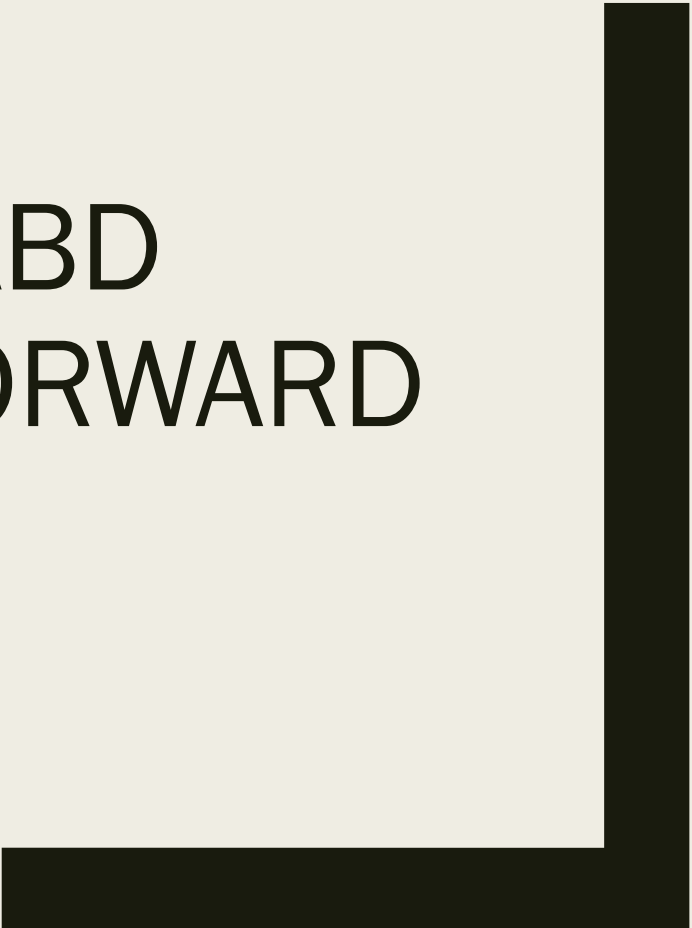




I INTERNATIONAL ABD CONFERENCE & WAY FORWARD

Krishna Kumar
Bioversity International



First step in the right direction- Awareness, visibility & policy support

International Agrobiodiversity Congress (IAC 2016)



Hon'ble PM of India delivering speech at the IAC 2016

Delhi Declaration

"Developing & implementing an agrobiodiversity index to help monitor conservation and use of agrobiodiversity"

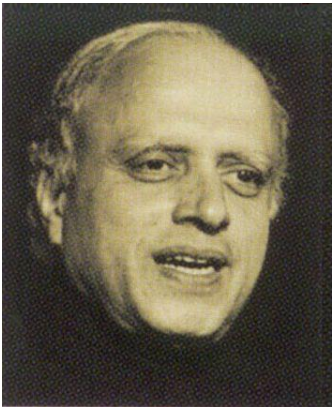
Salient outcome

- **Delhi Declaration on Agrobiodiversity Management** universally adopted
- **Agro-Biodiversity Index (ABI)** a global necessity
- A "Year of Agrobiodiversity" proposed to United nations



