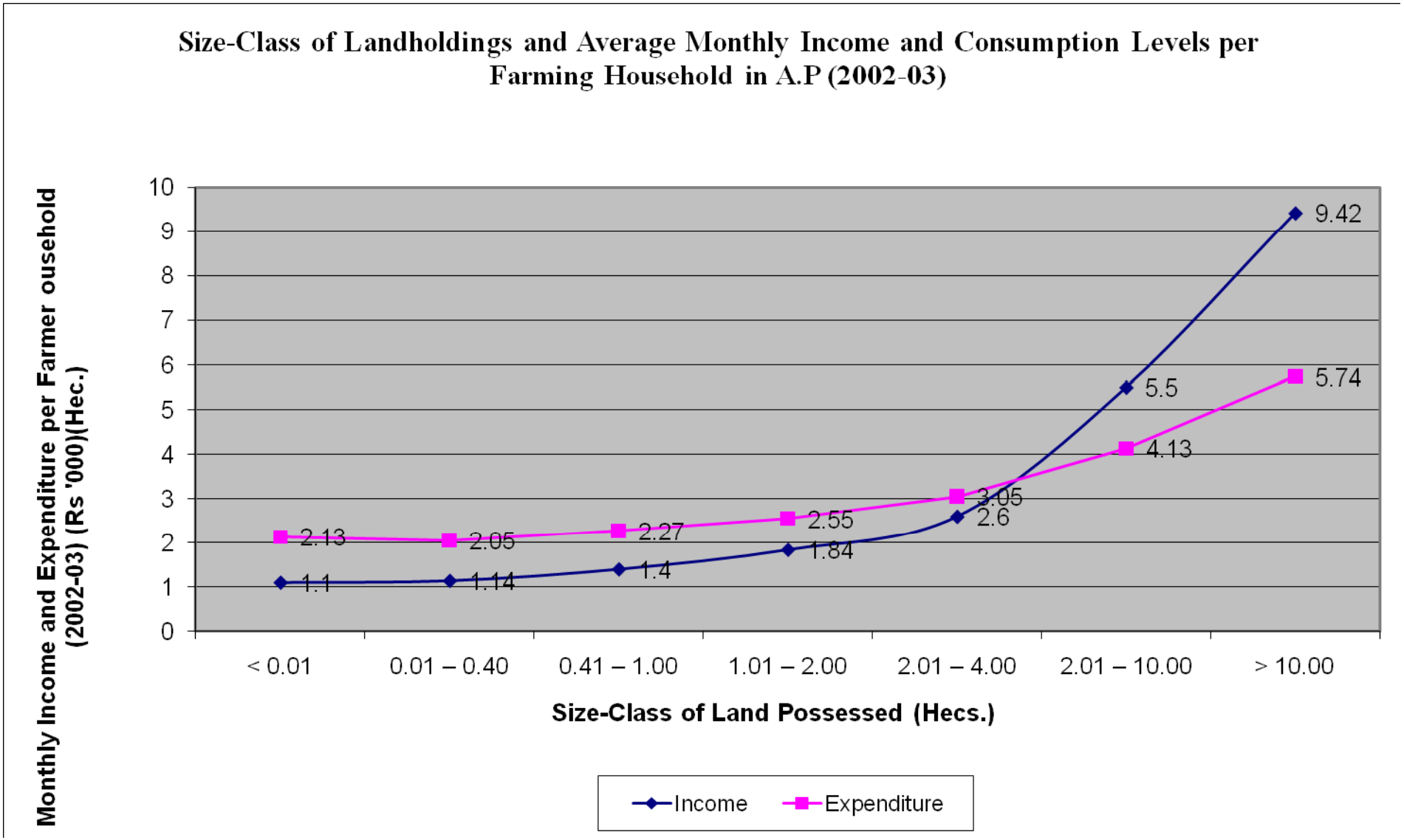
