



Ecosystem based Disaster Risk Reduction Vs Adaptation- in Deltas

The Science and Art of Coastal Ecology
Munish Kaushik, Cordaid/PfR India

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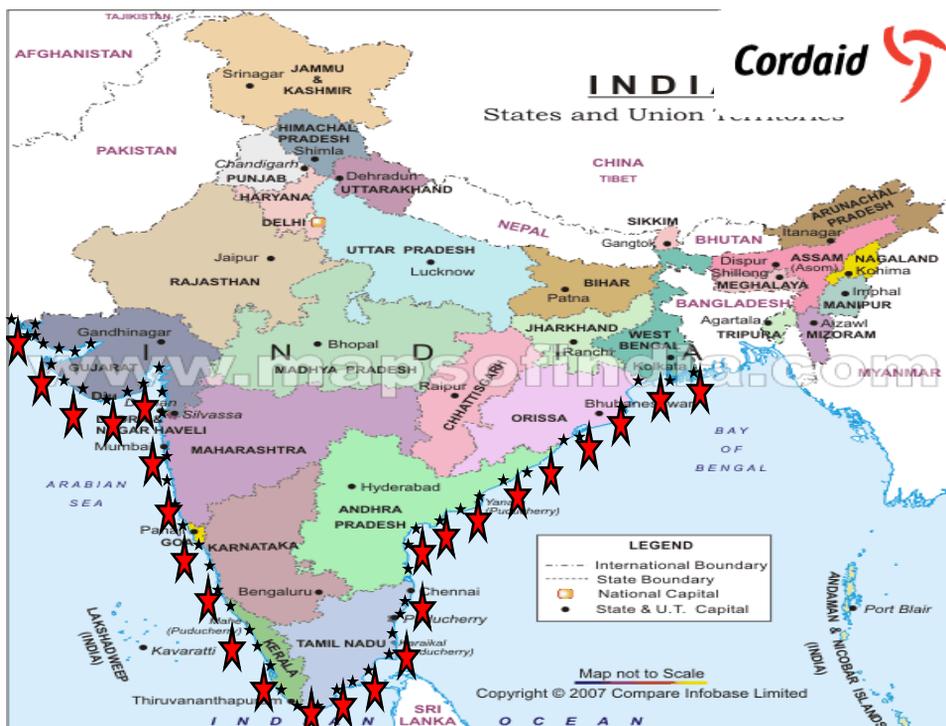
Why this session..???



- What are the challenges currently faced by communities in deltas?
- How will these be affected by climate change?
- Likely challenges and opportunities to promote CBA?

Presentation Outline

- A case study of Coastal village: Tandahar, In Puri District of Orissa
- In last couple of years.... We explored linkages between DRR-Eco system-Coastal science (Delta)----- **Adaptation works???**



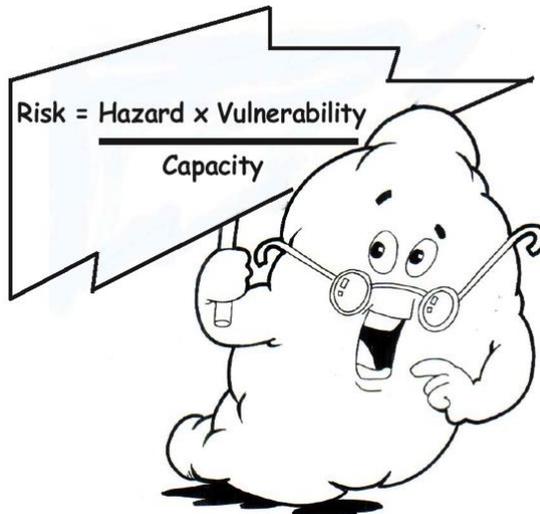
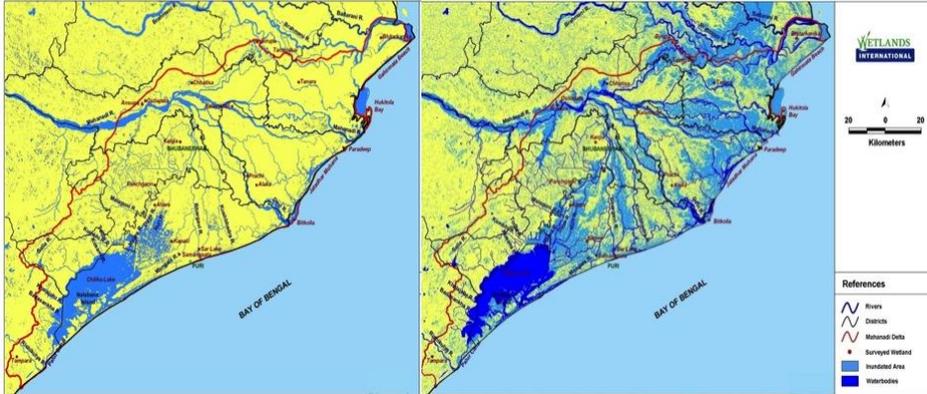


Orissa.... Coastal

Rainy

season....floods/erosion/
water logging

Dry season...Droughts



Reduce Vulnerability,
Increase Capacity



Village Tandahar

A case-study of Coastal village in
Orissa (Puri District)

First task-Identify Hazard



- Cyclone.....(History of Super Cyclone)
- Floods.....(2011/13 floods.... 2 times in two months time)
- Or drought.... No rain at times....
- NOOOOOOOOOO.... Big No
- “Salinity of agricultural land”.....
- Big Disappointment..... First encounter of [DRR Vs Ecosystem](#)

Why so..... Go into reasons

- Covered by sand dunes and forest...so, water does not enter even if there is tidal surge.. Or sea water intrusion is not there... forest cover and natural sand dunes protects
- Then why salinity???

