' Company Limited comprises of 1,750 marginal and small farmers.

- Setting up of Poly houses and shade net-seasonal fluctuations.
- Post harvest management and marketing interventions-confidence amongst the farming community.
- FPO got own vehicles (through bank loans) for marketing of produce.
- Packing, sorting, grading of farm produce for selling to mother dairy booths and other corporation markets by pack house constructed at Polerhat GP.
- On an average 31 varieties of vegetables like chili, brinjal, tomato, okra, pea, cabbage, cauliflower, cucumber, snake gourd, bitter gourd, pointed guard, ash gourd and water melon marketed through these booths daily.



Collective marketing: Hethkonki Phal Subzi Utpadak Swawlambi Sahkari Samiti

- FPO members decided to start joint marketing of vegetables. All the farmers collect their produce at a common point on daily basis and sell these produce in **Pithoria market**, Kanke Bazar and Reliance Fresh.
- On trial basis, around eight farmers carried approximately 2-3 MT of produce including cabbage, cauliflower, tomato, beet root, gourd and coriander etc. in a three wheeler to Pithoria Daily market for joint marketing. Although, the initial profit made through joint marketing is low but farmers are very pleased with this type of initiative in marketing. This also saved their time and extra commission paid to middlemen. Now, farmers are taking initiative to start joint marketing in Ranchi city.



Odisha Rani Sukadei Farmer Producer Company Ltd., Banki, Cuttack

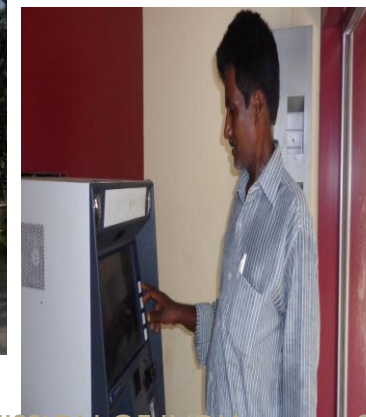
- FPO member farmers bring their produce to collection centre cum pack house established by the aggregator at different locations in catchment areas of FPOs.



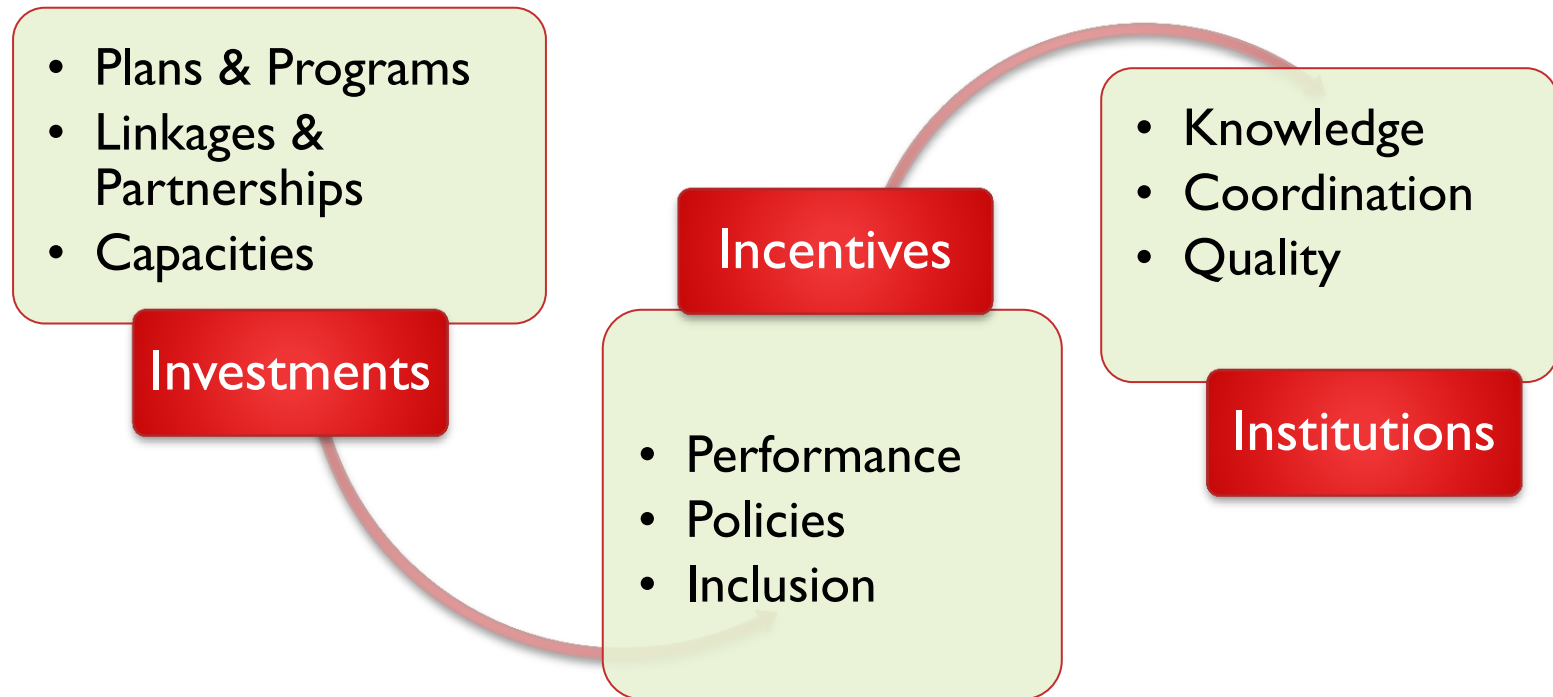
- Vegetable prices are prominently displayed at collection centre in local language.

