

Self Introduction:



Name: Arunava Datta

Country: INDIA

Organization: Tarumitra(Friends of Trees)

Age:23+

Vocation: Just Completed Masters in Botany.

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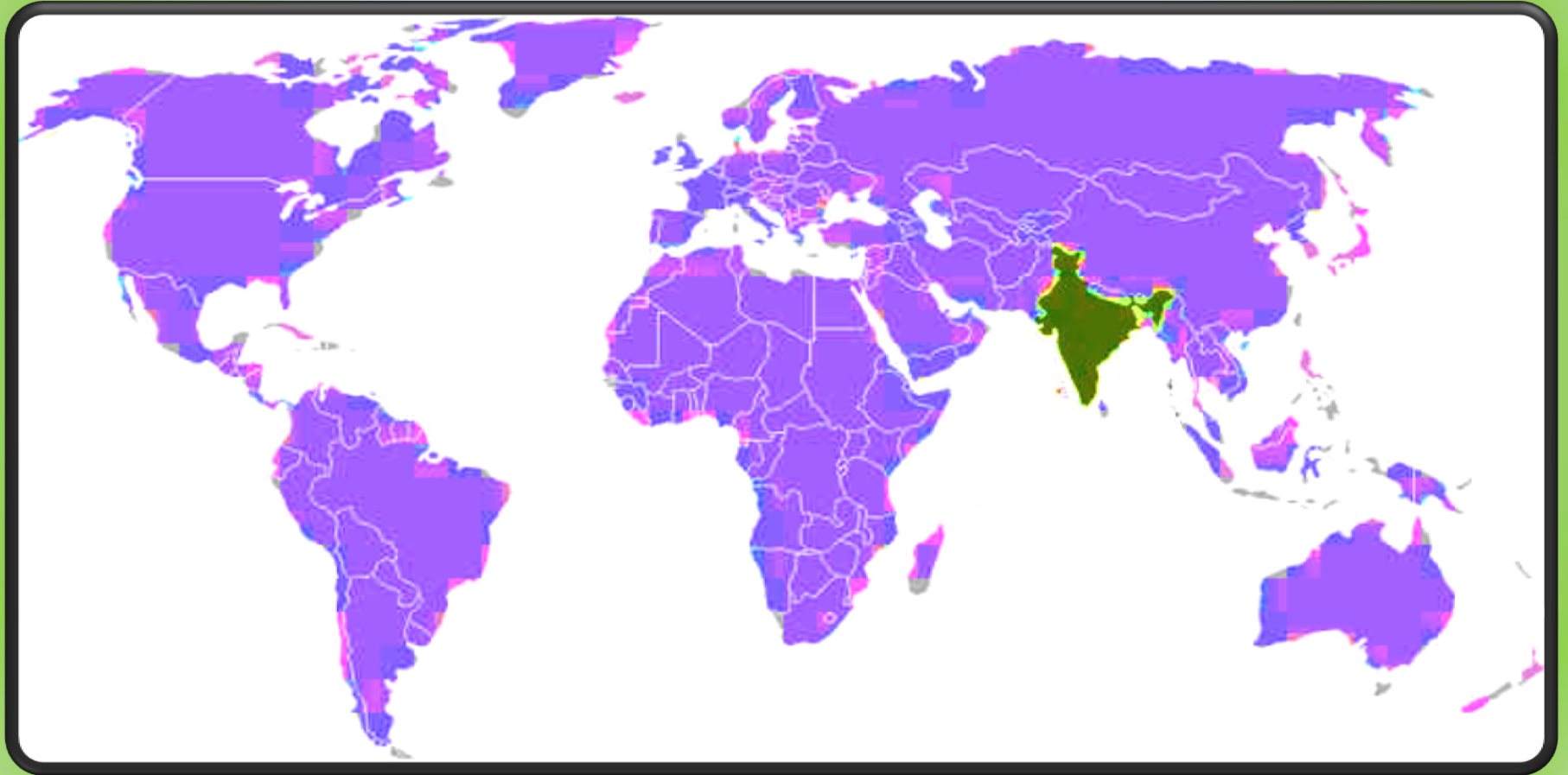
- 1) India: A land of rich biodiversity.
- 2) Best Practice: Ex-situ conservation.

