Uprooting Rice Science?
An Indian Perspective on controversies and production of knowledge on SRI

Shambu Prasad C,
Institute of Rural Management Anand
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4 Key Ideas

1. Contestations can benefit from Sciences Studies
   - Understanding of scientific controversies, symmetric treatment

2. Contestations need to be contextualized within Knowledge Politics
   - Raise broader questions (beyond few journals) and engage with other actors—“Scope Us” vs Scopus!
   - Politics in the regular (re)production of scientific knowledge

3. Need for social scientists to be more reflexive of their biases and interests, Contestations for what purpose?
   - Are we interested in ‘closure’ (is debate an end or means) or pet ideas of busting ‘creation myths’, flogging “articles masquerading as peer reviewed”?

4. India and SRI as one way to rethink practice of science and farming
Framing and Gatekeeping: IRC 2014

• “It’s the 21st C where is my GM rice?” - Mark Lynas Keynote
  • “Things are getting worse than better... In India a spineless politician called Jairam Ramesh allowed the “antis” to bias the political process towards an ... moratorium in 2010”.......This is a difficult time to be a scientist...
  
  • The scarcity, fear narrative....No debates...
  • Why is Lynas even being invited and given such exalted status in such conferences?

  • What does it tell us about the practice of science and knowledge production? Questions on science and democracy?
What does not get discussed? Gatekeeping in IRC 2014

• IRC 2014 - most SRI papers rejected, 3/152, lowest ever despite increasing research papers and publications

• ..”Not just from me (you know how unwelcome I am in IRRI...)....We wanted to share some new thinking, ideas and experience with plant breeders who will be attending the Congress....the sooner we start working towards a meeting of minds the better. This is what an IRC is supposed to be about, discussing and debating new ideas, more than rehashing old ones... Shunting SRI ... to poster galleries will not foster much intellectual engagement”. (Uphoff to IRC chair 2014)

• “kind of gate-keeping’ does IRRI no credit” particularly offensive. You could have submitted an EOI for a symposium....(IRC chair)

• How framing of knowledge favours some people and drops other voices??
We hope that the 5th IRC (in 2018) will give greater attention to agro-ecological practices and opportunities such as SRI given the productivity and sustainability challenges that agriculture faces.... Over 600 publications on SRI... we would like to work with IRRI and rest of rice science community... farmers not only producers; they are innovators...

We want global rice community to
- Collaborate with farmers organizations
- Give more attention to issues of concerns to farmers... risk management at plot and landscape levels
- Involve farmers and their organisations in design of research
- Work with SRI community...wide range of disciplines and occupations....

Why is CA2016 not discussing these concerns or ideas enough??
• Controversies good sites for understanding the **uncertain side of science**. Studying controversies from STS perspective is to recover voices of people who get **written out of history**... (Pinch & Leuenberger, 2006)

• Everydayness to the politics of knowledge even in areas beyond GM and nuclear etc. (or high profile journal fights)

• Despite SRI steering clear of the GE debate and offering pathways beyond polarized discussion of traditional knowledge versus modern science why is SRI controversial?
The Politics of Peer Review? FCR and SRI Hostility

- Fantastic yields in the SRI: fact or fallacy? (Sheehy et al, 2004)… (recd 12 Nov, accepted 19 Dec)
- Agronomic UFOs, Sinclair & Cassman (2003)…(recd 18 Dec, accepted 29 Dec…)
- Curiosities, nonsense, non-science and SRI (Sheehy et al, 2005) accepted in a week!
- The SRI controversy: a response (Stoop, Kassam, 2005)… recd 2 May, accepted 29 July...
- Does SRI outperform conventional Best Management Practices (Mcdonald et al, 2006)… Accepted in 10 days
- Critical assessment of desk study comparing SRI and BMP (Uphoff, Stoop, Kassam, 2008), 6 month in review..
- Stubborn Fact: Still no evidence…SRI vs BMP (Mcdonald et al, 2008)…4 months acceptance..

…………. Asymmetry in debate, surprisingly high rhetoric in a scientific journal of standing
The framing of debate is meant to polarize (CA2016 blog silent on these)

“We never said that, it was the opponents who pinned that ‘tag’ on us, to discredit us. We all along insisted this could be and must be treated in scientific terms, though not narrowly and rigidly scientific, because we considered data from farmers as having some validity, which scientists denied.” (Uphoff 2014)
Green Revolution & Silver Bullets: NPT, Super, Golden, C4.....

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.

Nature 2002
C4 ...
20 years, 27 mill USD/yr, 30-50% increase when ready.....
Where is my NPT/ C4???

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

Scarcity to sell promises (rarely fulfilled)
Organising for SRI science: Beyond few journals

- New insights from the margins...
- The location changes to China, India… and other journals
“I simply do not have the time to be engaged on the issue of SRI. At the end of the day, I suspect the only way to resolve our different viewpoints would be to have both of us live in a village in Tamil Nadu where we could be directly involved with the field research comparing the SRI approach with the best conventional recommended practices for irrigated lowland rice. I am positive that after such a stint, the two of us would no longer have different viewpoints about the relative merits of the two approaches.” Kenneth Cassman, email to Uphoff, 10-Jun-05

— Few scientific controversies have ended thus...Also signs of disinterest from some of the actors... or wearing down the opponent..
Creative Dissent from periphery

- TM Thiagarajan, India’s 1st SRI researcher, plant behaves differently, not focused on journals but created a research ecosystem across disciplines, farmers, policy actors; later part of SRI movement
- Amod Thakur and the ‘rice wars’
  - Classical scientist planning research based on articles.
    (2004-07), isolated from the growing SRI network
  - Not a rice scientist but established connections between planting density and the optimal environment for canopy growth and light interception
  - Arguably the scientist with most SRI publications
- Ta(l)king Science to the Scientists – PRADAN, IARI collaboration
- Why is India a reluctant leader???
“Raising Agricultural Productivity and Making Farming Remunerative for Farmers” NITI Aayog, Dec 2015

- 3.3.2 Precision Farming and other Modern Technologies
- SRI, which improves the productivity of rice by 30 to 35% in the conventional varieties and over 50% in hybrids, is another potential source of technological revolution for small and marginal farms. It is a skill intensive technology that cuts the need for inputs such as seeds and fertilizers while raising yields per ha.

• “In India it is found that SRI is very labour-intensive; the system carried much higher production costs, and was ‘really uneconomical’ — (FAO & BISA 2015) ---this is not an evidence-based assessment but based on hearsay or prejudice. .......... K. Palanisami IWMI evaluation from 2,234 farmers across 13 states.....SRI methods found to REDUCE farmers’ production costs per hectare by 29% on average. ..... 18% INCREASE in farmers’ net income.

• .....If you or anyone else can send me some empirical studies where the productivity of labor has declined with SRI management, I will be quite appreciative for this enlightenment and correction. I am sure we agree that the problems facing the agricultural sector in India and elsewhere are too great and too grave for scientists to be reasoning from incomplete or incorrect knowledge. (Uphoff to HS Gupta Jan 25, 2016).... No Response....

Hopefully Contested Agronomy will move beyond “silly” debates and make sense of “Interpretative Flexibility” of SRI, SWI etc to understand and rethink relations between Science and Democracy in future.