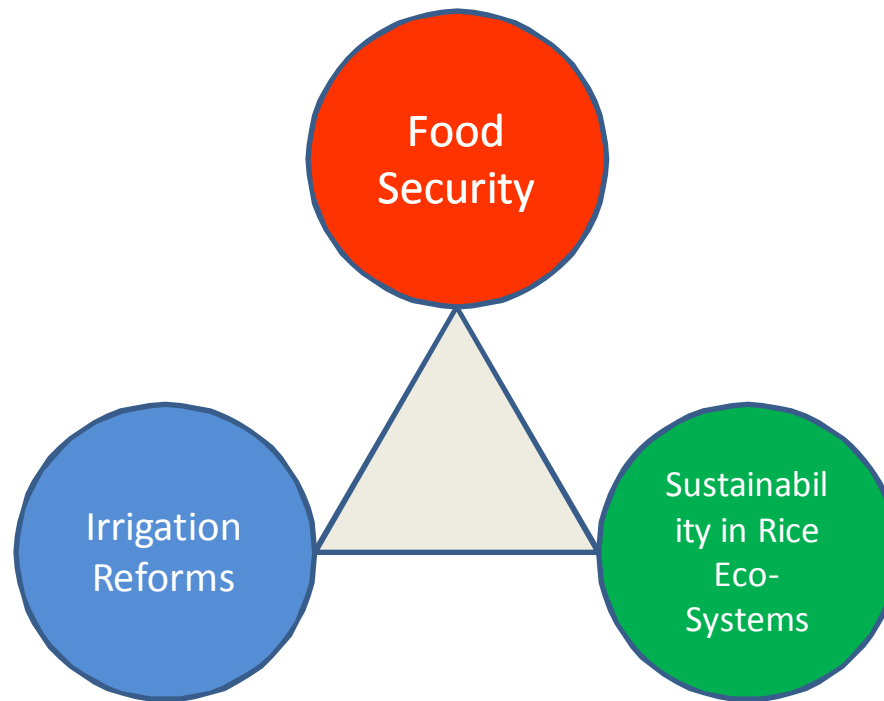


# Policy Matters: Prospects from National Consortium on SRI

Round Table at Council for Social  
Development Jan 13<sup>th</sup> 2011

# Policy Pivots for SRI



# Past efforts contributing to SRI upscaling

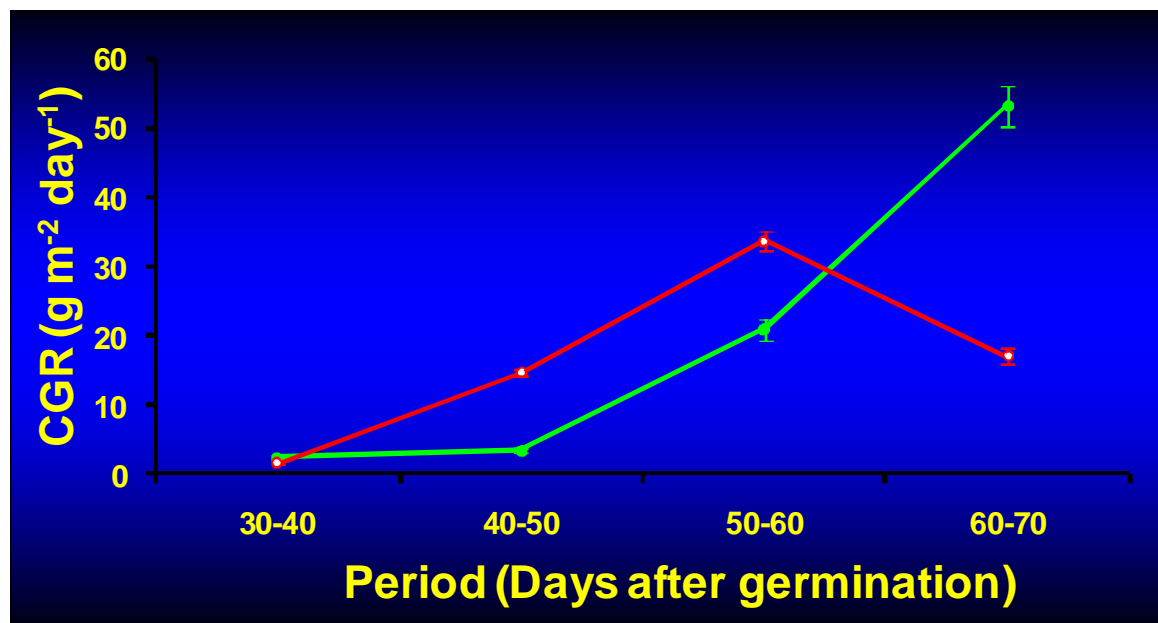
Nov-06	<b>1st National SRI Symposium at Hyderabad</b>
Oct-07	<b>2nd National Symposium at Agartala</b>
Dec-08	<b>3rd National Symposium at Coimbatore</b>
Feb-09	<b>SRI scaling up - future directions meeting at ICRISAT</b>
May-09	<b>Planning Commission consultation at ANGRAU, Hyderabad</b>
Dec-09	<b>Policy meeting on SRI at Delhi, PRADAN, NFSM</b>
Apr-10	<b>Proposal discussion by SRI group with NFSM</b>
Jun-10	<b>Proposal submitted by NABARD to NFSM for SRI coverage through NGOs</b>
Jul-10	<b>NRMC holds national conference on SRI</b>
Jul-10	<b>National SWI workshop; AP SRI consortium formed</b>
Oct-10	<b>National SRI Consortium meeting organized by PRADAN &amp; NCAP</b>
Dec-10	<b>Planning Commission 12th plan consultation on food security Hyderabad</b>
Dec-10	<b>National SRI workshop, WWF Hyderabad</b>
Feb-11	<b>SCI workshop at Patna, Bihar</b>
Mar 11	<b>Round table on SRI – Upscaling Strategy at IARI, SRI in Krishi Mela</b>
May – Sep 11	<b>PC Sub groups on ‘Upscaling Innovative Technologies’ and Mission Mode Project on SRI for 12<sup>th</sup> Plan</b>

Regular state-level workshops/ learning alliances in Orissa, Bengal, Uttarakhand, AP, etc.