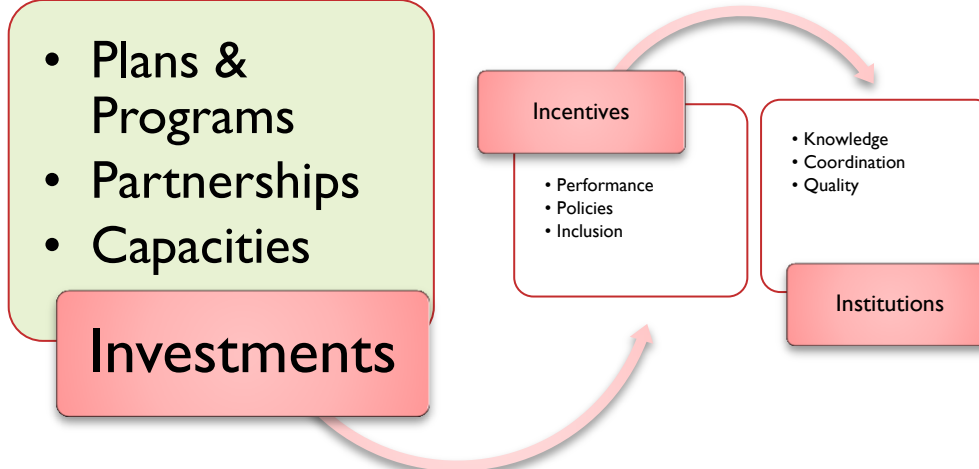


- Vegetables are weighed on electronic weighing machine, which is directly linked to a sophisticated IT system. The system transfer the data related to farmer, crop sold and weight etc. to the central server, which is also linked to Distribution Centre of the aggregator. As soon as material is received in the distribution centre and verified by the centre in-charge, it automatically generates a credit note. Axis Bank, a partner in this system, immediately transfers the money to the farmers' account.



REVAMPED 'SERVICE DELIVERY' MECHANISM





- Plans & Programmes
 - Innovative design
 - Decentralized and Flexibility
 - Accountability
 - Monitoring and Evaluation
- Partnerships
 - Policy, Research and Reach
 - National, International
- Capacities
 - Human Resource and Institutions
 - Farmers and Extension

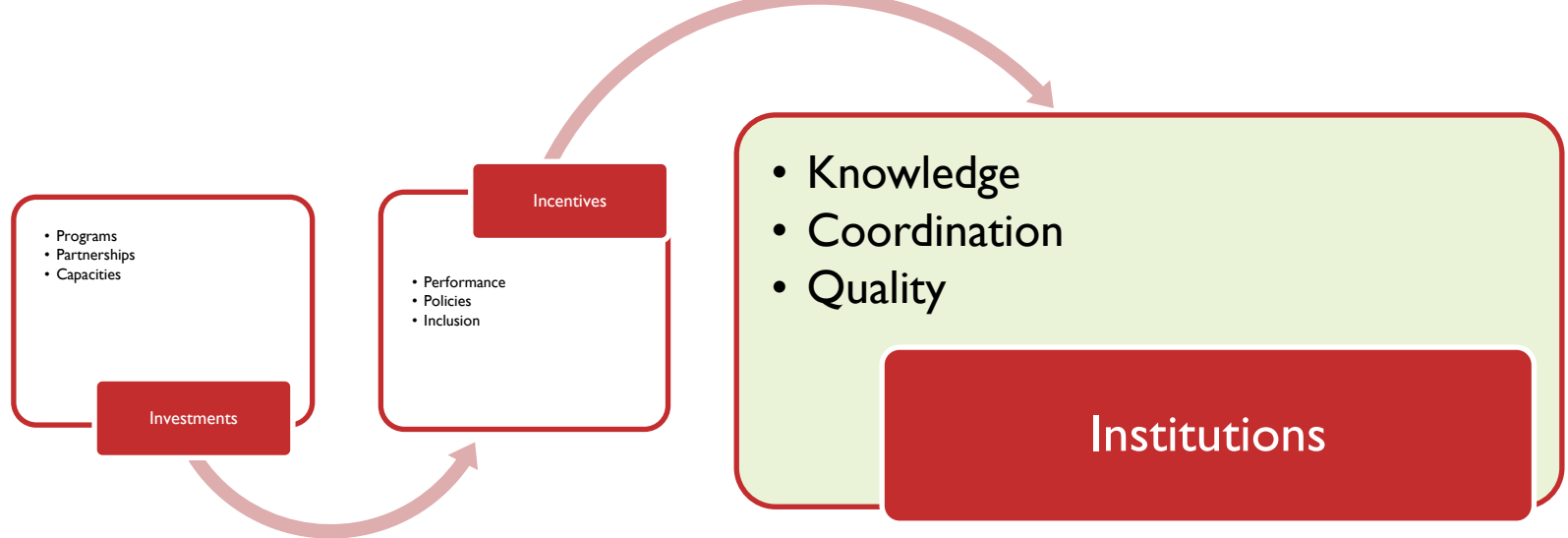
- Promotion
 - Site specific
 - Need based
- Projects
 - Pilots
 - Systems
 - Studies
- Horizontal working
 - Task Forces
 - Convergence