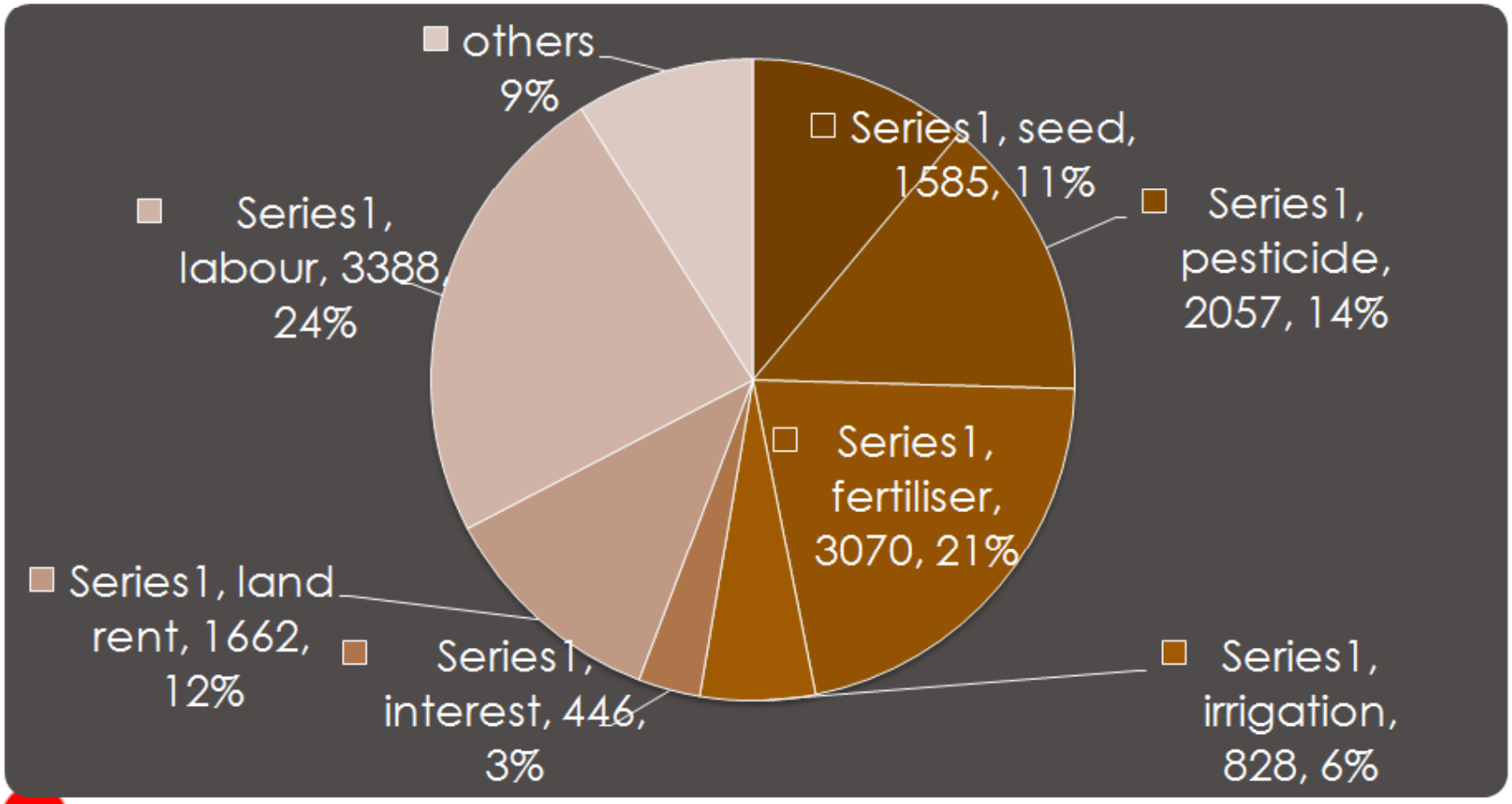
Ramanjaneyulu

