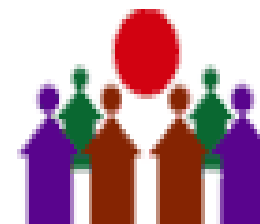


# Community Managed Sustainable Agriculture – A path way out of Poverty



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# Main objectives

- To bring **Sustainability to Agriculture based livelihoods** and to improve the quality of life with special focus on SF/MF and women farmers
- To reduce cost of cultivation by avoiding **chemical pesticides and fertilizers** without compromising on yields
- Providing **house holds nutritional security**
- Providing **livelihoods to the land less poor** through land lease and NPM shops etc
- Enhancement of **Natural Resource base**

# Unique features of the program

- CMSA originated from **Agriculture crisis**
- **Demand driven program**: SHG women demanded :
  - A. For **Sustaining agriculture based livelihoods** – Reducing cost of cultivation
  - B. Ensure chemical free food - On **health considerations**
- From the dominant and conventional “**external input-driven**” agriculture to “**knowledge, skill-based and local natural resource**” model
- **Technology available** from mainstream and civil society organizations
- Existing **SHG platform** for scaling up





# Contd...

- Decentralized Extension System: -
  - **Best practicing farmers as extension workers**
  - Best practicing farmer in the village identified as **village activist**
  - Best practitioner as **cluster activist** for 5 villages
  - **Weekly group meetings (FFS)** in the fields for reviewing, researching, trouble shooting and capacity building
  - Variety of resource material
  - **Best practising farmers as CRPs**
  - **Demystifying** science
  - Continuous **capacity building**
- Program **owned, anchored and regularly reviewed** by the Federation of SHGs at village, mandal and district level



# Technology

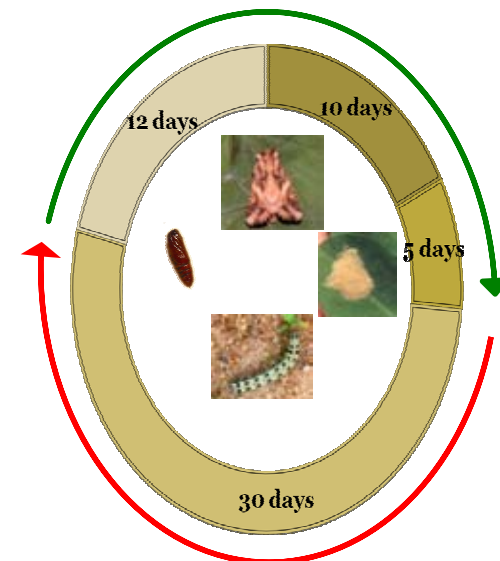
- Understanding **Natural Processes**  
– Sailing with it, synergized with scientific knowledge
- **Blend of cutting edge technology with traditional wisdom**
- **Local natural resource** based
- **Knowledge centric** than product centric, hence support only in the form of knowledge
- **Technology transfer through Community Resource Persons**
- Farmers are encouraged to **take-up experiments**





# Working with Natural processes

- A natural ecological balance between **beneficial and harmful insects** will ensure that pests do not reach a critical number in the field that endangers the yield
- **Using trap crops** to attract egg laying by pests
- Nature can restore such a balance if **it is not meddled with too much**
- Community Managed **decentralised extension** system enables adoption of all Cultural, Mechanical, biological methods (Non-Negotiables) hence **no chemical pesticides at all not even as a last resort**
- Understanding the **insect biology** and crop ecology is important to manage pests.
- Sustaining and improving natural resources like **ground water through rainwater harvesting**
- Treating **soil as living media** – Creating enabling environment for soil flora and fauna



## Contd....

- **Crop diversity** with **legume/tree based farming**, crop , leaf based composting back (**Nadep**) to soil is key for managing soil fertility and reducing pest load
- **Harvesting maximum sun light** (free energy source for agril) - through appropriate multi tier crop geometry
- **Converging with other livelihood** options like sheep, goat , poultry, apiary, Pisciculture – **Recycling of wastes** – one system's waste becomes another system's feed - Enhancing incomes through multiple livelihoods
- **Treating dung (not in terms of N,P,K) as source of microbial inoculum** – to kick start biochemical reactions in the soil
- Propagating **naturally occurring Azolla(In Paddy)** helps in supplying Nitrogen, Conservation of water and suppressing weeds.





