



# **Winners and losers: the case of forest diversion in India**

**Madhu Verma  
Dhaval Negandhi**



**INDIAN INSTITUTE OF FOREST MANAGEMENT, BHOPAL**

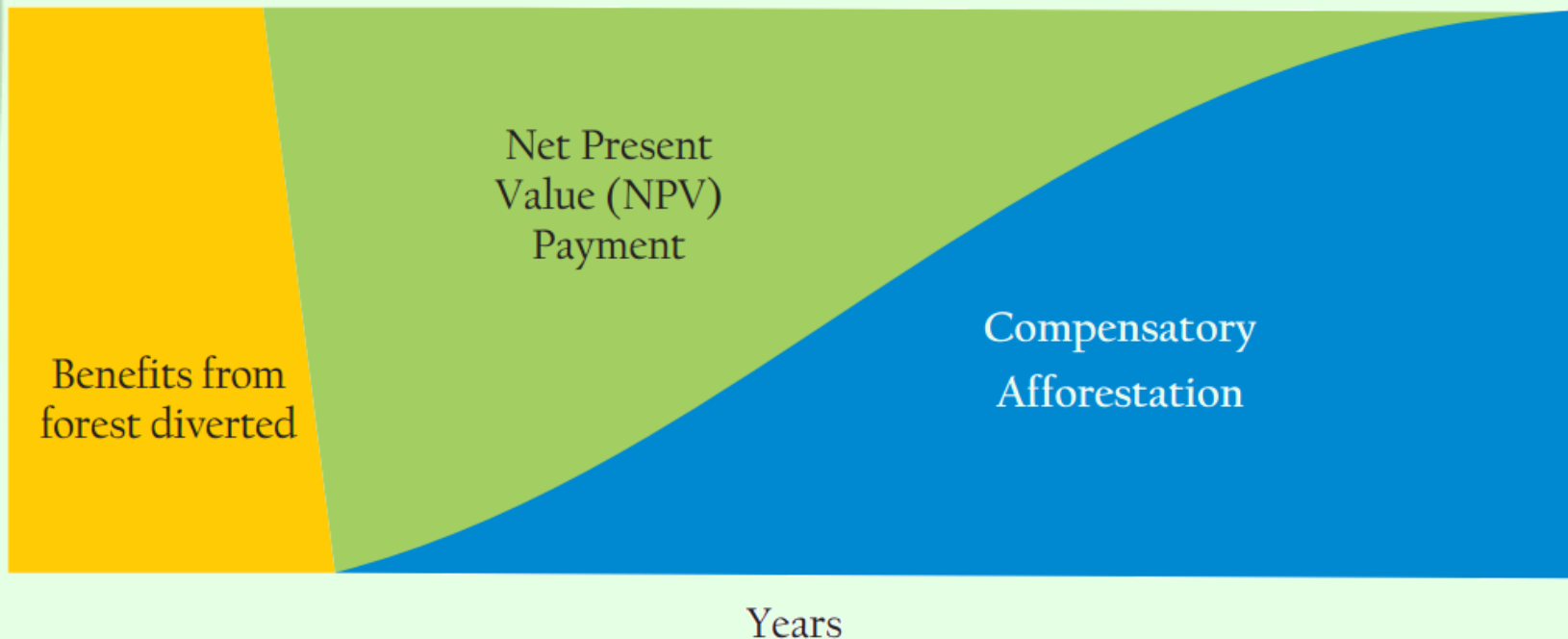
# Background

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- ▶ **Forest Conservation Act of India (1980)**
- ▶ **Diversion of forest leads to loss of an array of ecosystem services**
- ▶ **Loss not immediately accounted for by compensatory afforestation (CA)**
- ▶ **Plantations replaces limited ESs lost by diversion of natural forests**

# Background

- ▶ **Benefits from CA increase slowly**
- ▶ **NPV charge to account for this loss of services**



# Forest diversion - stakeholders

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Forest Department

User Agencies

- Mining, Roads, Railways, Hydro, Wind power, Irrigation, Transmission Line,

External Parties

- Local forest-dependent communities, NGOs, research organizations, consumers, citizens of India

# Context of NPV Charge

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- ▶ Economic value of forests of Himachal Pradesh; CLEV (SPV)
- ▶ Some states in India start charging NPV
- ▶ Godavarman case in 2002

*The Hon'ble Supreme Court (SC) of India accepted that every user agency shall have to pay NPV for forest land diverted for non-forestry use.*

# NPV Rates

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- ▶ **3-member Expert Committee (2005)**
  - Recommended site-specific NPV based on economic value of 7 key goods and services
  
- ▶ **Centrally Empowered Committee**
  - Recommended a 6 X 3 matrix of NPV based on forest type & canopy cover
  - Ranged from ~US\$ 7000-16500/ha
  - Currently operational



# Revision of NPV rates

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- ▶ **A study assigned to IIFM**
- ▶ **NPV rates recalculated based on economic value of**
  - **Timber, bamboo, NWFP, fuel-wood, fodder, bioprospecting, carbon sequestration, carbon storage, water recharge, soil conservation, water purification and pollination & seed dispersal**
- ▶ **Matrix of 14 Forest Type Groups and 4 Canopy Cover classes (incl. Scrub)**
- ▶ **Rotation period – FTG-wise**