# Why a national consortium?

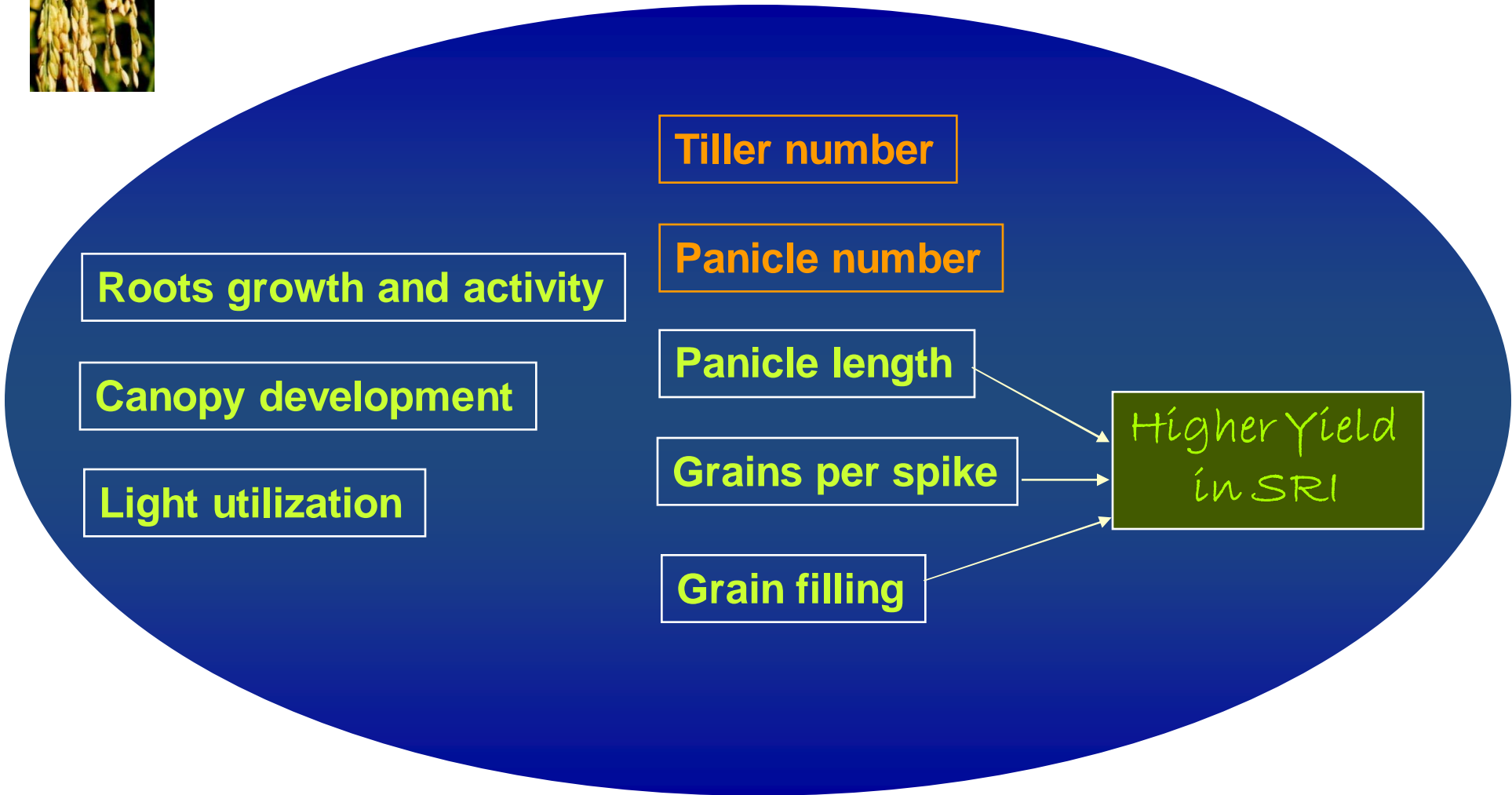
- Furthering **Science of SRI**: Why does it work, what if some principles ignored/ replaced (herbicide use, line transplant vs SRI etc.) - not all ICAR and agricultural universities are on board
- Following (& guiding) **Practice**: Assessing benefits, studying adoption patterns, grassroots and institutional innovations, providing insights to field agencies on SRI
- Promoting **Policies** on SRI:
  - Lot happening in the field on SRI, SCI - *need to inform national-level policies,*
  - India as world leader in agroecology ‘Poor positioning’
  - Upscaling SRI requires working in partnership and **different institutional mechanisms** for extension

## Understanding Science of SRI – Thakur, Stoop et al.



### Crop Growth Rate

The increase in CGR in SRI crops was mainly due to maintenance of leaf area (lower leaf senescence) - Lower rate of leaf senescence might be due to larger amounts of CYTOKININS (xylem exudates) are transported from roots.