Centre for Sustainable Agriculture

Agrarian Crisis in Andhra Pradesh

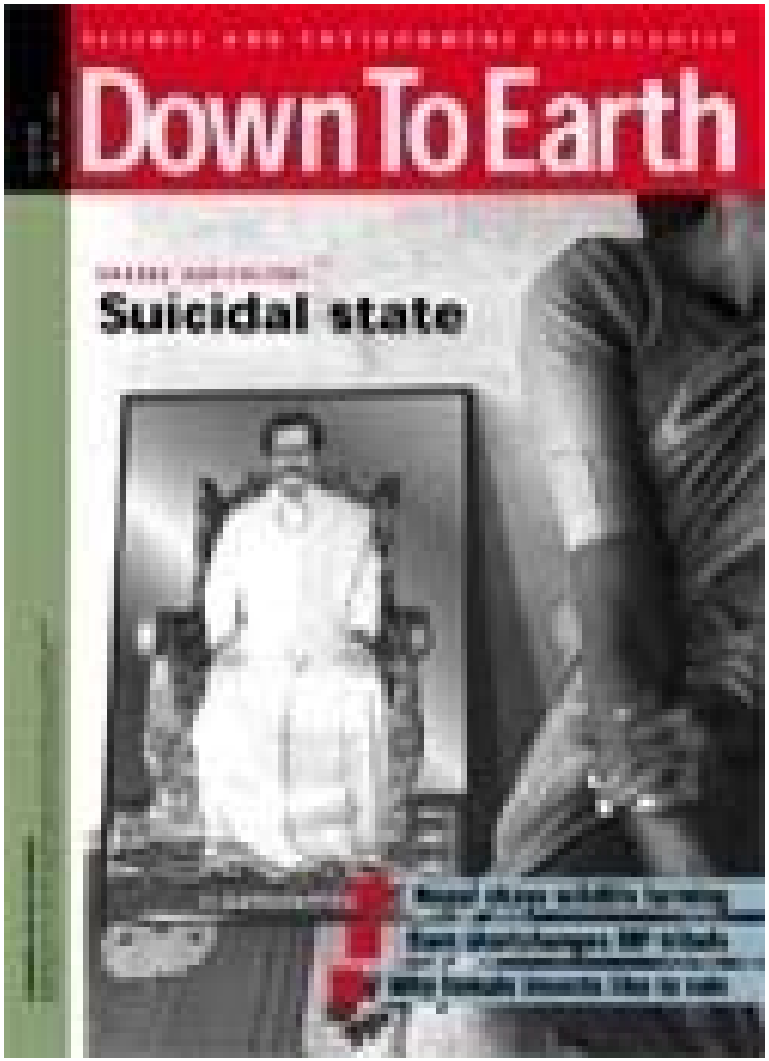


Agriculture Cost of Production for Small & Marginal Farmers in AP

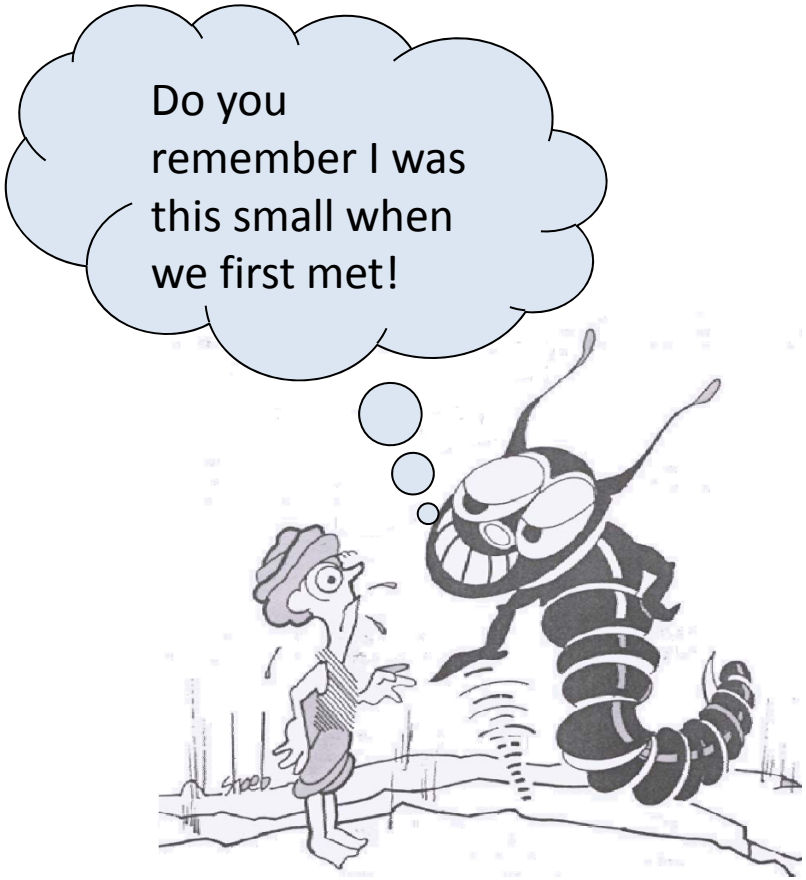


Pesticides and Fertilizers account for >1/3rd of Total Cost of Production

Source: *NSS Report No. 497: Income, Expenditure and Productive Assets of Farmer Households, 2003



