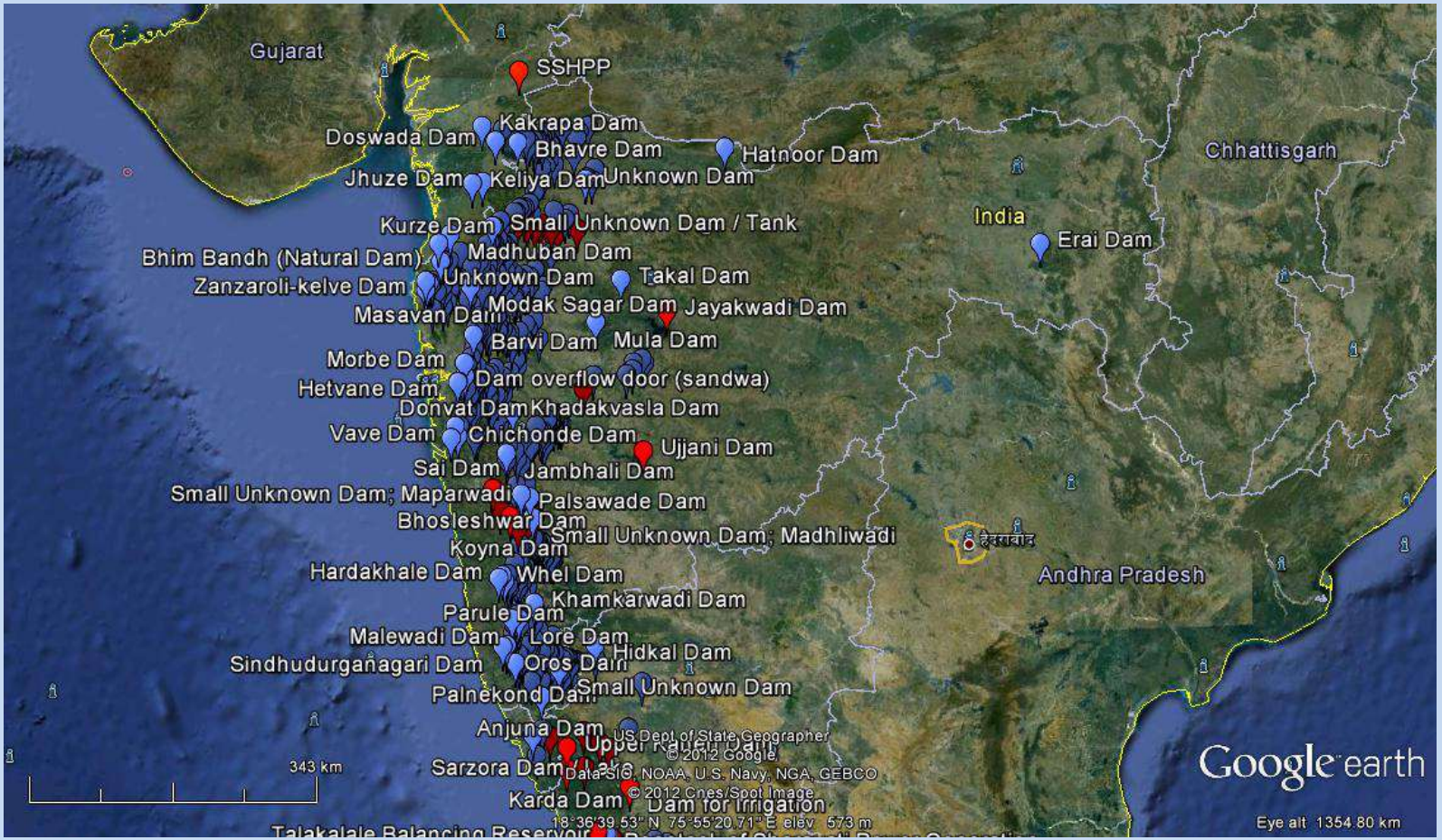
'Damning' the Western Ghats



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Presented at

Save the Western Ghats Conclave

Celebrating 25 Years of Save the Western Ghats March

December 2012

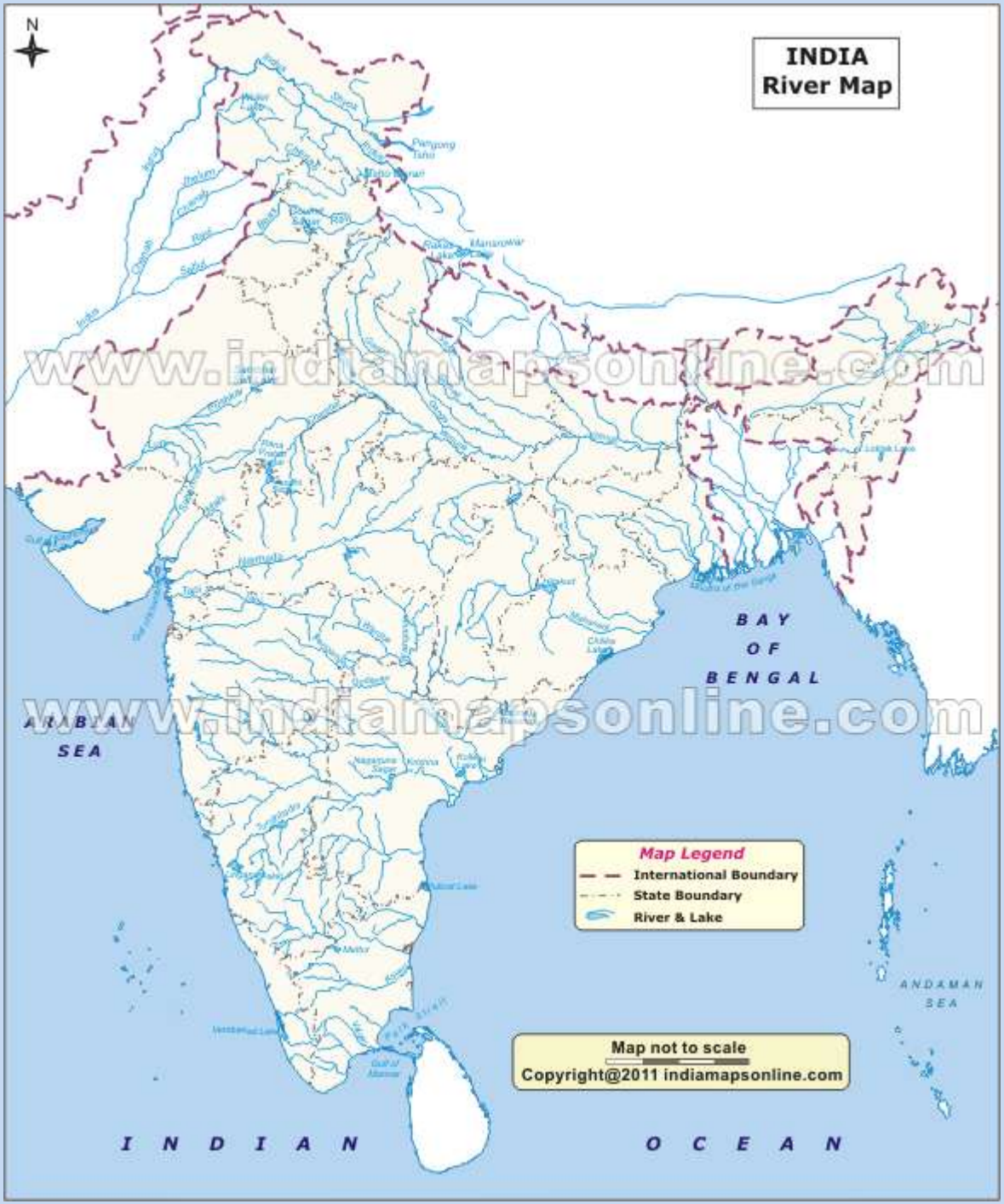
Mahabaleshwar

Western Ghats: Hottest Hotspots of Biodiversity, species richness and endemism

- The Western Ghats: Global biodiversity hotspot extraordinarily rich in plant and animal species.
- Huge diversity of natural, semi-natural and agro-ecosystems.
- With less than 6 percent of the land area of India, contains more than 30 percent of all plant, fish, herpetofauna, bird, and mammal species found in India.