Roots growth and activity

Canopy development

Light utilization

Tiller number

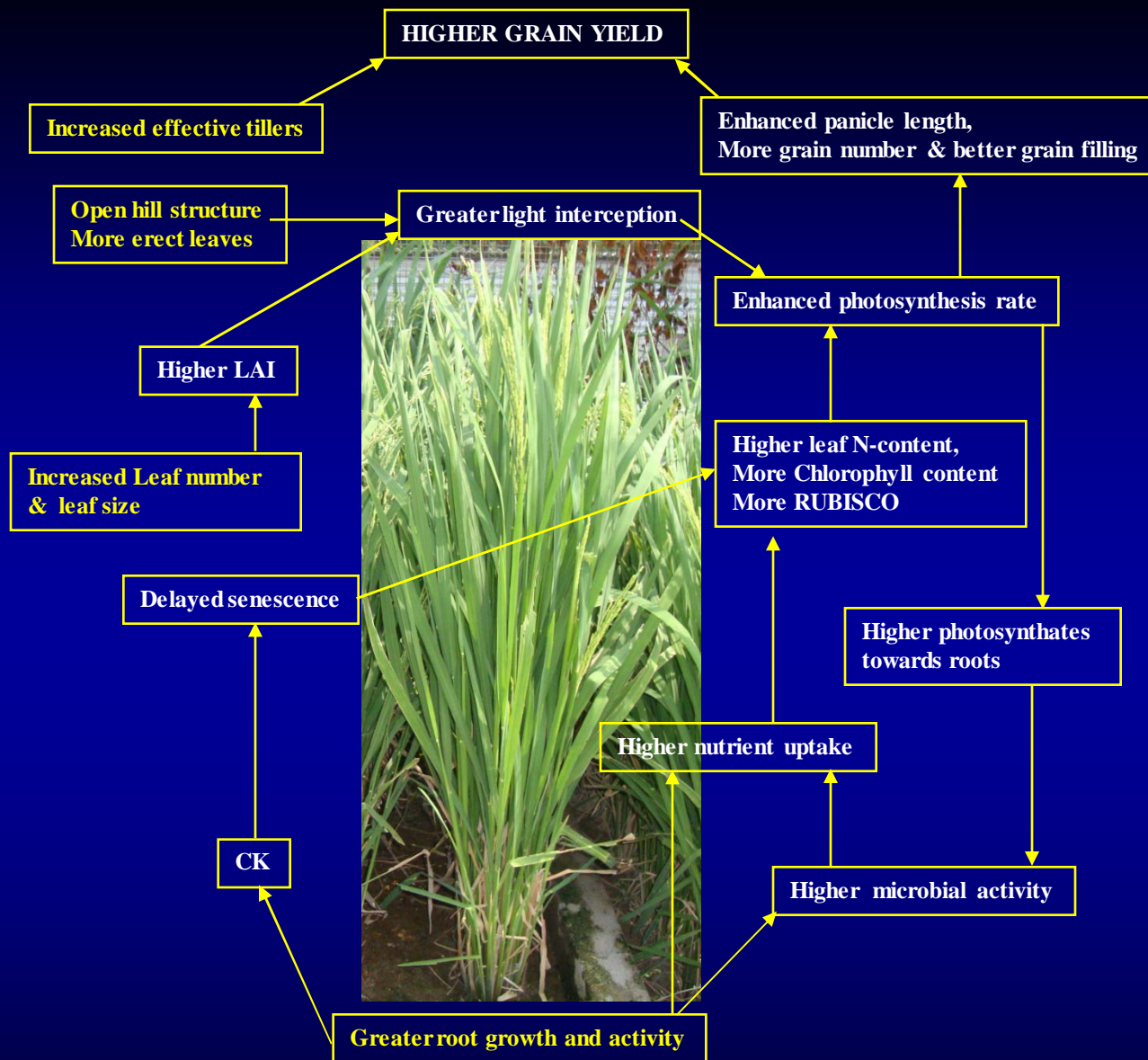
Panicle number

Panicle length

Grains per spike

Grain filling

Higher Yield  
in SRI



A schematic model showing factors that may be responsible for higher grain yield of rice plant grown under SRI management practices. (CK: Cytokinins; LAI: Leaf area index; RUBISCO: Ribulose-1,5-bisphosphate carboxylase/ oxygenase)



## Estimated average productivity of inputs on SRI and RMP

	Units	SRI	RMP
Seed	Kg per kg seed	797.13	59.83
Fertilizer	Kg per kg fertilizer	12.99	9.14
Labour	Kg per man-days	35	23
Land	Kg per ha land	6377	4487
Water	Liter water per kg	1571	2801