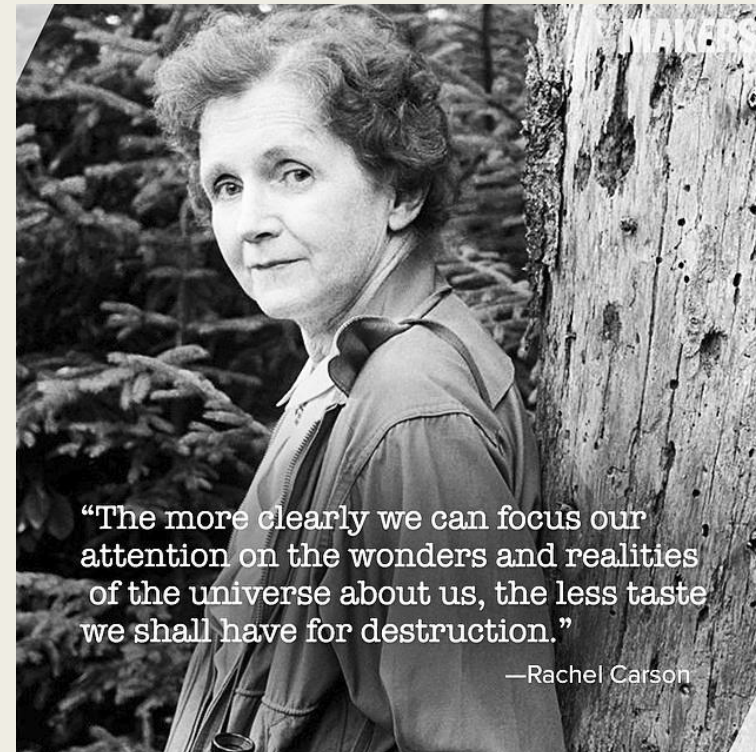
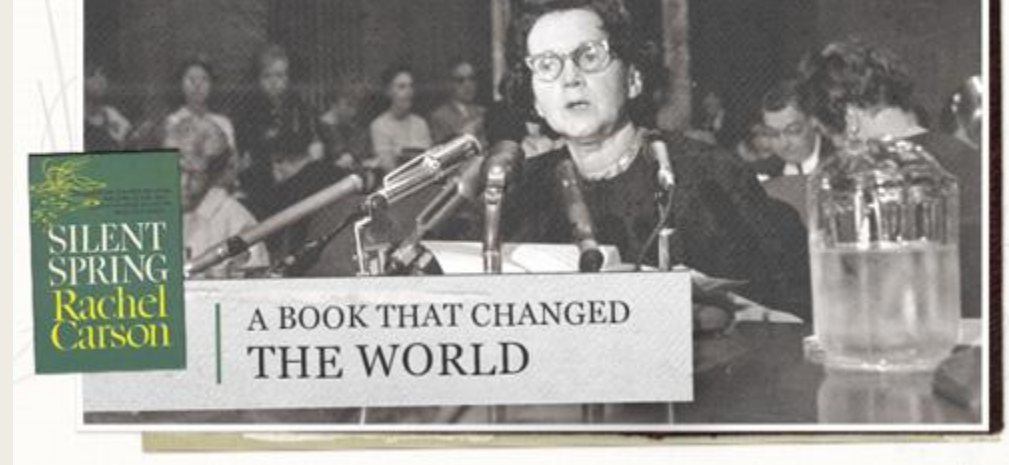
Green Revolution & Silent Spring Productivity & Sustainability

Evergreen Revolution



M.S. Swaminathan
World Food Prize 1987

- Swaminathan led Green Revolution in India
- Agrees cannot maintain crop yields
- Problems:
 - Excessive use of pesticides
 - Groundwater depletion
 - Pollution
 - Monoculture
- Therefore, India needs sustainable agriculture
 - “Evergreen Revolution “



“The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction.”

—Rachel Carson



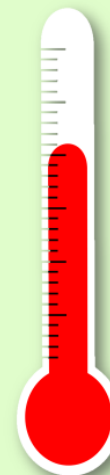
To manage agrobiodiversity, we need to measure it