Part 1

India:

A land of rich Biodiversity

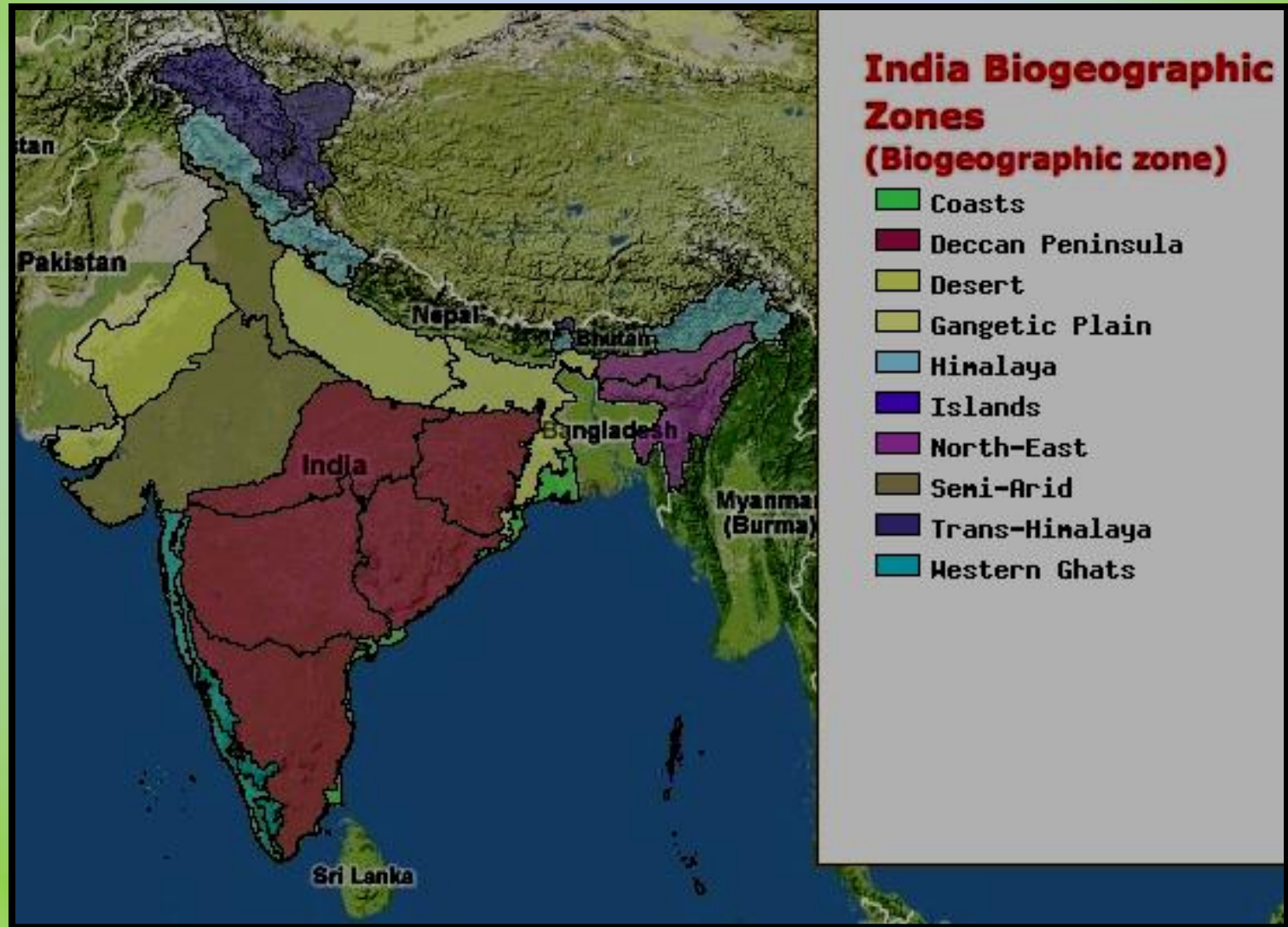
Geographic Position Of India



Physical Features Of India



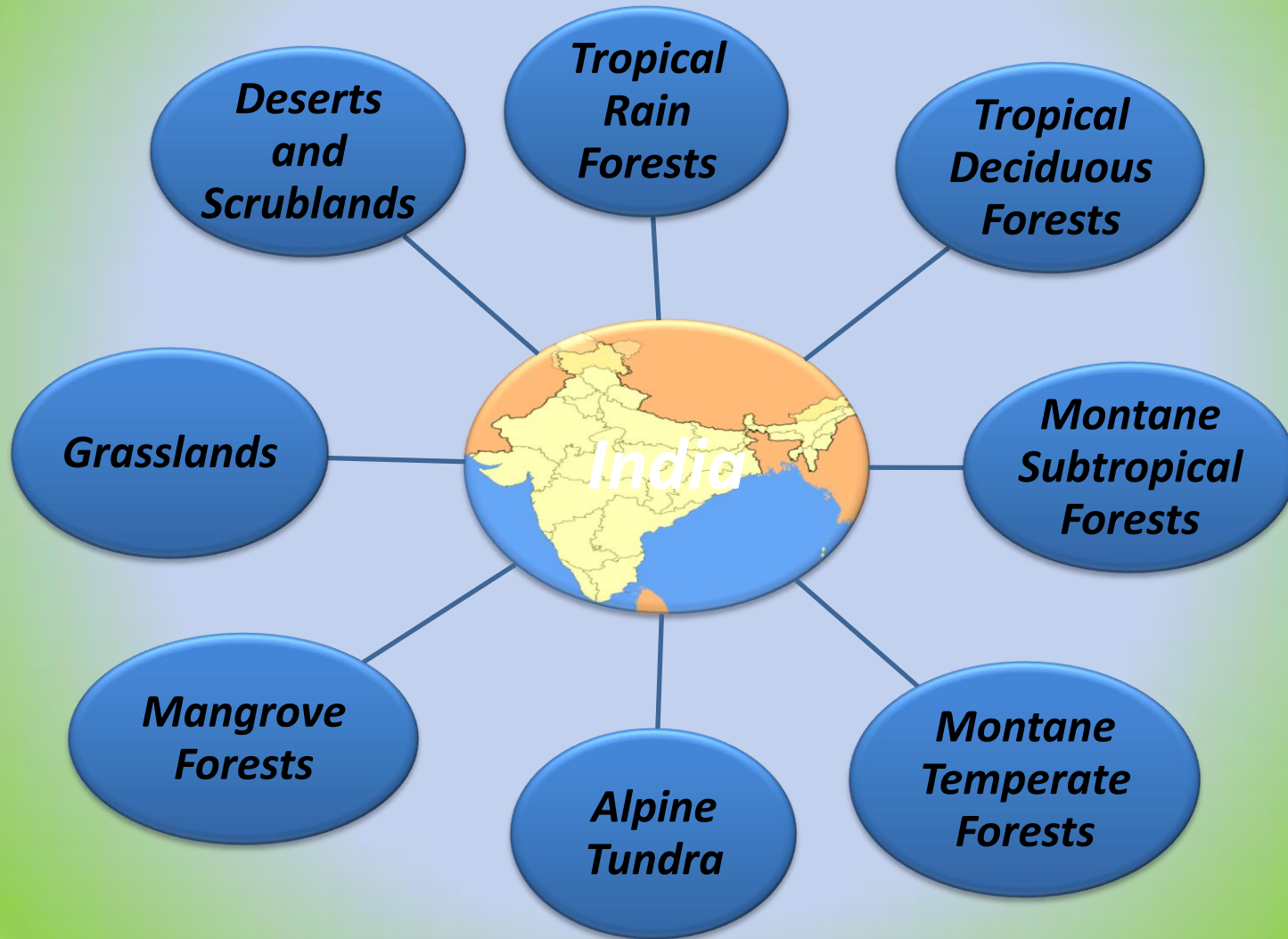
Biogeographical Regions Of India



Some Facts:

- **India is one of the 12 megadiversity countries of the world.**
- **Four Biodiversity Hotspots are present in India**
- **16 major forest groups are present in India.**
- **India is also very rich in agro diversity. It is one of the eight Vavilovian centers of origin and has 326 species of wild relatives of crop plants.**