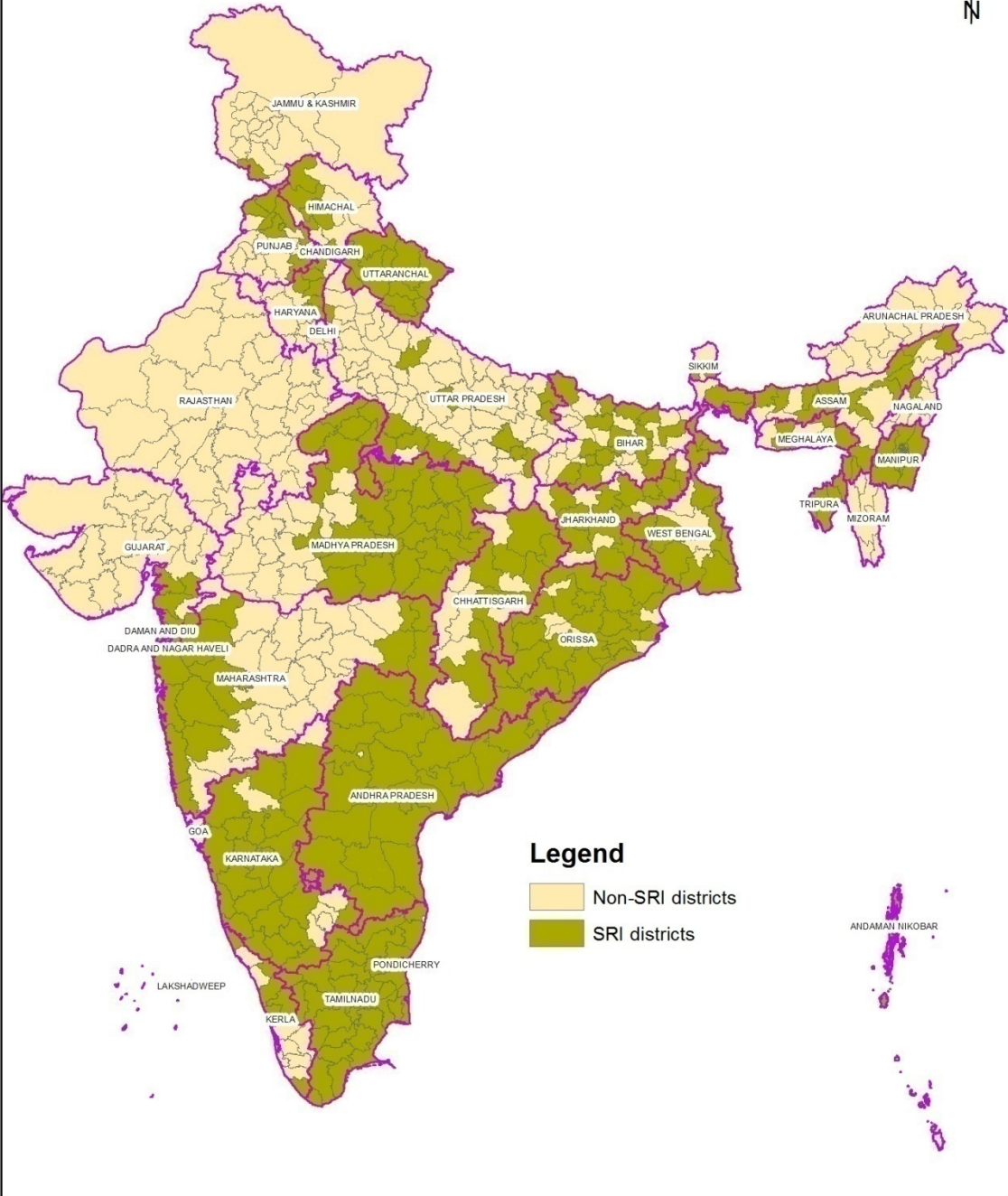
SRI enhance paddy yields, increase returns and save labour and water; and enhance productivity with respect to the key inputs in terms of paddy output per unit of seed, fertilizer, labour day and water.



# AICRIP Results

- AICRIP centers, SRI performed well and found superior (10-15% )higher grain yields)over Conventional flooded irrigation with reduced inputs but the response is not same in all the situations. ( ACRIP reports 2005-2010, Mahender Kumar etal., 2010)
- Differential response of varieties for yield under SRI, however most of the varieties tested found promising in SRI over conventional method. Hybrids and medium duration cultivars showed greater promise under SRI method

# Districts Covered under SRI Programme



# State Policies on SRI to catch up

## Pro active State governments

Tamil Nadu (9 lakh ha), Tripura (1 lakh ha), Andhra Pradesh (7.5 lakh ha) , Bihar (3.5 lakh ha), Uttar Pradesh (1.5 lakh ha) Odisha, Jharkhand,

## NABARD shows alternate stream of upscaling:

66 units of 400 farmers in Kharif and Rabi 2010 involving 24,200 farmers in AP, Assam, Bihar, Chattisgarh, Jharkhand, Maharashtra, Karnataka etc.