- One of the high pesticide using state after Punjab, Haryana and West Bengal
- Cotton crop failures led to farmers suicides
  - 1986: White fly incidence
  - 1997: Bollworms
- 16 of 32 districts identified as crisis ridden are in AP
- 2004 pesticide use: 4000 MT of Active ingredient



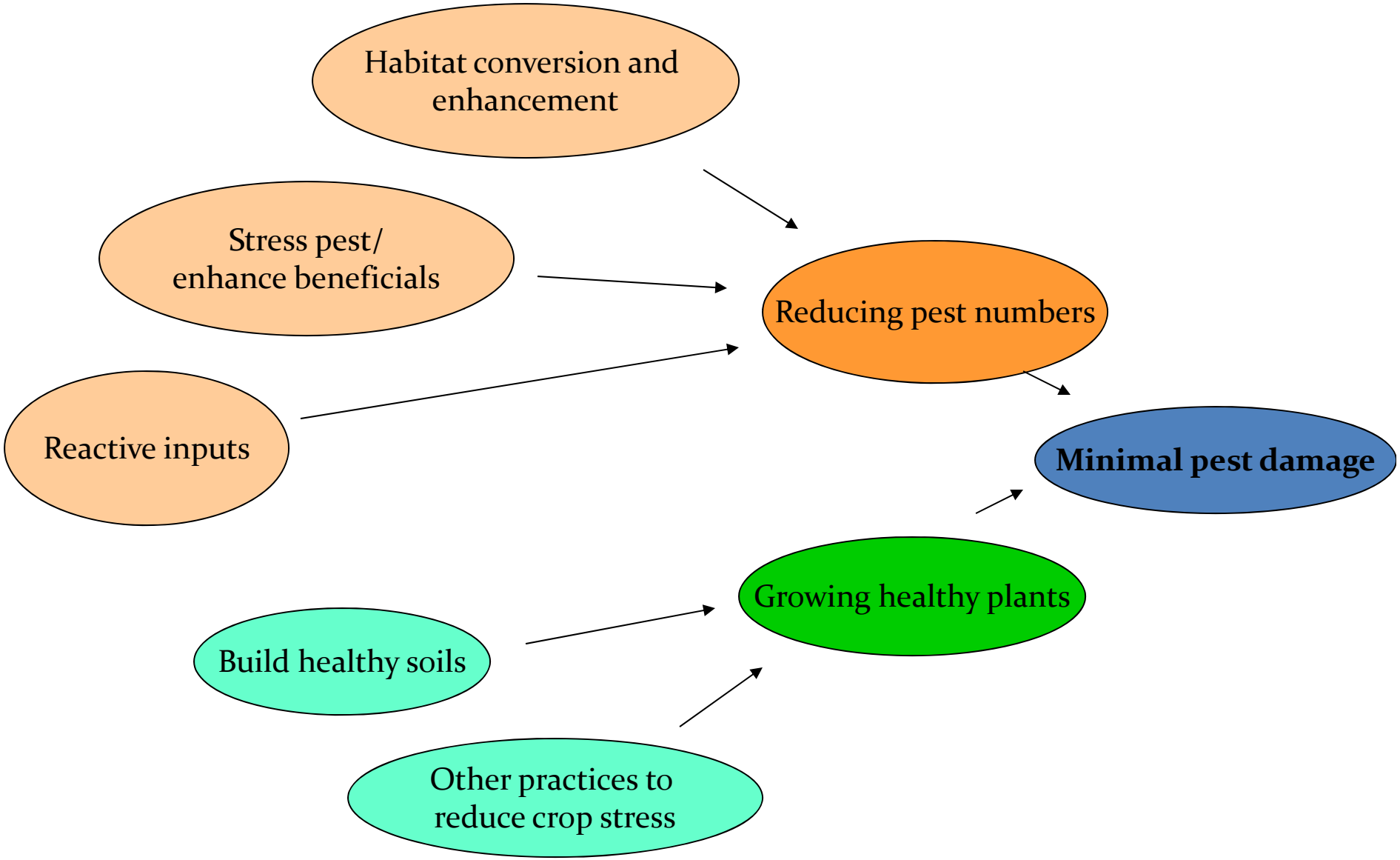
- **Pesticide induced pest problem**
- **Pesticide resistance**
- **Pesticide poisoning (acute and chronic)**
- **Pesticide and ecological problems**
- **IPM > IRM**

