

Knowledge Commons in Agriculture: Emerging Peoples Science initiatives in India

Shambu Prasad Chebrolu

Knowledge In Civil Society (KICS)

Fulbright Visiting Fellow SRI Rice Cornell University



Contents

- Crisis in Production of Agricultural Knowledge
- Is a knowledge commons possible?
- Emerging alternatives
- Potential for Science for People
- Why SfP needs to dialogue with other peoples science movements



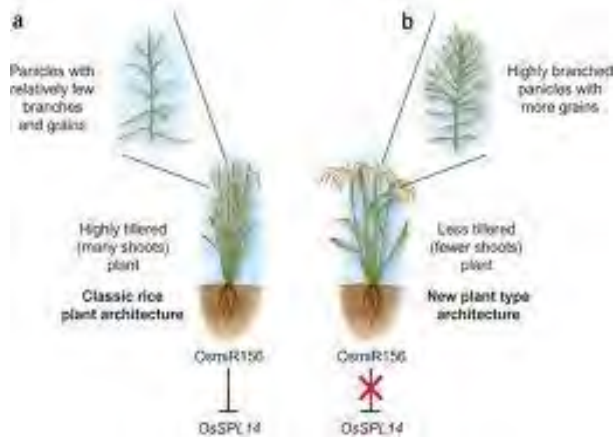
Gold Sponsors



Agriculture & Knowledge Politics

- Agriculture the new site of corporatization of science and knowledge
- Big events (Global Food Security conference 2013, IRC 2014), reinforce myths strengthen dominant paradigms and forms of knowledge production. What & who get included and excluded?
 - Mark Lynas, keynote speaker at International Rice Congress 2014, sessions on C4 but no space for agroecology

Green Revolution & Silver Bullets: NPT, Super, Golden, C4.....



New Plant Type



Golden Rice

news feature

The rice squad

Feeding the world in the twenty-first century could require a second green revolution. But that may involve the most audacious feat of genetic engineering yet attempted, says Christopher Surridge.

C4 ...
20 years, 27 mill
USD/yr,
30-50% increase
when ready



Could a simple genetic switch make rice capable of meeting the world's food needs?



Scarcity to sell promises (rarely fulfilled)

Agroecological Alternatives: Record Yields in Bihar and science by people



Sumant Kumar, record yield of 22.4t/ha Nalanda district Bihar 2011, John Vidal Guardian article 2013



Rakesh Kumar of Sohdi, Bihar world record in potato yield



Via Campesino & international farmers delegation visit to Bihar 2013

Beyond varieties, crops: The social construction of agroecological knowledge

The everydayness to Knowledge politics

- Dominance of the American model of agriculture a serious threat to food justice globally
- Scientists & research programmes aligned
 - “Scientists bring a 15-point resolution in favour of GM crop technology”*
 - “Controversial issue of GM food all set to become major poll issue”*
 - The Times of India, 13 & 15-Mar-2014
- Yet silence and misplaced use of precautionary principle to agroecology. Dismissive of science from below despite its spread
 - http://www.india-seminar.com/2014/654/654_c_shambu_prasad.htm
- Can different knowledge forms coexist – “cognitive justice”

Creating space beyond Big Science

- (Ever, second) Green Revolution ...
 - Dominant, yet a historical ‘aberration’ in agricultural knowledge
 - Declining impact in the field but dominates scientific imagination
 - Framing of knowledge “How to feed 9 billion”, further research agendas
- Agroecological innovations spreading despite lack of scientific support
 - Non-proprietary
 - Knowledge as commons
 - Networks (local, global, regional, national) furthering spread of new knowledge (SRI, NPM and RRA network)