N K KRISHNA KUMAR

Regional Representative: South and Central Asia



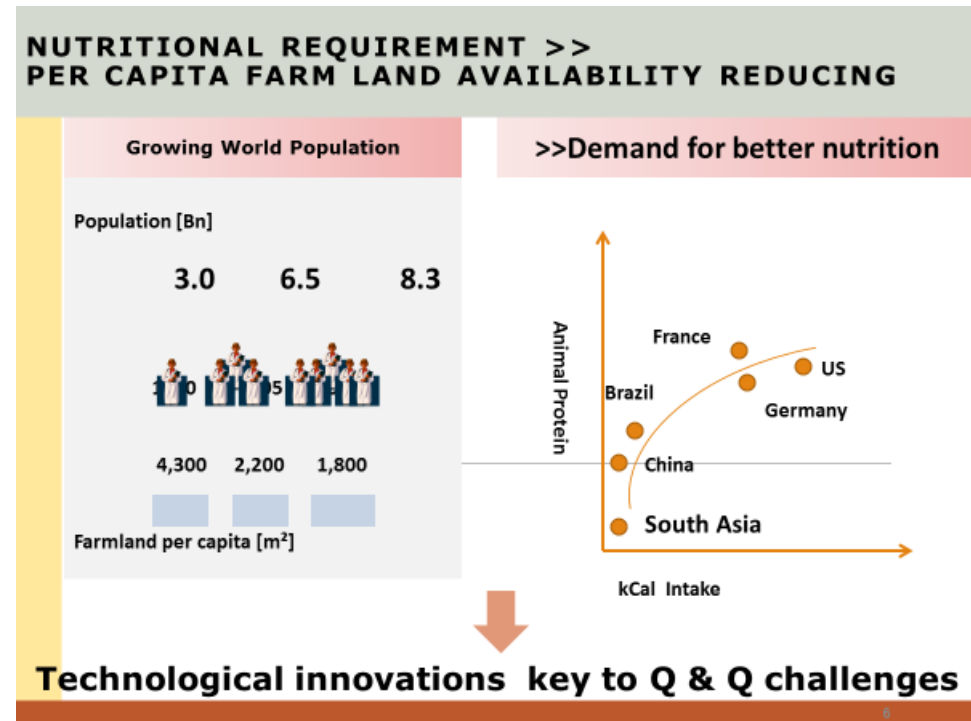
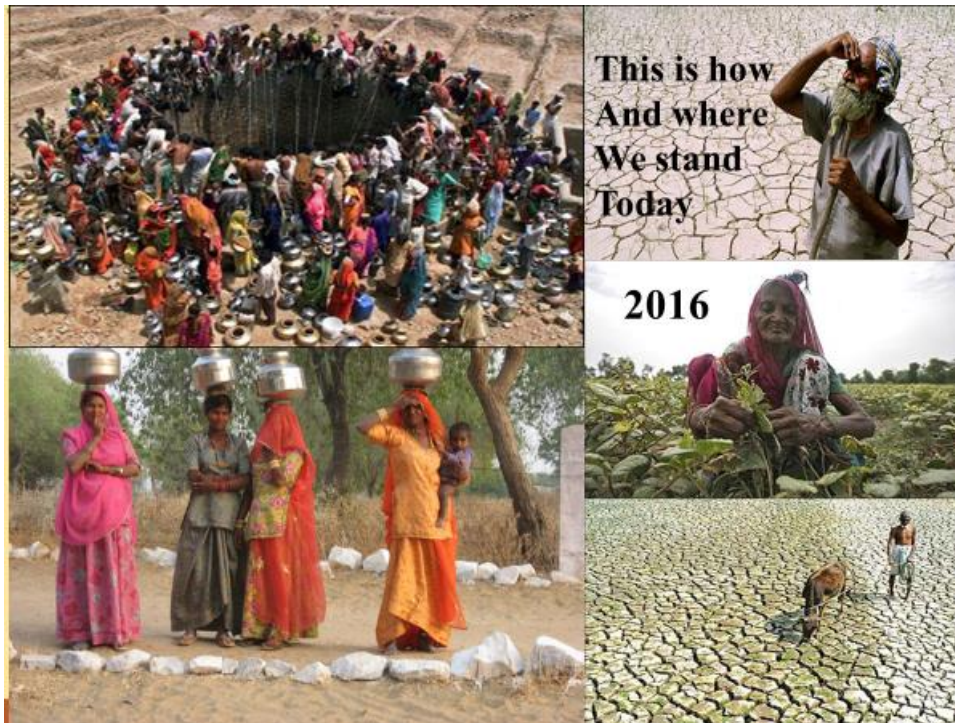
..to manage fever,
need to measure it