Pests and pesticides contribute to the major economic and ecological problems affecting the farmers, crops and their living environment

Non Pesticidal Management

- Ecological approach to pest management using knowledge and skill based practices to prevent insects from reaching damaging stages and damaging proportions by making best use of local resources, natural processes and community action
- Uses a set of practices which include
  - **Monitoring methods**-trap crops, pheromone traps etc, light traps,
  - **Preventive measures**-border rows, sticky plates, resistant varieties, mixed crops etc
  - **Control measures**-hommade biopesticides, mass trapping
- Mostly evolved based on experiences from working with small and marginal farmers

Non Pesticidal Management



Economics from all locations

Crop	Cost of cultivation (Rs/Ac.)		Yield (Q/Ac.)		Gross Returns (Rs.)		Net returns (Rs.)	
	Organic	Non-Organic	Organic	Non-Organic	Organic	Non-Organic	Organic	Non-Organic
Paddy	11950	14340	32	32.2	29340	29630	17390	15370
Maize	7922	8314	21.8	19.6	19620	17640	11698	9326
G.Nut	9270	10340	9.8	9.8	24500	24500	15230	14160
Chickpea	4800	5650	5.5	6.5	11270	12300	6475	6650
Chilli	48918	72237	24.5	26.5	147000	117000	98082	47013
Onion	13200	15400	71.6	67.6	28800	26000	15600	10600
Cotton	10980	10380	4.5	4	13500	11600	2520	1220

Punukula,
the first pesticides-free village

Yenabavi -Organic Village

- Entire village (55 households' 228 acres) organic for last five years
- Most of the inputs internalised into farming
- Land Productivity increased, crop yields maintained
- In SRI paddy 44 bags were also recorded
- Recently awarded Krishi Gaurav Award by Baba Ramdev's Patanjali Trust for their role in promoting organic farming
- More than 30 thousand farmers visited the village in last three years