## SDTT and other donors:

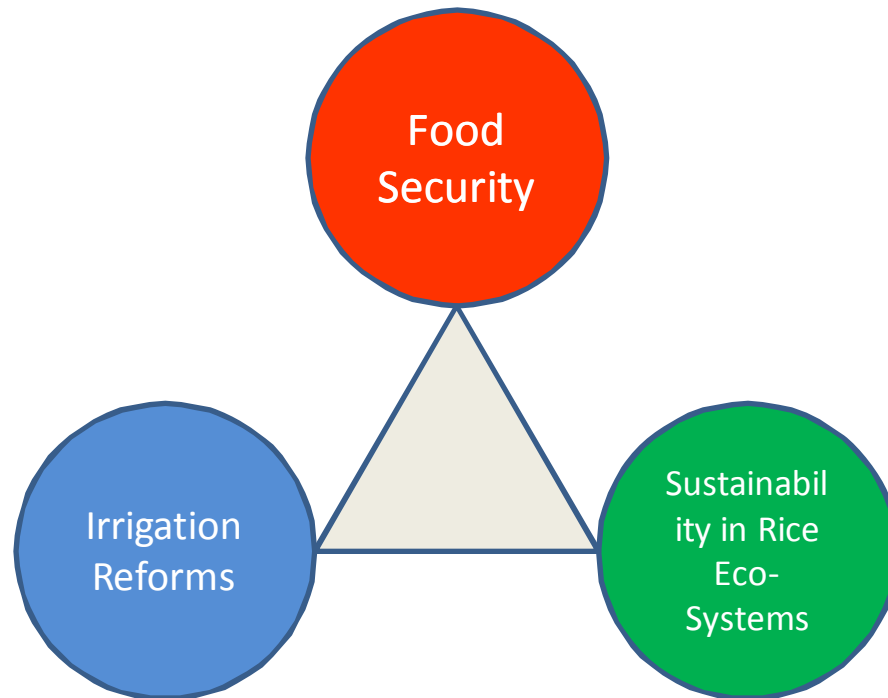
Assam, Bihar, Chattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Odisha, Uttar Pradesh, Uttarakhand (**81,138 SRI farmers in 2010-11 in over 8000 ha**)

Other donors in Karnataka, AP, TN, Himachal, UP and other states

# Potential area of SRI in different ecosystems of rice

Ecosystem	Area under rice (mha)	Potential (%)	Proposed Area under SRI ( m ha)	Remarks
Irrigated	24.5	30	7.65	Highly suitable
Rainfed Low land	14.0	30	4.2	Suitable
Rainfed Uplands	4.0	10	0.4	Suitable
Deep Water	1.3	Nil	Nil	Not suitable
Total			12.25	`
(%) Rice area			28	