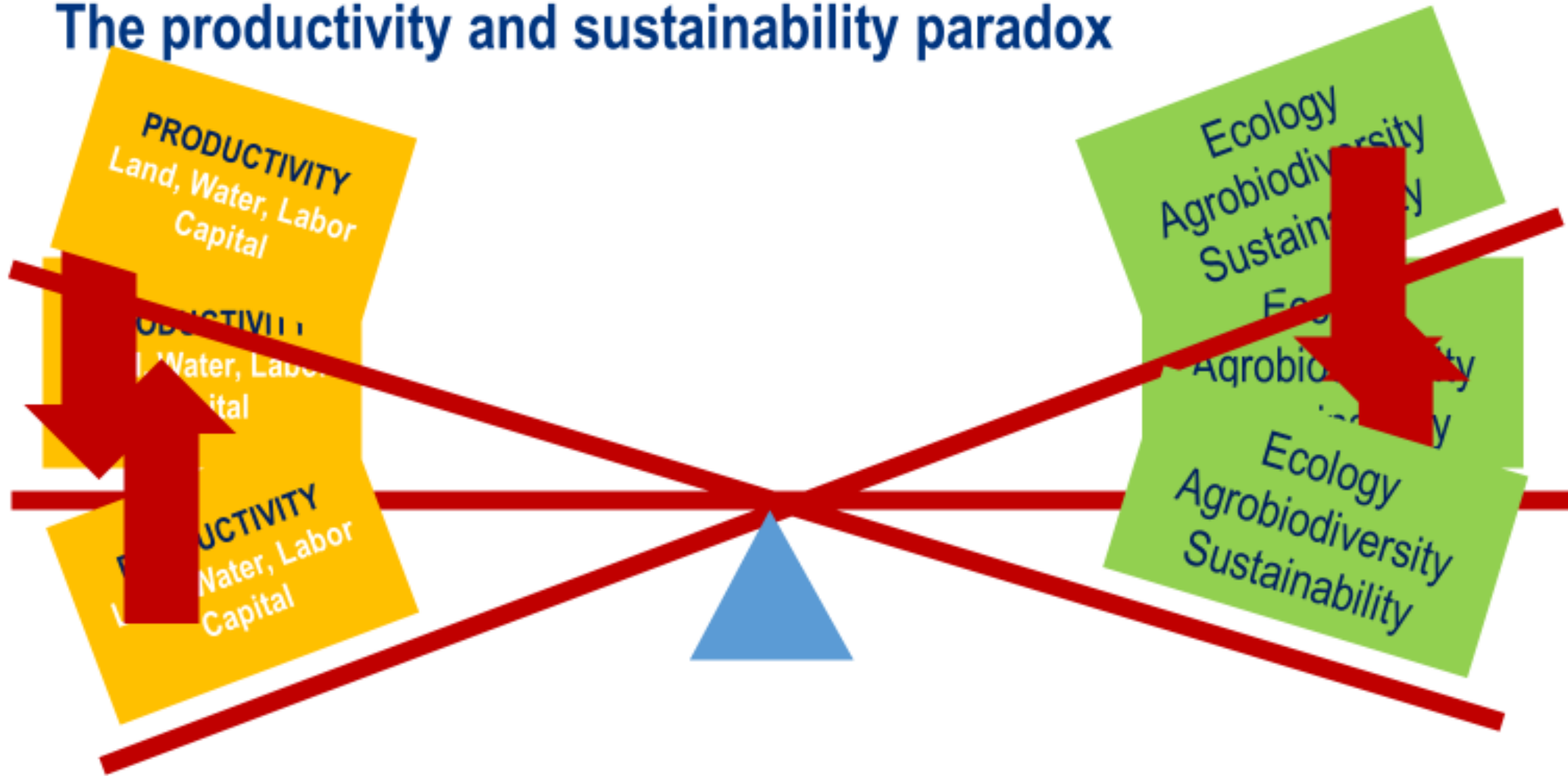
..need to measure pollution
to manage it