Contd...

- **Gradual Withdrawal/Reduction** of chemicals resulted in:
  - A. **Local earthworms** making appearance in soil with attendant benefits
- **Pollinators like bees**, dragon flies, etc started appearing, helping in cross pollination and improved yield
- **Fishes** were seen in paddy fields
- Well documented - Natural properties of locally available **botanicals** to act as repellent, ovicides, antimolting, antifeedant are exploited – when the pest is in the early stages – Requires regular surveillance for pests and diseases done by decentralised extension system (weekly FFS)





## Branding of NPM products for Premium prices – 2010-11

Name of the district	Brand	Commodities	Turnover in Rs.
Srikakulam	Sahaja Thrupthi	Rice Pickles	20lakh 50 lakhs
Khammam	Kinnera	Rice, Redgram,Chillie powder	30 lakhs 20 lakhs
Guntur	Amaravathi	Dry Chillies, Chilli powder, Green chillies, Vegetables	6.00 crores
Ranga Reddy	Prakruthi	Vegetables	3.50 crores
Adilabad	Susthira	Rice	50 lakhs
<b>Total</b>			<b>11.20 Crores</b>

Through “Mobile Bazaar” everyday mandi price information through sms (free) to farmers.

# Comprehensive strategy to produce export quality Chillies and Organic Certification

- Internationally recognized lab checking quality - samples drawn at random and tested for pesticide residue [M.V.Rao lab.pdf](#) – **success rate 98% for different crops including chillies**
- **International buyers paid Rs.1850/qtl** additional amount to market price – Exported 500-700 MT exported to **Germany** every year
- **Pre/mid season trainings** organized to staff, farmers and samakhyas on Chillies
- **All NPM methods including border crops**, white and yellow plates from nursery stage are achieved in 100% fields
- SERP is identified as **Regional Council** for **Participatory Guarantee System** (PGS) for accessing market premium for **all crops**
- PGS is being implemented in with **1147 farmers** from **158 villages as pilot**
- In 2011-12 planning to implement with **10,000 farmers from 1568 villages**



## Glimpses of CMSA (RFSA- tree based farming)







Guinea fowls



Goat and Sheep



Smoke less Chula



Rural water filter



# Crop cutting experiments



**Trench in Cotton field**



**CMSA field**



**Non CMSA field**



**Non CMSA field**



# Impact of the interventions

- Reduced cost of cultivation
- Increased yield
- Increased net incomes
- Increased access to food
- Building social capital
- Building organic and pesticide free villages



# Evaluation Report – ANGRAU

- Third party evaluation commissioned by **Department of Agril for RKVY**
- Study conducted in **18 districts funded by RKVY**
- Proportionate **Random sampling** method was used
- Study conducted in **24 Mandals, 62 clusters, 320 villages**
- **3200 farmers**, 10 farmers from each sample village