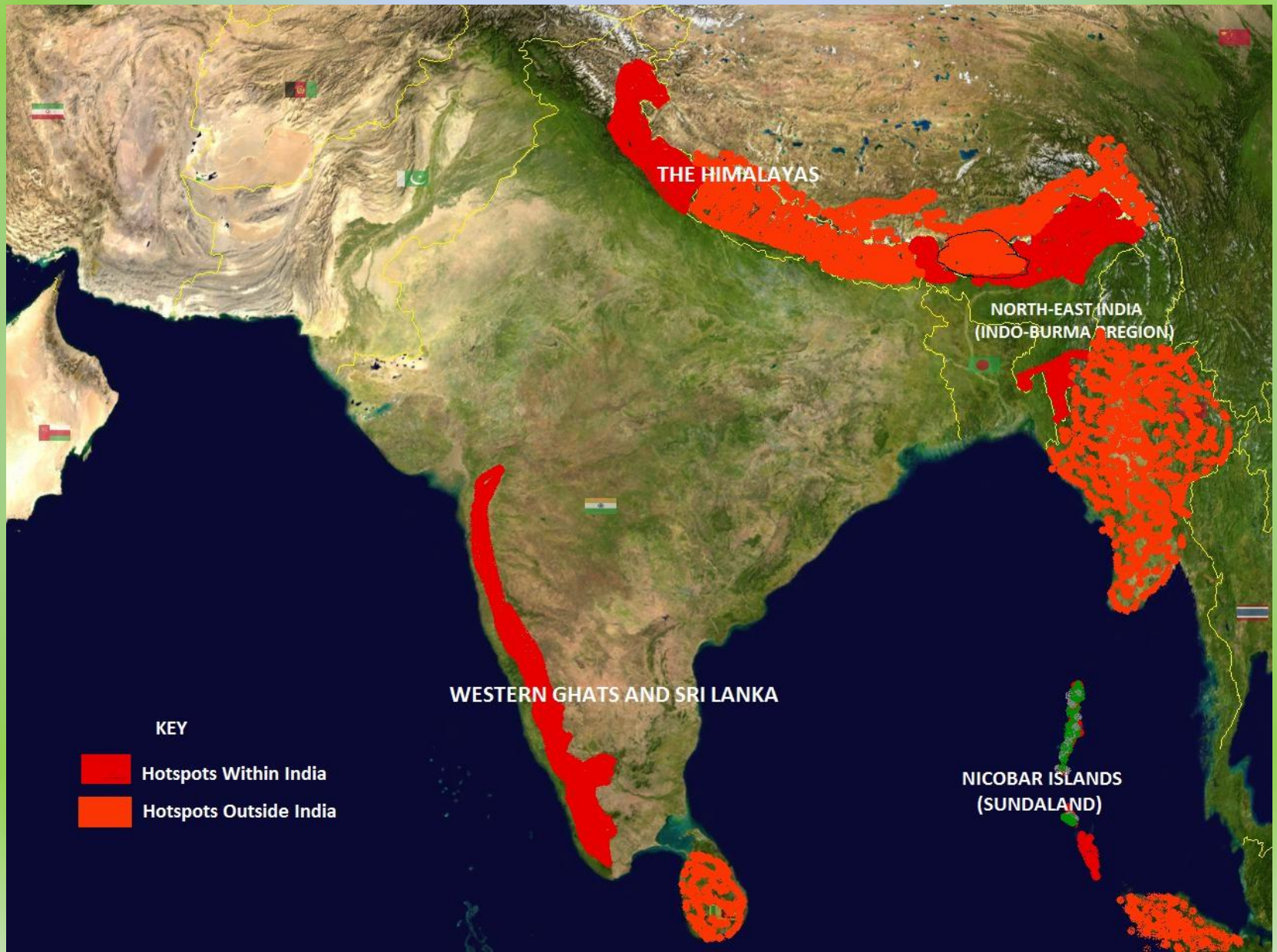
Major Terrestrial Biomes



Marine Communities



Four Biodiversity Hotspots




Present Scenario and Trends



Habitat
Fragmentation




Biodiversity



Invasive
Species



Biodiversity



Population Growth &
Overexploitation



Biodiversity



Climate
Change/Pollution

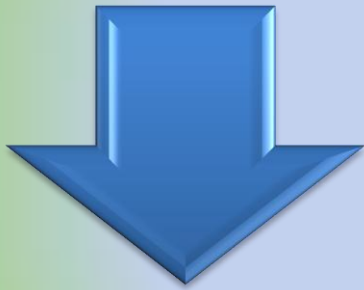


Biodiversity

Present Scenario and Trends



Increasing
Monocultures



Biodiversity



Illegal Trade



Biodiversity

Part 2

Best Practice:

Ex-Situ Plant Conservatory at
Tarumitra Ashram, Patna.

What is *EX-Situ* Conservation?

- *Ex situ* conservation is the conservation and maintenance of samples of living organisms outside their natural habitat, in the form of whole plants, seed, pollen, vegetative propagules, tissue or cell cultures.