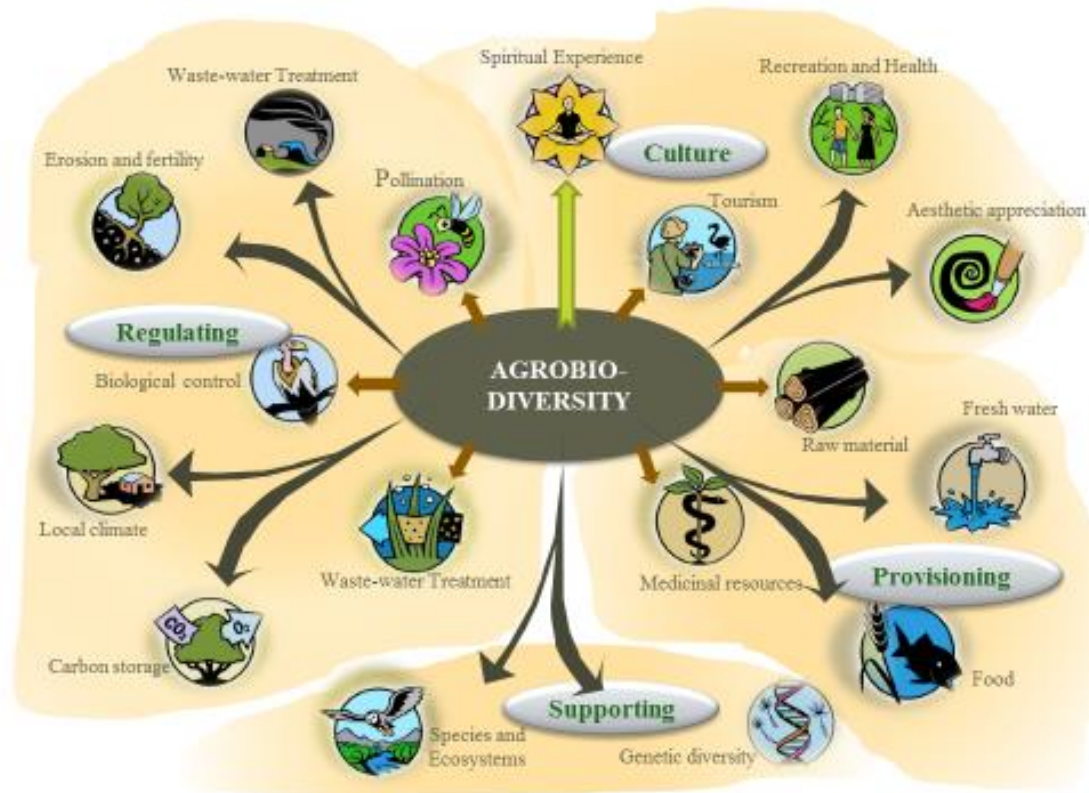


Devil's alternative: Ecology is the Way Forward



The productivity and sustainability paradox





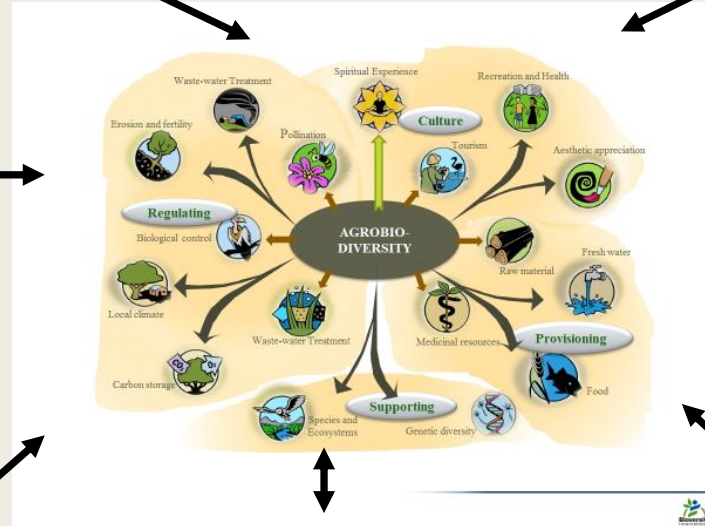
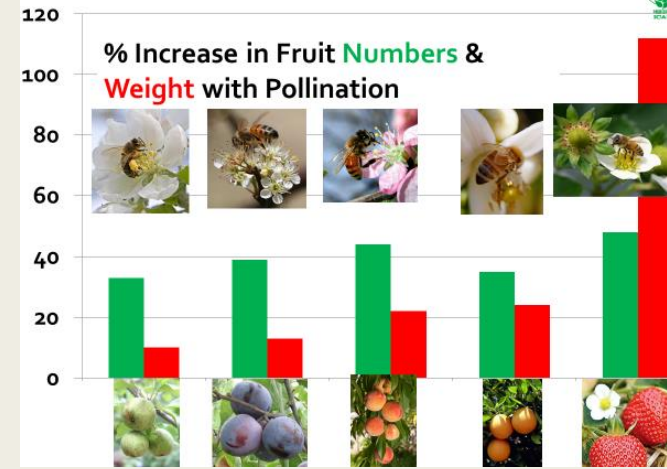
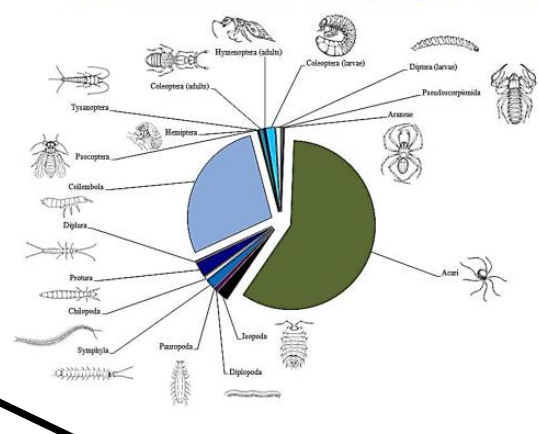
What is the way forward?