# Reduction of Costs and Yield Costs/ Acre

S.No	District	Crop	Reduction in Pesticides	Reduction in fertilisers	Net amount saved on pesticides	Net Amount saved on fertilisers	Yield	Increase in yield
1.	Kadapa	Paddy	100%	50%	544	508	21.0	2.0
2.	Chittor	Paddy	100%	50%	390	440	26	2.5
3.		Paddy	100%	50%	1200	246	21	2.5
4.	Vizag	Paddy	100%	50%	1200	1048	24	2
		Maize	100%	50%	1300	1080	24	2
5.		Paddy	100%	50%	1100	1949	24	2
		Maize	100%	50%	1300	1825		
6.	Medak	Paddy	100%	50%	1400	646	22	1
		Maize	100%	50%	1200	1052	23	1
		Jower	100%	50%	1200	668	14	1
7.	Karimnagar	Paddy	100%	50%	1100	896	22	2
		Cotton	100%	50%	1500	1686	11	1
8.	Nizamabad	Paddy	100%	50%	950	1690	23	1
9.	Khammam	Paddy	100%	50%	550	1051	21	2

## General Observations – ANGRAU

- The crops viz paddy, **Chilly, vegetables** etc are very **healthy**
- In case of POP activities beneficiaries earned upto **Rs.40,000/- from ½ acre**
- **POP beneficiaries** were enthusiastic to cultivate SRI and NPM methods
- In some of the sample villages farmers were earning **Rs.1000 per month** through **NPM shop**
- In Sunflower **seed setting** was good with NPM practices
- Majority of the beneficiaries shifted from **Monocropping to Mixed farming**
- Increase in **Nutritional status and livelihoods** observed



# **Impact at House hold level**

- Reclamation of lands from mortgage
- Reduced Health risks
- Increased access to food

# Reduced Health risks

No.of Districts (Random Survey)	Severe Hospitalization		
	Before NPM	After NPM	
		Inside NPM (V)	Outside NPM (V)
3	242	---	146

\*\*CMSA season end reports, 2008-09

# Increased food grain production – House hold level

- Yadireddy pally village of Mahabubnagar district
- Earlier they all used to purchase rice from PDS shop and kirana shops

Sl.No	Name	Req of rice for family in qtls	Qty produced through 0.5 acre model in qtls	Status after 0.5 acre model implementation
1	Smt.Ramulamma	12	8	4 qtls deficit
2	Smt. Kishtamma	7.5	8	0.5 qtls surplus
3	Smt. Vineetha	7	8	1 qtl surplus
4	Smt.Balamma	8	8	sufficient