- High proportion of endemic species and a spectacular assemblage of large vertebrates, including large mammals.
- Habitat to medicinal plants and important genetic resources such as the wild relatives of grains, fruits and spices.
- Directly and indirectly supports the livelihoods of over 200 million people through ecosystem services, the most populated hotspots of the world
- Home to diverse social, religious, and linguistic groups.

Water Tower of Peninsular India

- **Nearly all of the east flowing rivers and all west flowing rivers in the entire peninsular India have their origins in the Western Ghats**
- **We are at the origin of five sacred rivers: Krishna, Koyna, Venna, Savitri and Gayatri.**
- **Krishna and Koyna are the lifelines of Maharashtra and Andhra while Savitri supports an industrial hub**
- **Major Rivers Originating from Western Ghats include Krishna, Godavari, Koyna, Bhima, Tungabhadra, Cauvery and numerous extremely biodiversity rich, west flowing rivers like Damanganga, Vaitarna, Ulhas, Shastri, Vashishti, Mandovi, Sharavathi, Kali, Bedthi, Agahanashini, Netravathi, Kumardhara, Chalakudy, Pamba, etc… the list is long and beautiful**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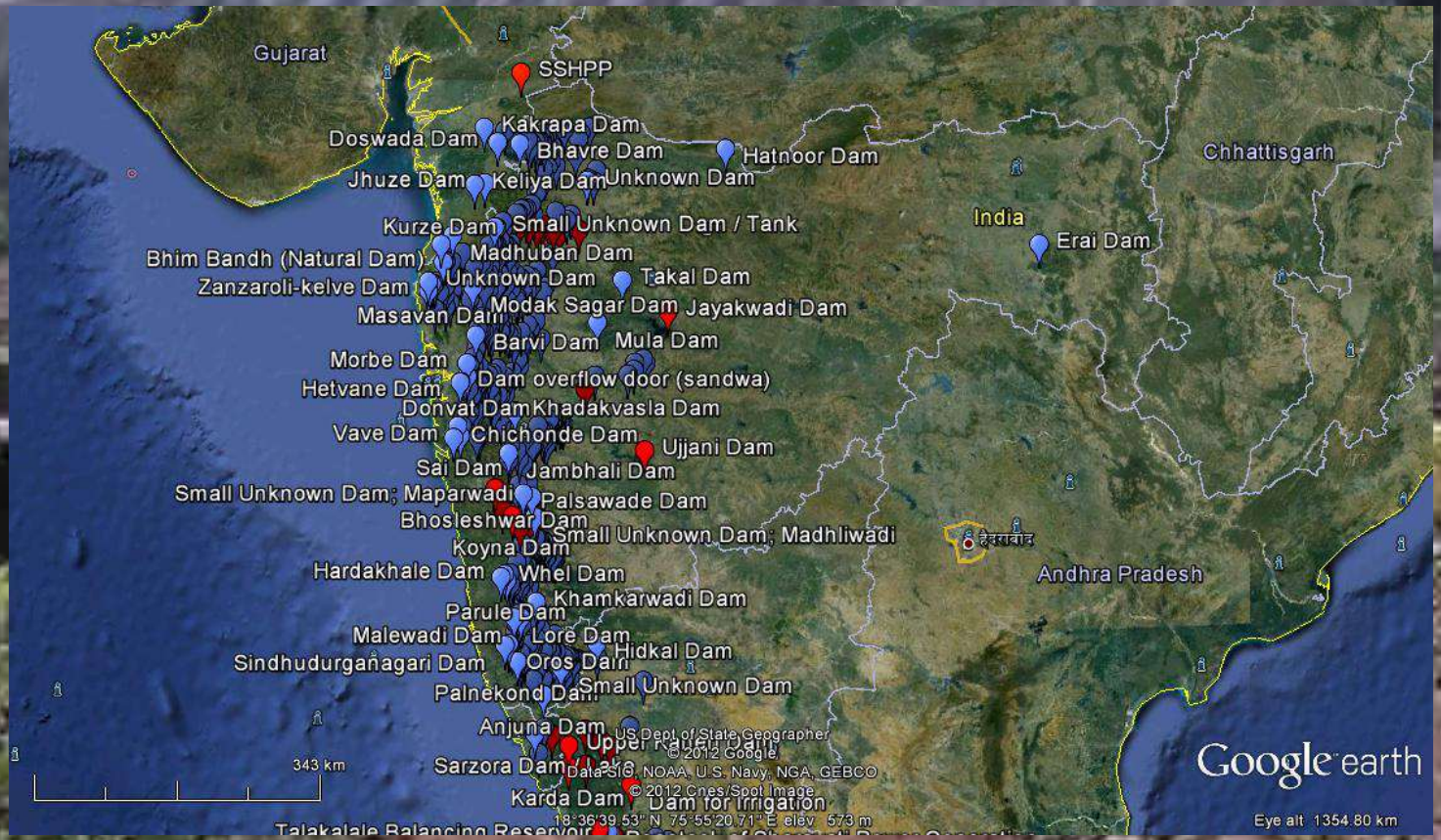
Rivers of Western Ghats