- Integration
 - Interaction
 - Interpretation
 - International @ National
 - Indexing
 - Inform
- Ecological
Economic
Environmental
Impact to Policy makers
- ↓
- Sustainable Development Goals

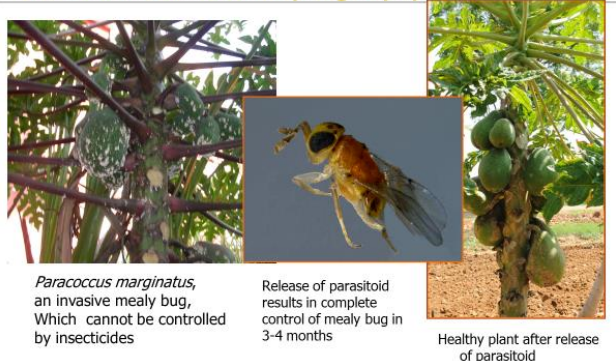


- ✓ Birds defecated seeds showed enhanced germination
- ✓ Birds also act as mobile links to transfer seeds across fragmented landscapes
- ✓ Birds are very potential in controlling lepidopteral species

Soil microarthropod community in forest



Exotic Parasitoid *Acerophagus papaye*



Medicinal plants

- Used : ~28,000 species in pharmacopeias
- ~60,000 plant species used globally
- Traded: ~6,000 species internationally
- Commercially Cultivated : ~ 1,000 species world-wide
- **Resource under pressure**
- *One fifth of plant species may be declining*
- *and threatened with extinction in the wild.*



Exports of MAPs in 2010



Agrobiodiversity Index vs. Sustainability Index

- Agrobiodiversity Index is a snapshot –
- Sustainability Index is a pool of sequential ABI – The overall goal
- ABD is complex & way forward is to split it to small blocks-
Soil, PGR, Aquatic, Pollinator, IPM, rivers, animals etc...
- Way forward is to understand holistic interactions more than individual index
- We have not focussed at all on role of agriculture on aquatic systems
- IAS in a globalized world can upset the apple cart of ABI
- For India the focus is not the state but the agro-ecosystem approach
- We should not be a frog in the well but regional and global impacts important
- If Plant breeding is knowledge, Bt is technology then **ABI is wisdom**



Agrobiodiversity Index vs. Sustainability Index

- An ecosystem approach is needed
- Direct and more importantly indirect economic benefits of ES is key
- Dr MSS said today's agriculture is more about ecology and economics
- Are we teaching anything near Ecology today in SAU? Needed
- International experience is needed and Bioversity is ready to help
- Ex. Which are the best indicator species and in which agroecosystem?
- What did we learn from Uttarakhand disaster, Srinagar, Chennai floods? Sunami and cyclone Nargis or supercyclone?
- ABI can help in gradual transition and as well for disaster mitigation
- Forests and Peri-urban agriculture need separate approach
- Man-Animal conflict and Implications to Agriculture.

WAY FORWARD

- Resolution that ABI linked to SI is urgent
- Identify components (5-6) and let them start working
- But the project is one and all meet to understand interactions
- Approach is ecosystem approach not the state
- No component is more/less important. Chain is as strong as weakest link
- Need to involve ecologists and economists as a part of work
- This should be a continuous project & each year they will tell the health of nation
- Regions such as Batinda, western ghats, Vidarbha need to be part of the plan
- Inter-institutional, inter-divisional project to start. ICAR, DAC and Bioversity...
- A small scientific think-tank to address this needed?

WAY FORWARD: 13 April, 2017 to take Delhi Declaration forward

- Need to implement Delhi Declaration at Regional, National and International level
- Translate to regional languages to highlight importance of ABI for sustainable SDG
- Case studies on implementation of Delhi Declaration in II Congress in 2020
- ISPGR & NBPGR shall organize a meeting in 2018 for concrete action in India
- Regional Meeting in CAC- Bioversity International, ICARDA, APPARI & NBPGR
- Need to look at South Asia first and ICAR/GOI through SAARC
- Need to initiate capacity Building
- Each state/agro-climatic zone should strive for a ABI as a reference for future
- Need to Involve all bureau and discuss to develop a holistic ABI-
- **Today's meeting**