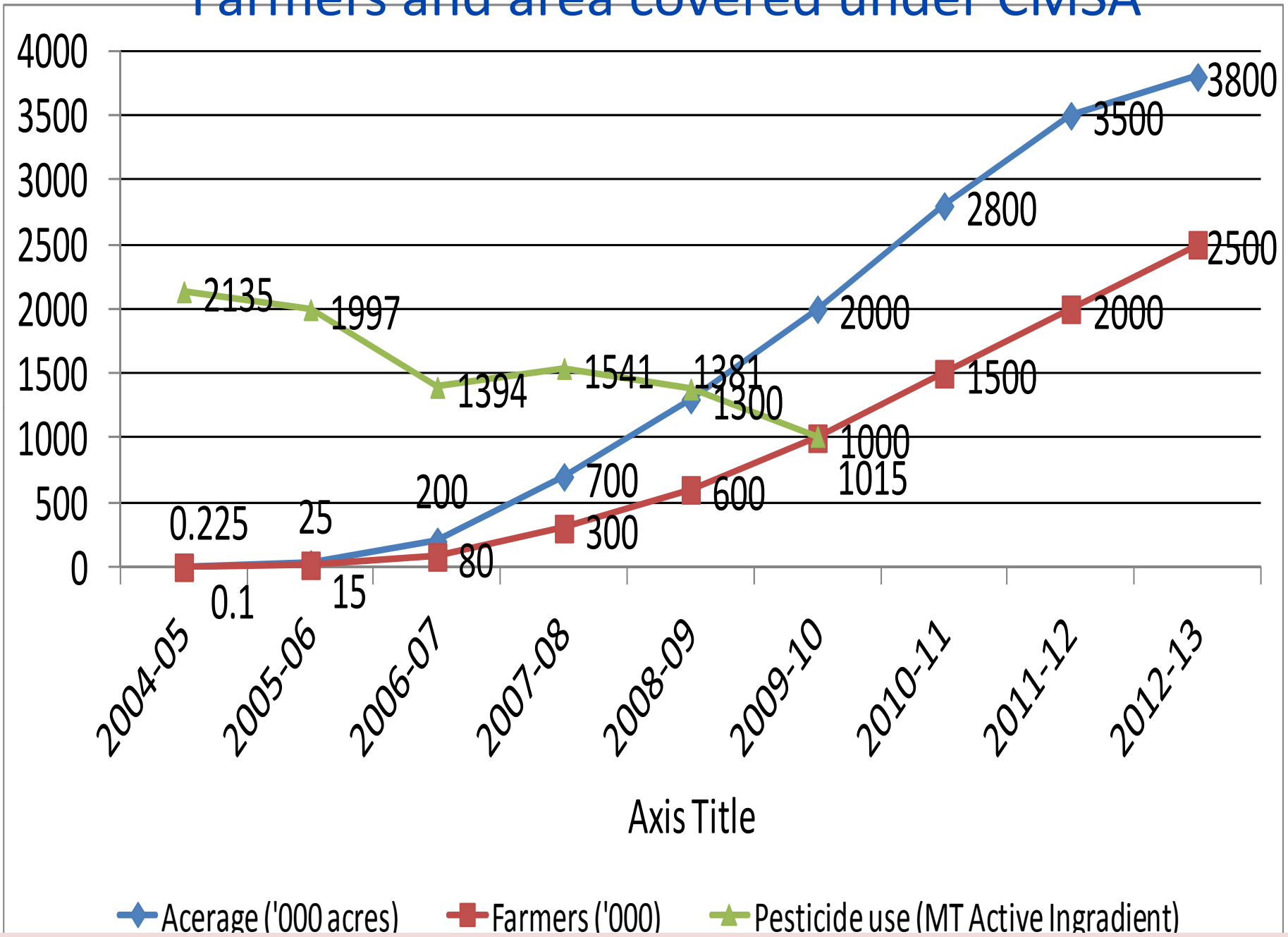

PESTICIDE FREE VILLAGE
PANCHAYAT-Punukula
CSA

Commnity Managed Sustainable Agriculture in Andhra Pradesh

- 2004-05 started with 225 acres in one dist and reached 7 lakh acres in 2007-08 in 18 dist. today the prog covers 35 lakh acres in 22 dist
- World Bank says this is a good tool for poverty eradication
- With 50 % development expenditure one can double the incomes of the farmers

2009

Farmers and area covered under CMSA



…aiming to reach 100 lakh acres across crops in all districts of AP in by 2014

Status of pesticide utilization in different states**

States/UTs	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	kg/ha 2000-01	kg/ha 2009-10
Punjab	7005	7200	7200	6780	6900	5610	5975	6080	5760	5810	0.98	0.82
Haryana	5025	5020	5012	47330	4520	4560	4600	4390	4288	4070	0.84	0.68
Andhra Pradesh	4000	3850	3706	2034	2135	1997	1394	1541	1381	1015	0.34	0.09
Tamil Nadu	1668	1576	3346	1434	2466	2211	3940	2048	2317	2335	0.32	0.45
Gujarat	2822	4100	4500	4000	2900	2700	2670	2660	2650	2750	0.30	0.29
Kerala	754	1345	902	326	360	571	545	780	272.69	631	0.31	0.26
Karnataka	2020	2500	2700	1692	2200	1638	1362	1588	1675	1647	0.17	0.14

**Source: http://ppqs.gov.in/IpmPesticides.htm MT of active ingredient

Distinguished visitors

Dr. V L Chopra,
Member Planning Commission

T. Nandakumar
Secretary Agriculture
GOI

Jairam Ramesh,
Honble Minister for
Commerce

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

Average Reduction in costs and net additional income for different crops

Crops	Reduction in cost due to NPM (Rs)	Reduction in costs due to use of organic fertilisers/manures (Rs)	Net additional income (Rs)
Paddy	940	1450	5590
Maize	1319	2357	5676
Cotton	1733	1968	5676
Chillies	1733	1968	7701
Groundnut	1021	3462	10483
Vegetables	1400	390	3790

3rd Party Evaluation of Rashtriya Krishi Vikas Yojana (RKVY) : Community Managed Organic Farming
implemented by SERP
Evaluation Team
Prof. R. Ratnakar, Director, Dr. M. Surya Mani, Professor, EXTENSION EDUCATION INSTITUTE, (Southern Region), Ministry of Agriculture, Government of India

Cost incurred on Pest Management in PADDY crop during Post CMSA – NPM compared to Pre CMSA & and Non NPM fields (in Rs./ha.)