# Policy Pivots for SRI



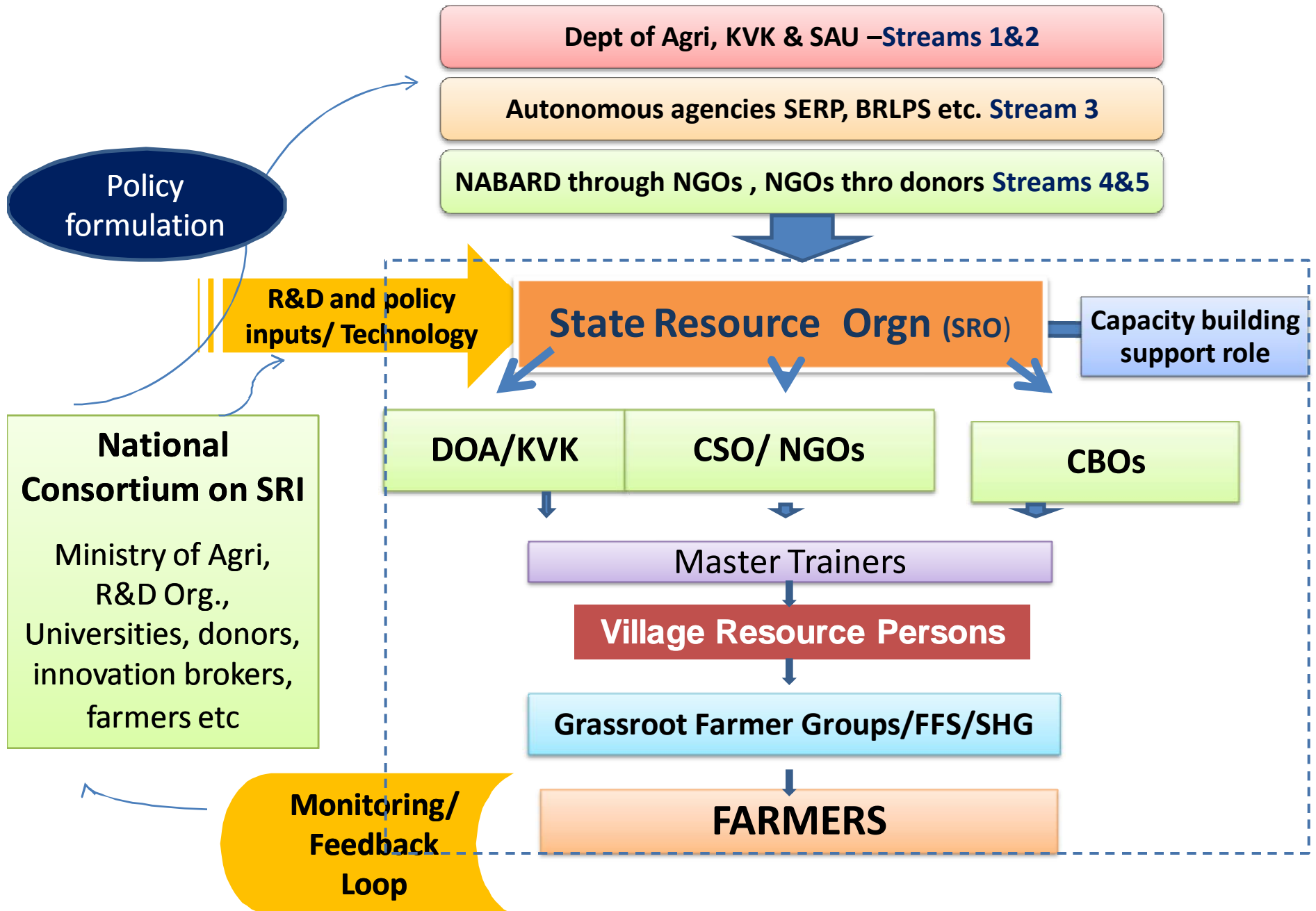
- Each pivot has different
  - Objectives
  - Geographical locations
  - Actors/ departments
  - Programs to be converged
  - Research needs

- Requirements of Extension of SRI however, are common
- Needs location (district or block) specific action

Therefore....

- Establish a common institutional architecture for realising SRI potential
- Nodal institution can channel program funding from multiple sources.