System of Rice Intensification or SRI

Conventional



SRI



Practices

Transplanting young seedlings

Transplant seedlings singly
rather than in clumps

Wider spacing in square pattern

Minimize time gap between uprooting & transplanting

Practices

Conventional



Keep soil well drained (moist) or
AWD rather than flooding

Rotary weeder to control weeds and
promote soil aeration

Organic inputs like compost or
mulch, as much as available

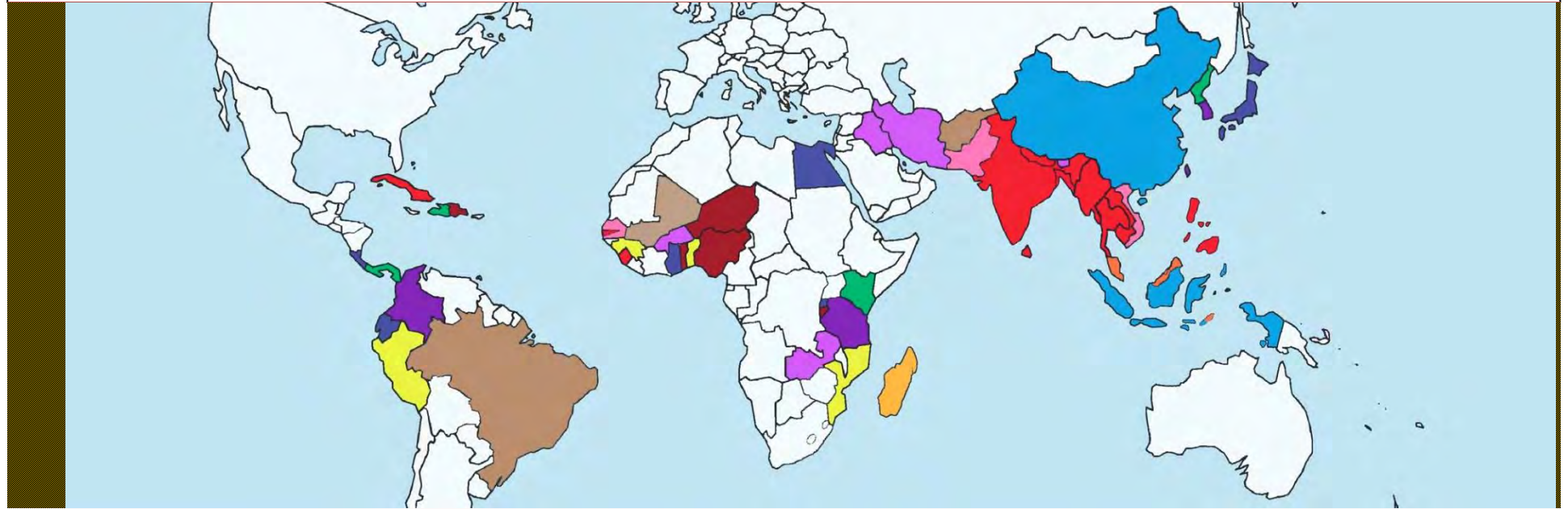
SRI



Increase in yields, huge savings in seeds, water, agrochemicals, increased resilience, more choice for farmers

2014 SRI benefits have now been seen in
>50 countries of Asia, Africa, and Latin America

Science by People can
spread rapidly in
knowledge commons



Before 1999: Madagascar

1999: China, Indonesia

2000-01: Bangladesh, Cuba, Laos,
Cambodia, Gambia, India, Nepal,
Myanmar, Philippines, Sierra Leone,
Sri Lanka, Thailand

2002-03: Benin, Guinea, Moz., Peru

2004-05: Senegal, Pakistan, Vietnam

2006: Burkina Faso, Bhutan, Iran,
Iraq, Zambia

2007: Afghanistan, Brazil, Mali

2008: Rwanda, Costa Rica,
Ecuador, Egypt, Ghana, Japan

2009: Malaysia, Timor Leste

2010: Kenya, DPRK, Panama, Haiti

2011: Colombia, Korea, Taiwan,
Tanzania

2012: Burundi, Dominican Republic,
Niger, Nigeria, Togo

SRI as a knowledge commons

- Civil society innovation that emerged outside the scientific establishment.
- Resisted by scientists, embraced by farmers.
- Promoted as an open source system from start, knowledge as common property
- Internet enables faster learning and creating a culture of sharing.
- Indian manuals with Lankan and Cuban farmers... Positive globalization



Scientific controversies and SRI

- ‘Rice wars’ around IYR 2004 and later in scientific journals
 - “Fantastic yields in the SRI: fact or fallacy?” (Sheehy 2004)
 - “Agronomic UFOs” Sinclair & Cassman (2003)
 - “Curiosities, nonsense, non-science and SRI” (Sheehy 2005)
 - “Stubborn Facts: Still no evidence...SRI vs BMP” (McDonald et al, 2008)...
- Asymmetry in debate (quick acceptance of negative articles, longer waits for responses), surprisingly high rhetoric for a scientific journal of standing (FCR)