Natural sand dunes/forest



Forest providing the natural barrier...from Sea water intrusion...



Reason was.....

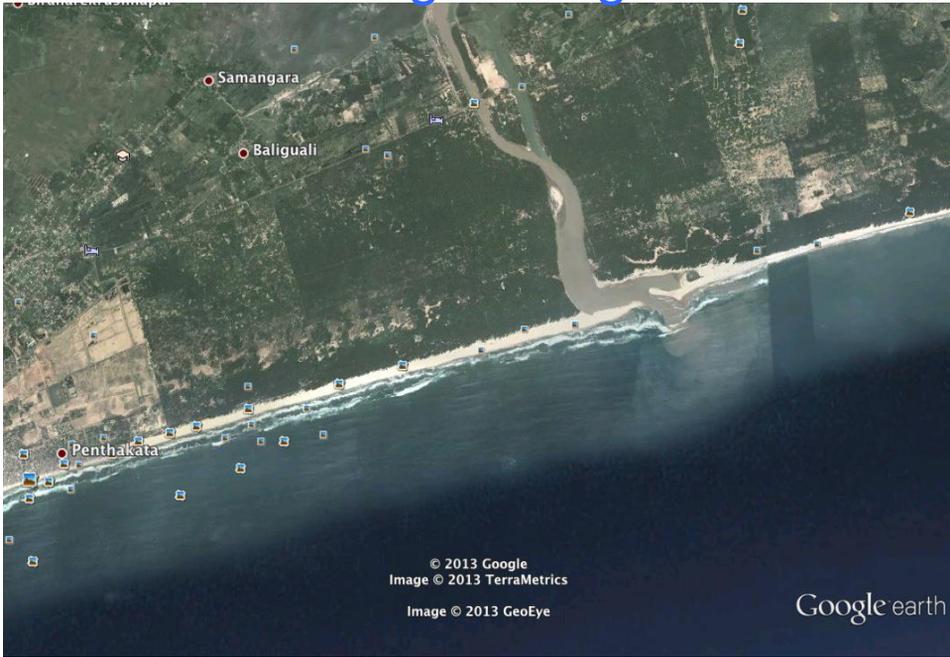


- Low lying area.... Agriculture land was 1.5 m below sea level
- Natural seepage....

Encounter 2. Coastal science Vs DRR

Was it old phenomena or climate change?

Google image

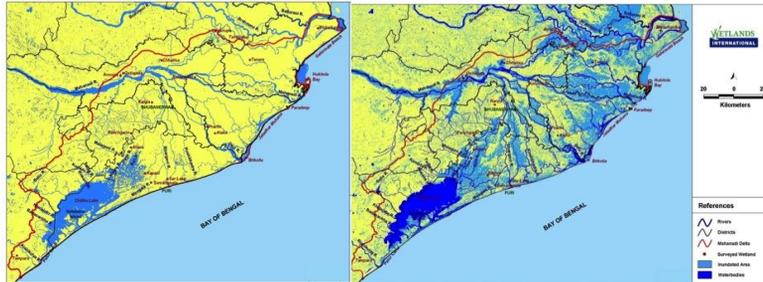


Low lying agriculture field...



Role of Ponds (Salinity/water logging/Drought)

- It's a new problem or old? It was a new phenomena...7-10 years....
- 6 out of 7 ponds are de-function/silted or in no use....



Encounter 3: Youth Vs. Ecosystem viz-a-viz DRR or

Or Migration/Culture Vs. Ecosystem services (we can't see Ecology without Social/economic/Cultural aspects)

Community Adaptation measure

- A. Saline Resistant Crop (Option 1-DRR)
- B. Re-juvination of fresh water bodies (Option 2- Eco system)

Prawn Cultivation..... booming



Encounter 4. **Economics** Vs. Ecology/DRR

Embankment

River water enters.....into village (saline/flooding)



Encounter 5. DRR measure Vs. Ecosystem (room to river)



Sea erosion





- Sea behavior or **Climate Change?**
- Pace has increased....

Encounter 6. Ecosystem Vs. Climate Change

- Should we intervene in Tandahar anymore...???
- This village may not exist after 4-5 years
- Community Based Adaptation will help?

Conclusion



- Bridging multiple knowledge systems (DRR/Eco system/CC/GIS/Tradition/Experience/Academics)
- Developmental planning and Adaptation (Building in adaptation with in developmental planning and decision making)- adaptation should be the part of “village development plan”.



- How to make Governance “adaptable”.- not prepared for changing extremities. (systems not capable) (Kashmir floods)
- Lessons learning mechanisms are not prepared
- Limits to adaptation- upto what extent. (should be start sowing the seeds of transformation)



OVERVIEW OF DE MANIA



**Thank You
Very Much!**