# Policy Impacts

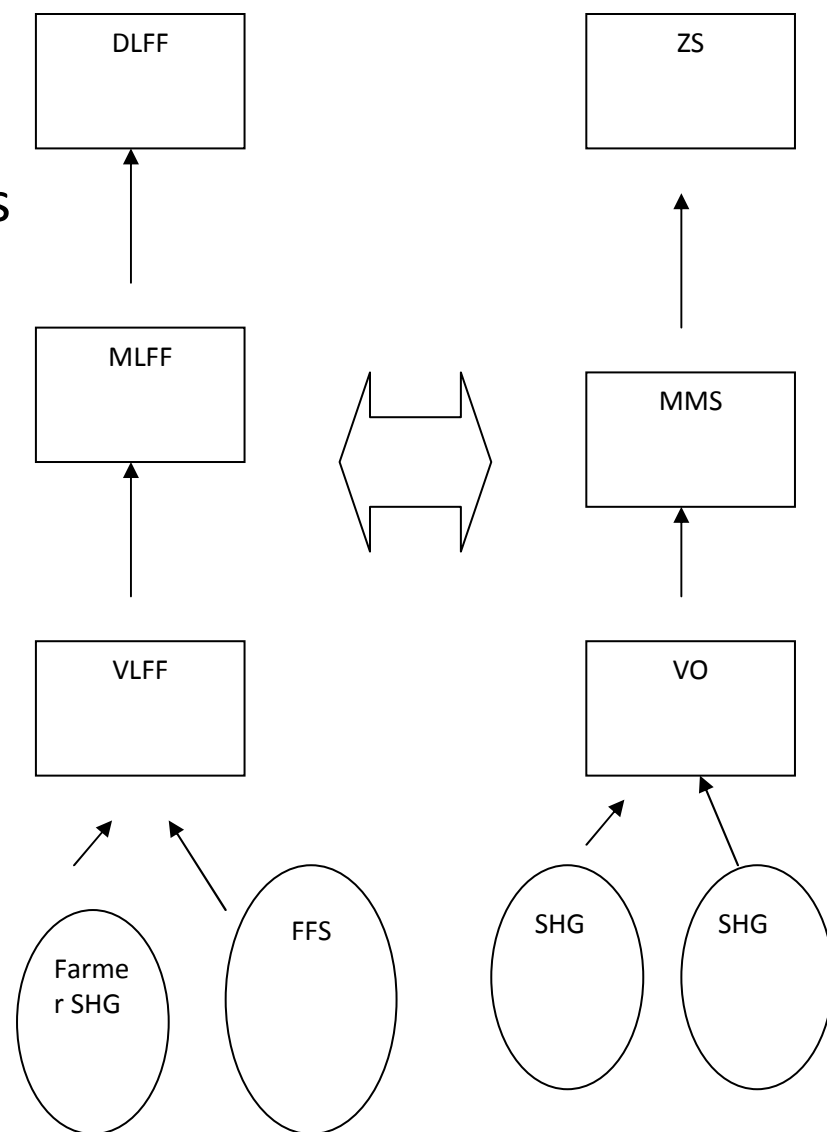
S.No	GOMs.No	Importance
1	GOMs.No392 (Ministry of Rural Development, Govt of AP)	Radical Soil and Moisture Conservation Works through MGNREGS
2	GOMs.No121(Ministry of Agriculture, Govt of AP)	Convergence with ATMA
3	GOMs.No110 (Ministry of Rural Development, Govt of AP)	Convergence with IWMP
4	Mahila Kisan Saskthikaran Pariyojanan (MKSP) (Ministry of Rural Development, Govt of India)	Scaling up of CMSA at National Level

# Assessment by NIPHM

- Team of 10 scientists drawn from 5 States
- Evaluated NPM programme in Mahbubnagar and Warangal Dts (2008)
- Recommended for adoption in Farmers Field schools across the country

# Steps towards Sustainability

- Service charges paid by farm family @Rs.50/year
- Service charges collected is Rs.2.95crores against Rs.5.0 crores
- Cost of decentralised extension system – Rs.31/Acre
- **Institutions:** Local groups formed under PGS will develop into producer companies/Commodity interest groups
- Families have to part Rs.20/Acre from marketing premium as services charges to VO to achieve sustainability





# IT initiatives

- For preparing action plans - Quick base software
- For information dissemination – Video/Audio conferences, Group mails, Bulk messages
- For Monitoring – Mobile Based application (bluefrog) with tracking farmer wise adoptions
- For capacity building - Community Video films (Digital green)
- EFMS: Monitoring budgets (TCS)
- Accessing better prices – Mobile Bazar (Intuit)

## Reaching out to SHGs

- MANA TV – once in a Month – Mandal level
- **Pamphlet on program components**
- CUG connections – Upto CA and MMS subcommittee level
- Audio conference – On mobile phones with 120 members
- Way 2 SMS: Alerts
- **Bulk messaging: Upto VA/SHG level from SERP**
- **Group mails**
- Video Conferences: Every fortnight
- All India Radio /DD
- **CDs available at village level for screening to SHGs**
- **Subcommittee trainings at DCC/Village level**

# Road Ahead

- **Horizontal expansion** of the program and deepen local knowledge systems.
- By 2015/16 :
  - **1.0 crore acres** (40% of A.P's cultivable area) under CMSA
- **Piloting food security Models in 300 Villages**
- **Value chain investments:** seed banks, agri-service centers, value-addition and processing and forward linkages
- **Exploring Carbon credits**
- **Organic certification process** through Participatory Guarantee System
- **Market and brand development** for organic and pesticide free agriculture commodities
- **Producer Companies / Farmer's organizations**



# Thank You