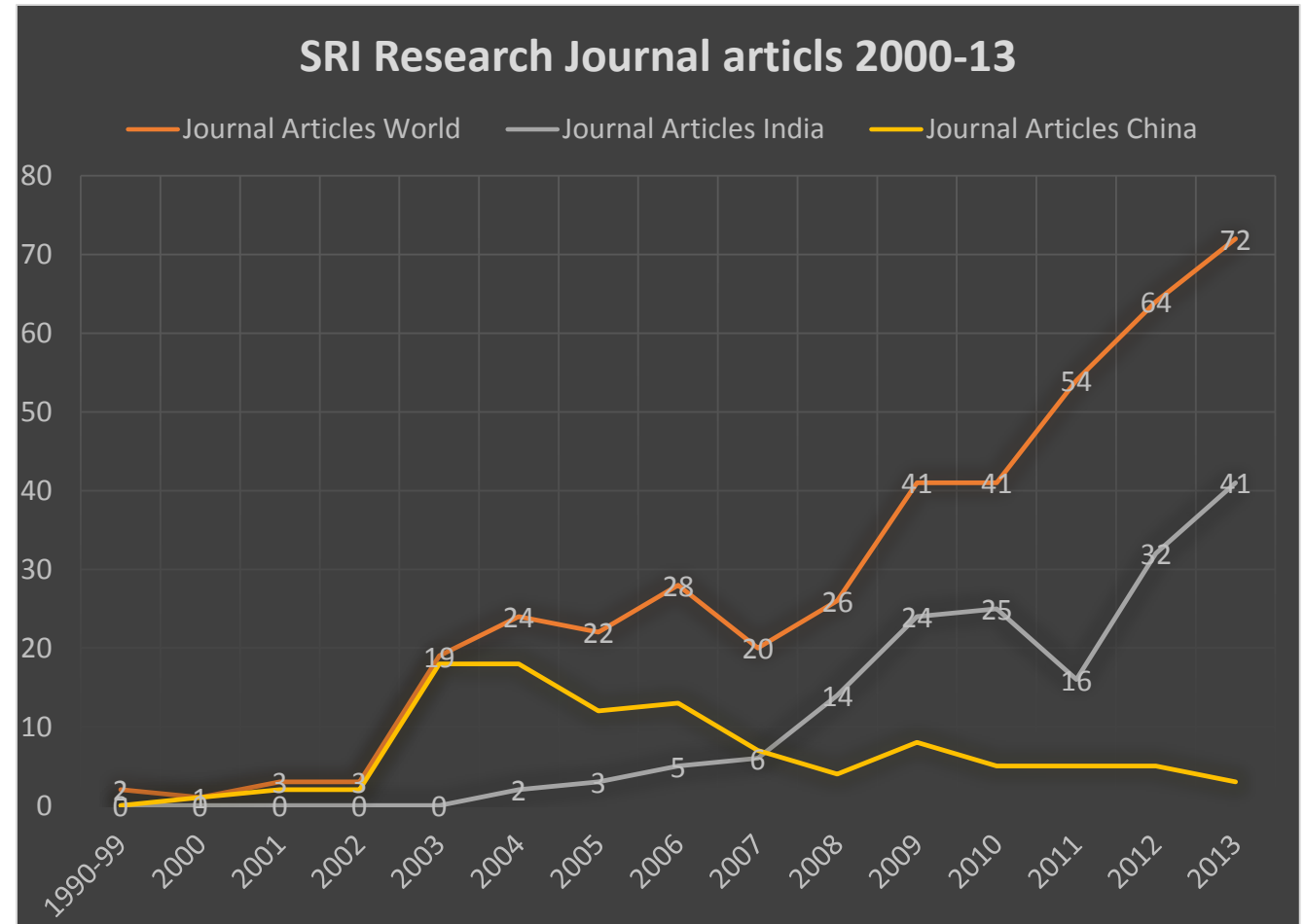
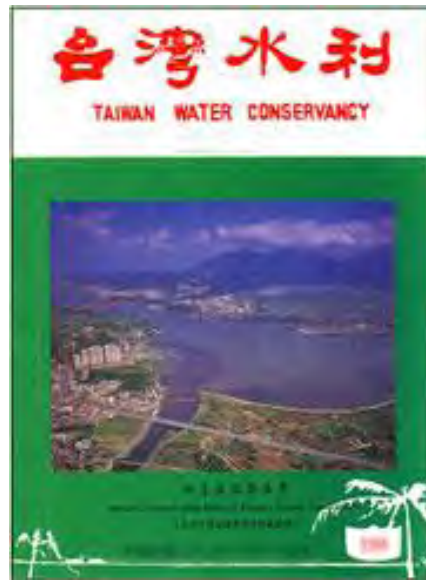
Feast or famine?