Dams in Western Ghats

Maharashtra: India's most prolific Dam builder



Completed Projects:

- With 1845 dams, Maharashtra has more than 35% large dams from the entire country, more than double than second largest dam builder in India
- East flowing and west flowing rivers of Western Ghats have the highest concentration of dams for hydropower, irrigation, water supply and industrial use.
- 38 Hydropower Dams. 67.5 TMC from Koyna and 51.3 TMC from 6 Tata Dams is transferred from east to west for hydropower generation
- This comes to 5% of Krishna Flows at 75% dependability (131.2 TMC).
- Recent Dams planned on the west flowing rivers near Mumbai have been extremely controversial
- Dams in Ulhas and Vaitarna Basin like Kalu and Kondhane have been the fountainheads of the Maharashtra Irrigation Scam
- Expansion of the Tillari Hydro Project II in Sindhudurga District is set to submerge 547.98 hectares of forest land in Dodaddamarg, in vicinity of Sahyadri Tiger Project
- Three more dams in the Western Ghats of Pune planned?

Projects planned and Under construction: Dams around Mumbai

Name of the Dam	District	Live Storage Capacity (MCM)	Total Submergence Area (ha)	Forest Area (ha)	Population Affected
Kalu	Thane	407.99	2100	999	3169
Shai	Thane	348	3040	494 (43000 trees to be cut)	5124
Middle Vaitarna	Thane	172	3473	760 (Over one lakh trees cut)	Eight villages (minimum 1600 people)
Balganga	Raigad	127.76	1240	265	8000
Gargai	Thane	180	900	765	
Pinjal	Thane	425	1900	1188	
Barvi	Thane	338.84	4442.03	513.66 (only for the current stage)	5825
Susari	Thane, Dahanu	67.7	971	144	13 Adivasi Padas of 3 villages (minimum affected population: 5000
Lendi/Khargihill	Thane	420	1558	734	10 Villages 1484 people
Kondhane	Raigad		400	200	2000
Poshir		191			
Shilar					
Gadgadi					
Total		**2678.29**	**14929.03**	**6062.66**	**32202**

Dams for Drinking Water Supply and Industries: Benign Dams?