Need For *Ex-Situ* Conservation:

- Rescue threatened or rare germplasm.
- Supply material for various purposes to remove or reduce pressure from wild collecting.
- Grow those species with recalcitrant seeds i.e. they do not germinate easily.

Need For *Ex-Situ* Conservation:Cont'd.

- Make available material for conservation education and display.
- Produce material for reintroduction, reinforcement, habitat restoration and management.
- For use in future research.

The Crisis

Once North India had over 1000 varieties of trees.



Madhuca indica



Dyospyros perigrina

Of these less than 25 varieties are only available in a locality today!

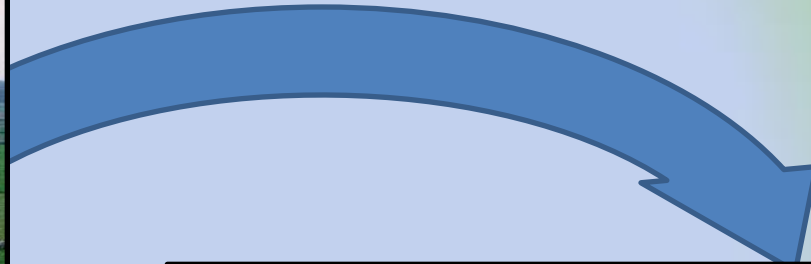
The Beginning

- **The Jesuit Fathers gifted us with Ten acres of land in 1996. It was a mere rice field then!**
- **And the students decided to build a Bio-diversity centre here**

The Drastic Change



10 Acres of Paddy Field



Converted into a conservatory of plants!

Initiated by School Children



Diversity is Our Motto

More than 300 species of plants belonging to different taxa have been conserved.



Collection of Seeds by the Students



Students and volunteers from various parts of the country send seeds to our center.

They are propagated in the nursery and are then distributed among common people

Naming of Plants



We have named most of the trees with its scientific name, family name and common names.



It helps to inculcate interest among the school children and visitors.

Our Nursery



The nursery propagates and distributes saplings among the citizens to promote biodiversity and create awareness among school children.

Some of these Plants are Rare and are Vanishing.

Around 7000 to 8000 saplings are distributed every year!



Educating the youth



Educating and training the youth has been our prime area of thrust.

Students from various places come to to gain first hand practical knowledge about environment and conservation related issues.



Tissue Culture Lab

- It is the process of growing tissues of a plant in artificial media and under given set of conditions.
- Unlike animal cell plant tissues can differentiate into the whole plant, a process known as Totipotency.



Tissue Culture Lab at Tarumitra

Artificial Growth Conditions

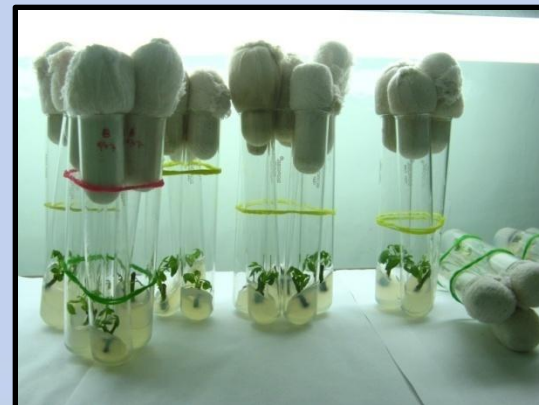
Small Plantlets in Test Tubes

Tissue Culture Lab Cont'd

- Plants which have hardy seeds or those which can not be grown by traditional means can be grown by tissue culture method.
- Large number of saplings can be produced from a small part of the plant.
- Rare and threatened plants can be saved by tissue culture.



Laminar Air Flow Chamber



Small plantlets in the Test tubes

Pitcher Irrigation



Result of Our Effort

- 1) More than 300 plant species has been conserved in our reserve.
- 2) It provided shelter to many small mammals, birds , insects and snakes.
- 3) A center of environmental education.
- 4) Our effort is being replicated in many places in the country.

Future Plans

- 1) To have a similar reserve in every province of India.
- 2) To strengthen our Tissue culture facility.
- 3) Take up afforestation projects in other parts of the country.
- 4) To strengthen networking with other organizations having similar area of work and provide internship opportunity.

Special Thanks To



1)TARUMITRA



2)Dept of Botany, B.H.U

3) My Family Members