Proponents call it a miracle. Detractors call it smoke and mirrors. Will the System of Rice Intensification feed the hungry third world or needlessly divert farmers from tried and true techniques? Christopher Surridge investigates.

How does one reclaim science from dominant scientific interests?

There is life (and science) beyond (some) journals

- Technical debate is 'dead',
- New insights from the margins...
- The location changes to China, India....and other journals



Ta(l)king Science to the Scientists

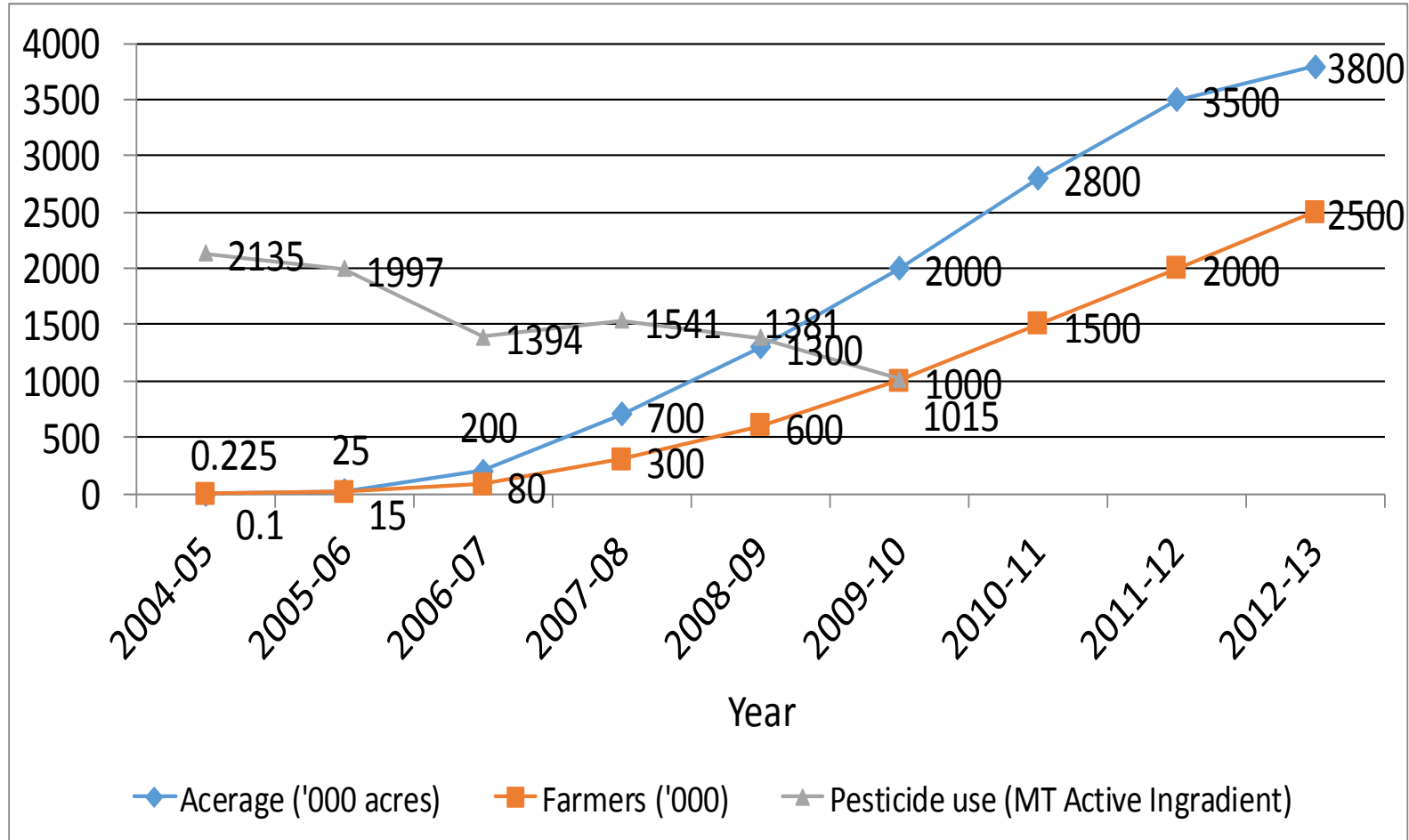


Civil society in 'occupy
IARI'... PRADAN- NCS-
IARI trials



Lodging due to Storm but SWI plot not
affected (signboard poster fell down due to high impact)