- Because of a strange exclusion in the EIA Notification 2006, Dams for Drinking Water and Industrial Water supply are excluded from any Environmental Clearance processes like Environment Impact Assessment, Public Hearing or Environment Management Plan
- Nearly 6000 hectares of Prime Western Ghats Forest is set to be destroyed, even without a study of the species diversity!
- Majority of the region is Tribal Sub Plan. It will see displacement of over 30000 tribals
- For Dams like Barvi, communities are being displaced for the 3rd time in a row. No Impact Assessment study
- Most of this region falls in ESZ I according to WGEEP Recommendations, where Large dams should not be allowed
- These regions provide numerous ecosystem services not only to tribal population, but also to Mumbai (water provision, climate regulation, oxygen supply, tourism hotspots, medicinal plants, etc)

Not Benign but ILLEGAL DAMS

- In case of dams like Kalu, Balganga and Kondhane, work on the dams already started even before a formal Forest Clearance in place
- Balganga Dam (Forest submergence 360 hectares) is 90% complete without host of permissions in place, including FC. (Apart from several other illegalities)
- Due to sustained advocacy work and litigation, Forest Clearance to Kalu Dam was not recommended by the Forest Advisory Committee
- High Court also ordered a stay on construction following PIL filed by Shramik Mukti Sangathan
- Gargai Dam will submerge 750 hectares of forest land INSIDE Tansa Wildlife Sanctuary
- Middle Vaitarna has already submerged parts of the sanctuary
- Forest Rights Act is routinely violated by officials. Settlement of community and individual forest rights not completed.
- All gram sabhas in Shai and Kalu have given resolutions against the projects, but they lumber on
- Individual and cumulative impacts of this very high density of dams in Ecologically rich and socially vulnerable area is still not done.
- There is an urgent need for this study. Time is running out for the last remaining forests and tribal communities in Western Ghats of Maharashtra

Dams in Karnataka

- Numerous Hydropower and Irrigation schemes in Western Ghats. Main Hydropower Dams include: Linganmakki, Gerisouppa, Bhadra, Tungabhadra, Upper Tunga,Talakalale, Kabini , Harangi, Chakra, Supa, Varahi, etc.

- While dams on rivers like Kali, Sharavathy have been disastrous to ecosystems, Bedthi Dam was cancelled through strong local opposition and a historic process which proved that costs of the dam were higher than the projected benefits
- Currently, through novel conservation efforts, rivers like Aganashisni, Bedthi and parts of Kali are protected as 'Community Reserves'.