- RKVY
- NFSM
- NMSA
- NMOOP
- NMAET
- NHM
- NLM

ICRISAT
Hybrid Pigeon pea, Rice Fallows
Water logging tolerant Pigeon pea
Heat tolerance of chickpea
Host plant resistance to Helicoverpa
ICARDA
Grass pea, Lentil, Kabuli chickpea
IRRI
Stress tolerance in rice



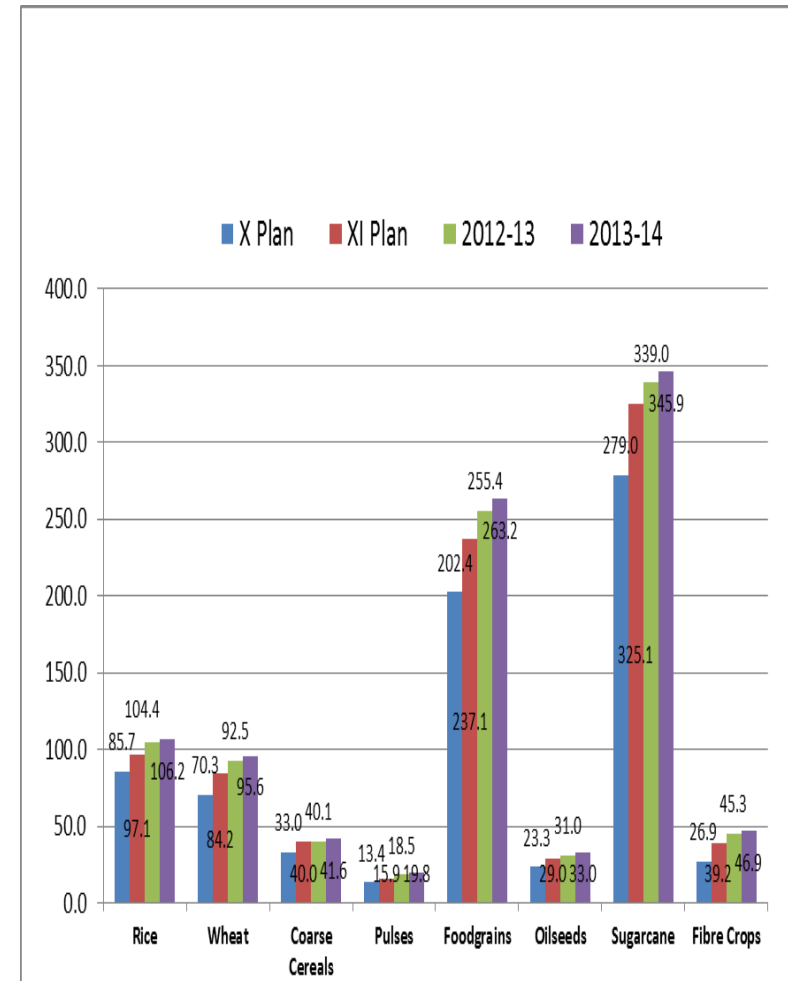
- Performance
 - Targets
 - Inputs and outcomes
- Policies
 - Marketing
 - MSP and Agencies
 - Development
 - Education, Health, Employment, infrastructure
- Inclusion
 - Small and marginal farmers
 - FPOs
 - Clusters and Groups
 - Stakeholders
 - Website, social media



- **Policy**
 - NCAER, NCAP
- **Reach**
 - NABARD, SFAC, NIC, SFCI, MANAGE, SAC (ISRO), NPC
- **Research**
 - ICAR
 - NCIPM, CRRI, IIPR, CRIDA, CAZRI, CIPHM
 - CGIAR
 - ICRISAT, IRRI, CIMMYT, ICARDA, IWMI
- **Private sector**
 - Crop life, NSAI
- **International Agencies**
 - FAO

Summing up.....

- The foodgrain production in 2013-14 is expected to exceed 263 million tons.
- First 2 years of XII Plan recorded much higher production than X and XI Plan. Even higher than projected demand of 257 m tons in 2016-17.
- Production of pulses at ~ 20 m tons. Inching towards self sufficiency.
- Need stronger post harvest management, price support, procurement and distribution to ensure the food security at household level.



FINALLY----

- **Success in ensuring food security to million of the families require coordinated interplay of ---**
 - Modern Technology and innovative measures for production, post harvest management and procurement of foodgrains and others;
 - Effective mechanism for storage, distribution in disadvantaged areas; and
 - Enterprising administration of programmes

Thanks!