Science by People: Community Managed Sustainable Agriculture (NPM) in Andhra Pradesh



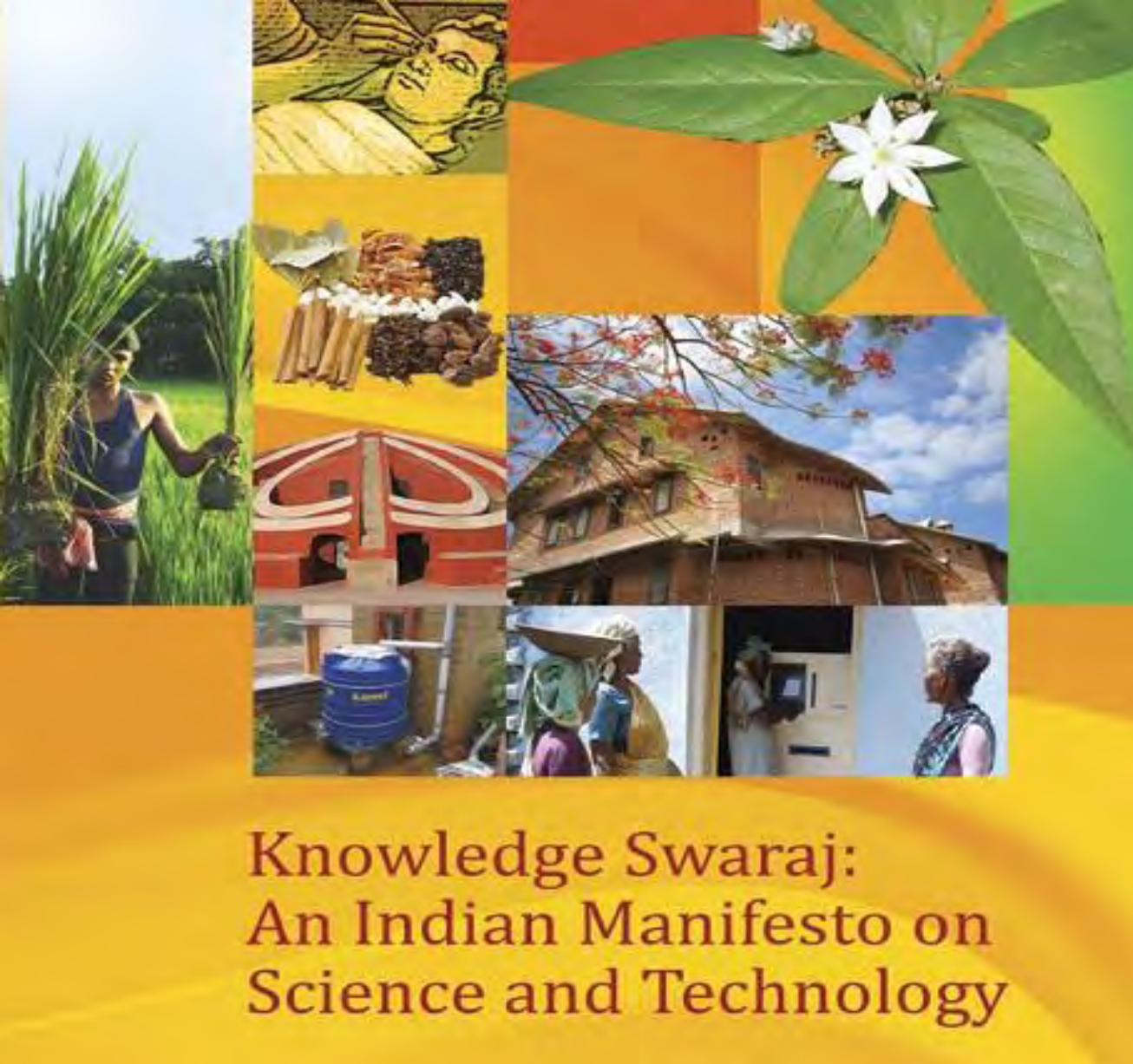
Farmers and area covered under CMSA

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



Social movements create knowledge commons

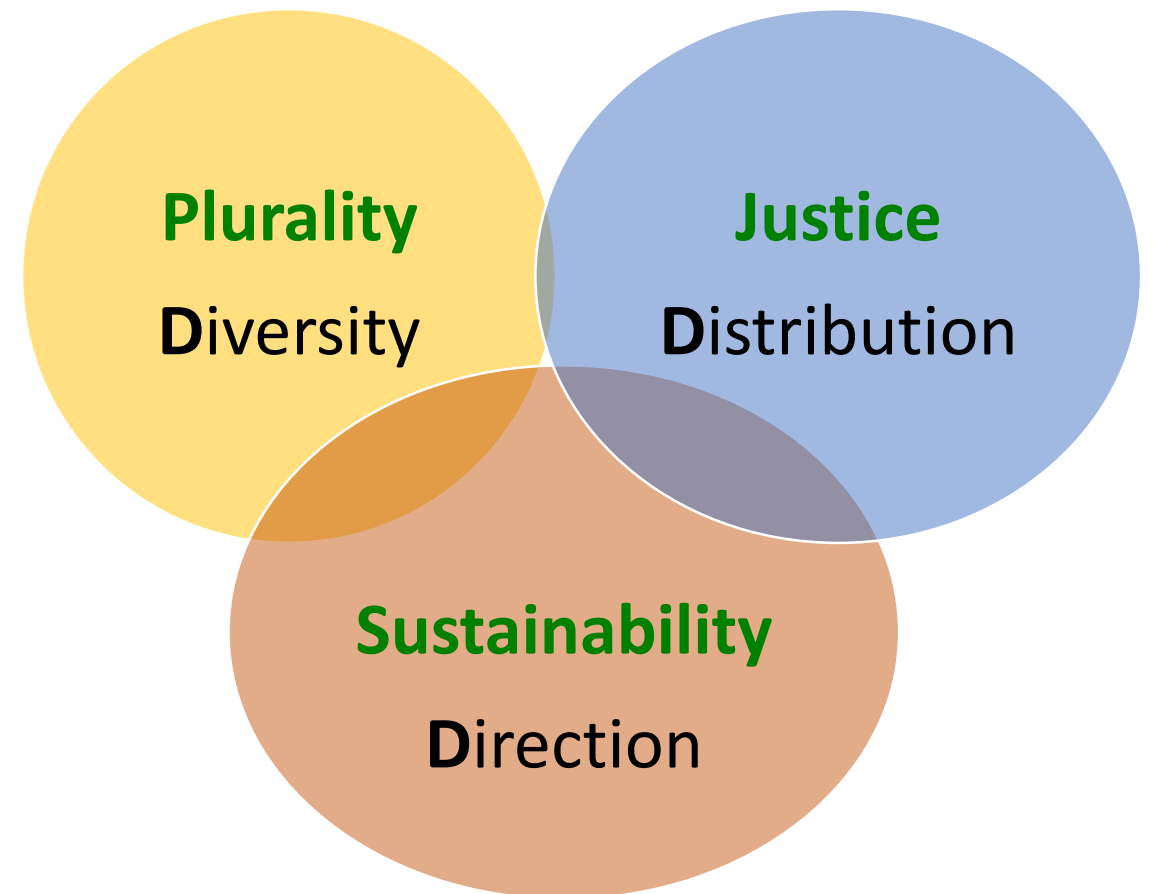
- New knowledge & innovation through interactions of diverse actors (researchers and CSOs, farmers ...)
- Spread until now not through research programmes but informal networks
 - (e-groups, regional networks, joint participation in sub-panels in mainstream rice conferences, wide sharing of newer manuals, <http://sri.ciifad.cornell.edu/extmats/index.html>)
- Civil society forums making researchers open up to newer possibilities through conversations on science and democracy
 - SRI India (500 members, 40 international..), RRA India (300 members, 75 researchers)



Knowledge Swaraj: An Indian Manifesto on Science and Technology

<http://kicsforum.net/kics/kicsmatters/Knowledge-swaraj-an-Indian-S&T-manifesto.pdf> Newer Goals and Axioms for Science

Knowledge Swaraj & 3 Ds of Sussex Manifesto



Concluding thoughts

- Agriculture can be the site for a new science for people
- Science for people needs to dialogue with other peoples science & food justice and sovereignty movements
- SFP needs to engage with the everydayness of knowledge politics, the institutions beyond the big debates, in the design of research programmes and offer newer axioms for research for the future
- Contribute to “generative” and “cognitive” justice

Key ideas of manifesto

Justice

- Taken not given, democratisation of governance, **cognitive justice** important for knowledge democracy

Plurality

- Recognising multiple knowledge systems, different kinds of experts, tapping into capacity of marginalised to contribute, **New commons**

Sustainability

- Long term, universal access to food, health, education, reduction of vulnerability, a **theory of non-violence**

Role of civil society in Science Swaraj