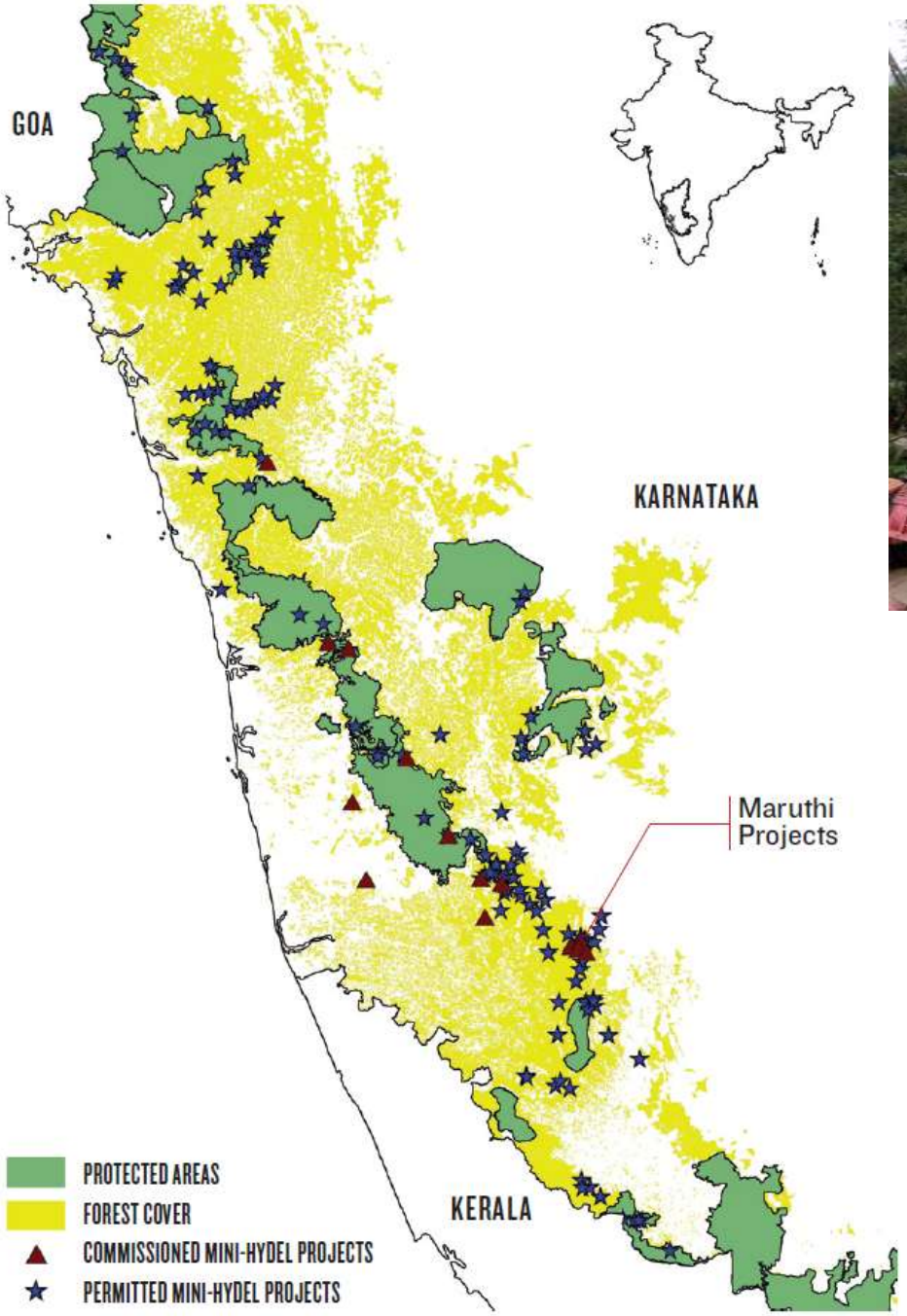
- In order to have an idea of the ecosystem goods and services provided by West flowing rivers, Aghanashini estuary alone provides livelihoods to more than 5000 people through bivalve collection

Upcoming Projects: The Gundia Saga

- **200 MW Gundia Project is planned on biodiversity rich Gundia River, a tributary of Kumaradhara in Dakshin Kannada**
- **Project envisages submergence of 700 hectares land, including 400 hectares Forest Land. Initially the proposal was to submerge 800 + ha. forest land.**
- **A study by IISC, 2010, notes that the Gundia River Basin '**
  - ***harbours nearly 36% plant species, 87% amphibian and 41% fishes endemic to Western Ghats.***
  - ***The presence of four critically endangered and 14 endangered animal species in the region further emphasises the need for conservation of this region on priority as it provides a unique habitat and ecological niche.***
  - ***This study reaffirms hotspot status of Gundia Basin in Central Western Ghats , a repository of biological wealth of rare kind both in its aquatic and terrestrial ecosystems and indicates strongly the need for adoption of holistic eco system management for conservation of particularly the rare and endemic fauna of western Ghats.'***
- **WGEEP report has unanimously rejected Gundia HEP**
- **The Expert Appraisal Committee (EAC) of the MoEF discussed Gundia HEP in its 59th meeting in light o the WGEEP Report and actually recommended clearance to the project based on committee deliberations**
- **These committee deliberations only proved that there is an urgent need to study the region in detail**
- **A number of groups have sent submission, staged protests against this short sighted project**