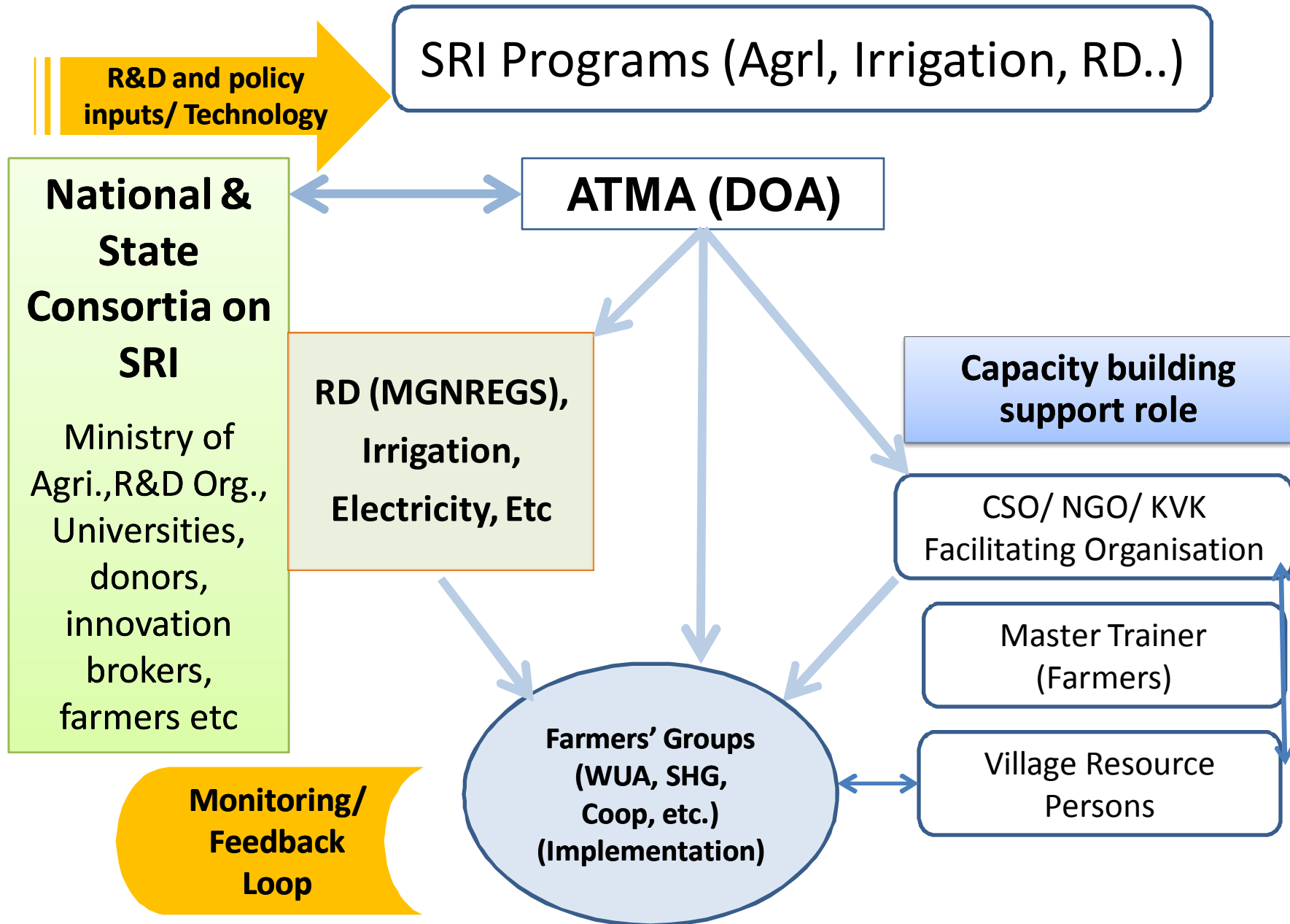
# SRI needs different Institutional framework



# Extension Requirements of SRI

1. Need to work on a compact block (area) approach (moving away from scattered demonstrations)
- 2. Need to work with labour and farmers**
3. Work for at least 3 years (focus on transition to SRI)
- 4. Implemented by farmers/ community organisations**
5. Facilitated / supported by an agency (NGO/ KVK/others)
- 6. A dedicated field level facilitator**
7. Practicing farmers as trainers
- 8. Create 'Implements pool' at GP / village level & develop local fabricators**
9. Investing on NRM (soils and irrigation systems) through convergence of programs (MGNREGS & Irrigation) gives the best result

# Institutional Framework For SRI Programs





# Fund requirement

(based on existing norm)

Unit model	Investment per farmer, Rs.	Unit cost Rs.	Total cost (crores)
Number of farmer/unit	400		
Area per unit in ac	400 (160 ha)		
Input support: Rs./farmer	2190 (progressively reduced)	876000	5475
Capacity building: Rs./farmer	310	124000	775
Handholding: Rs./farmer	558	223200	1395
Total unit cost (Rs.)	3058/farmer	1,223,200	
<b>Total farmers covered</b>			<b>25 million</b>
<b># Total Area target</b>			<b>10 m ha</b>
<b># Total units required (No.)</b>	<b>62500</b>		
<b>Total cost (Rs. Crore/year)</b>	<b>7645</b>	<b>Progressively reduced</b>	

# Budget Requirements of SRI

**Table 5: Estimated Fund requirement for the XII five year plan**

	XII five year plan Physical target & Financial Outlay (Rs. Million)					Total Amount (Rs Million)
	2012-13	2013-14	2014-15	2015-16	2016-2017	
Total plan fund (Rs. Million) for 62500 units across the states	26696	40871	61248	613	613	130043
Total area (000ha) @425 ha per unit	200	720	1920	3040	4000	9880
Target farmers (million) @1000 farmer per unit	5	13	25	25	25	25
Cost Incentive/farmer (Rs.)	5339	3144	2450	25	25	10982
Direct incentive cost (input)	2240	1470	1105	250		5002
Capacity building & handholding	3099	1673	1344			