District	Pre CMSA		Post CMSA NPM		Post CMSA Non NPM	
	Kharif	Rabi	Kharif	Rabi	Kharif	Rabi
Srikakulam	1235.95	1300.00	986.00 (43.91)	772.00 (35.99)	2245.00	2145.00
Guntur	1480.56	-	949.18 (29.09)	-	3261.90	-
Nellore	2369.00	2095.00	918.88 (28.86)	1068.00 (33.24)	3182.90	3212.10

Improved Agricultural Incomes (Pre CMSA Compared to Post CMSA farms)

Average Returns: District wise/ Farmer/ha.:

S.No	District	Average returns per farmer/ha. (Rs. per annum)		Percent of Increase in Net Returns (in %)
		Pre-CMSA	Post-CMSA	
1	Srikakulam	52,398. 80	55,596.84	6.10
2	Guntur	29,631.43	65,319.97	120
3	Nellore	37,976.19	72,894.48	91.94
4	Anantapur	15,333.54	25,493.16	66.25
5	Warangal	51,351.39	73,904.52	43.91
6	Medak	35.511.10	37,962.04	6.90

Note: A huge increase is observed in Guntur district due to the fact that the Chilly crop has had a high remunerative price which has more than doubled.

Status of Suicides and Severe Hospitalization, 2007-08

Sr.no	District	Suicides			Severe cases of hospitalisation		
		Before 2005-06	After 2005-06		Before 2005-06	After 2005-06	
			In NPM villages	Other villages		In NPM villages	Other villages
1	Khammam* (4 villages/ 4 mandals)	3	0	9	139	0	104
2	Vijayanagaram**	0	0	0	6	0	2
3	Adilabad * (18 mandals)	26	0	3	97	0	40
	Total	**29**	**0**	**12**	**242**	**0**	**146**

* Crops grown are cotton, chillies, redgram and paddy

** Crops grown are paddy, vegetables

- Feb 2010: Sri Jayaram Ramesh, Minister for State, Environment and Forests quoted NPM experience in Andhra Pradesh in his moratorium on Bt Brinjal.

policy in our agriculture. In this connection, it is worth recalling that there are now close to 6 lakh farmers in Andhra Pradesh fully practicing NPM (non-pesticide management) agriculture over an area of about 20 lakh acres. I have myself been seeing this initiative over the past four years. The advantage of NPM is that it eliminates chemical pesticide use completely whereas Bt-

Research studies

M.Sc. Theses

A Study On The Usage Of Non Pesticidal Management Methods In Bhongir Division Of Nalgonda District – Srinivasulu Barigela, Osmania university

A Study On NGO Management Styles With Specific Reference To Integrated Pest Management (IPM) – Ashwini Chandak, Indian Institute of Rural Management, Jaipur

A study on Cotton Seed marketing- opportunities and constraints for genetically modified crops – Mr. Sarvesh Kumar, University of Hyderabad

Non- Pesticidal Management in Crops: Community Managed Extension, Processes and Impacts, Mahesh Malgatti, 2008, Indian Agricultural Research Institute, New Delhi

Seed Security among Organic Cotton Farmers in South India, Noemi Nemis, 2010, Universität Hohenheim

PhD. Thesis

Knowledge Flows and Social Capital- A network perspective on rural innovation, Saurabh Arora, 2009, Universiteit Maastricht

Grounding Global Seeds: A Contextual Comparison of the Politico-Ecological Implications of Genetically Modified Crops for Farming Communities in Alberta (Canada) and Andhra Pradesh (India), Ashok Kumbamu, 2010, University of Alberta

Constructing Agrarian Alternatives, Julia Quartz, 2011, Universiteit Maastricht

What do we learn?

- Farming can over come pests and pesticides
- Farmers are willing to change
- Knowledge based extension is the key
- Agriculture research is caught up in mythical understanding of pests and pesticides and not ready to change
- Now five states have initiated the process as part of Mahila Krishi Sashaktikaran Pariyojana


www.csa-india.org
www.krishi.tv
www.agrariancrisis.in
Facebook: ramoo.agripage
Email: ramoo.csa@gmail.com