Threat from unexpected quarters:
Mini Hydels Projects: Small Dams, Huge Impacts

- MHPs are hydel projects under 25 MW which do not need Environmental Clearance from MoEF: No EIA, No EC, No Public Hearing
- Karnataka Reneable Energy Development Limited (KREDL) is considering 108 projects in Dakshin Kannada, 39 in Kodagu, 59 in Shimoga, 59 in Hassan and 87 in Uttar Kannada Districts!! All of these projects will be set up and operated by private players
- More than 44 projects in Netravathi Basin alone.
- In 2011, High Court ordered a ban on construction of MHPs in Forest areas of Western Ghats following PILs filed by conservationists
- However, several projects are now complete, and work on several projects is on going
- Many examples of fraudulent projects, set up only to exploit 25 MW margin and huge subsidies and preferential tariffs that mini hydel projects enjoy.
- In addition , they also claim UNFCCCs carbon credits!
- For example: Maruthi Gen project in Kageneri and Kanchankumari Reserve Forests in Sakleshpur,Hassan District, two projects of 18.90 MW Hongadahalla (4.18 hectares) and 19 MW Yedakumari (4.20 hectares) were shown as two distinct projects, when they had the same powerhouse and effectively were a same debundled 36 MW Project in the middle of reserve forests in Western Ghats
- Several such examples
- These projects do not disclose details about submergence and rehabilitation till the last minute
- Communities are left literally high and dry
- Many agitations are on going against this project which might surprise outsiders


GOA
KARNATAKA
KERALA
Maruthi Projects
PROTECTED AREAS
FOREST COVER
COMMISSIONED MINI-HYDEL PROJECTS
PERMITTED MINI-HYDEL PROJECTS

Benign Dams?

- Again, the most disturbing fact is that no Environment Impact Assessment , EC or Public hearing is required, and these are supposed to be harmless
- In reality, the impacts on communities and ecosystems are huge: ranging from floods, droughts, submergence, loss of endemic and endangered species, increasing man animal conflicts and isolating populations
- No provisions of fish ladders made, no environmental flows in the downstream
- Urgent need to undertake cumulative impact assessment studies of MHPs in Karnataka
- Need to support communities with scientific data, lobby with relevant departments, study the region for biological diversity


SAVE WESTERN GHAT - KARNATAKA

Kerala: 52 Dams in Western Ghats and more needed!

Kerala supports some of the most luxuriant ecosystems and diverse communities in Western Ghats

It also see most interbasin and interstate transfers

163 MW Athirappliiy HEP on Chalakudy River has been staunchly opposed by communities and ecologists alike for more than a decade now

Project EC challenged 3 times in the Kerala HC – court intervened twice – suspending and quashing the EC granted in 1998 and 2005 respectively

The region has one of the highest fish diversities in the country with 9 cirtically endangered and 22 vulnrable species. Recommended to be decalred as a fish sanctuary

Only available Pied Hornbill nesting site in Kerala Western Ghats lies in project area riparian forests

Elephant corridor, extensive ripairan forest in a fragmented river with 7 dams in 70 kilometers 28 kms river is laready lost and diverted

Thanks to Dr. Latha Anantha, River Research Centre, Kerala for this slide

WGEEP Report : Water Sector Recommendations

- Catchment area treatment plans of hydroelectric and major irrigation projects should be taken up to improve their life span.
- Improve river flows and water quality by scientific riparian management
- Inter-basin diversions of rivers in the Western Ghats should not be allowed
- No diversion of streams/ rivers allowed for any power projects and if already existing, to be stopped immediately
- Catchment area treatment in a phased manner following watershed principles; continuous non-compliance of clearance conditions for three years would entail decommissioning of existing projects
- Dams and thermal projects that have crossed their viable life span (for dams the threshold is 30–50 years) to be decommissioned in phased manner based on assessment and studies
- All project categories to be jointly operated by LSGs and Power Boards with strict monitoring for compliance under DECs

Supporting People's Movements

- Throughout Western ghats communities have shown novel conservation methods from Sacred Groves to sustainable harvesting to community fish sanctuaries
- Destructive projects like Kalu Dam were stalled, time was bought due to peoples movements and local agitations
- Unfortunately, the government has lost faith in people's management and so seem the experts
- There is an urgent need to bridge the gap between research and peoples movements
- A synergy of a vibrant civil society backed by robust science can go a long way in saving the One and only

  WESTERN GHATS

Thank You!

South Asia Network on Dams, Rivers and People

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