# Recalculated NPV Rates

Scenario	TEV	Rotation Period	Average NPV Rates (₹ Lakhs/ha)			
			VDF	MDF	OF	Scrub
I	Complete	FTG specific	₹50.9	₹36.7	₹ 20.7	₹ 11.8
II	Relevant	FTG specific	₹32.0	₹23.7	₹14.6	₹9.4
III	Complete	60 years	₹51.4	₹37.1	₹20.9	₹11.9
IV	Relevant	60 years	₹ 32.3	₹ 23.9	₹ 14.7	₹ 9.5

TEV Scenarios	Complete summation of values of ecosystem services	Relevant summation of values of ecosystem services considering trade-offs
Forest Type Group specific rotation period	Scenario 1	Scenario 2 (recommended)
A blanket rotation period of 60 years	Scenario 3	Scenario 4

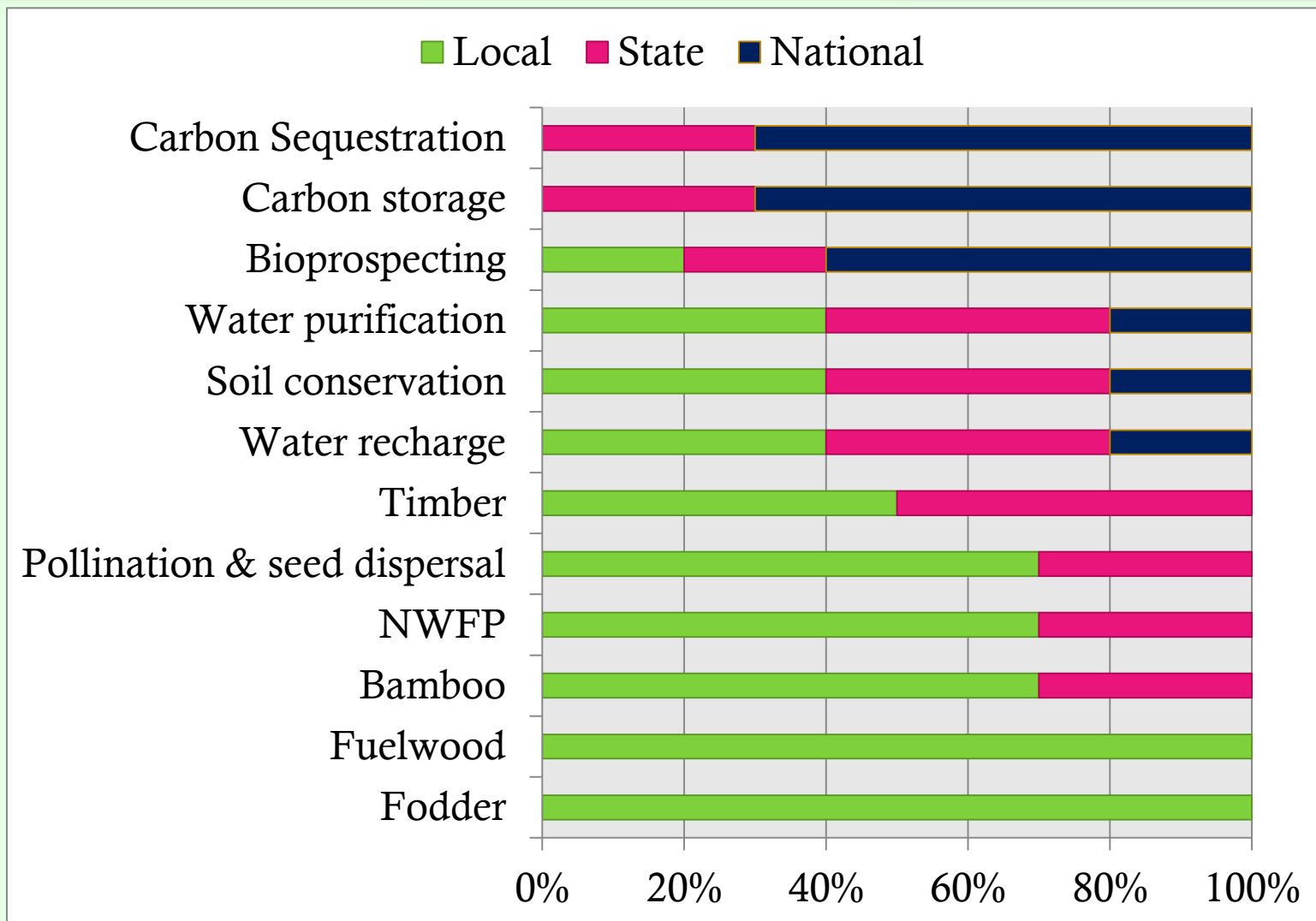


## **Spatial distribution of TEV**

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- ▶ **The NPV charge is currently collected in a centralized CAMPA fund**
- ▶ **Based on proposed activities by States, the fund is distributed to States**
- ▶ **However, this is a mismatch in scale between administration & spending of funds (National/State) and the loss of actual economic value (Local)**

# Assumptions (TEV spatial distribution)



# Findings

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- ▶ **Share in NPV (recommended scenario)**
  - **Local (~50%); State (~34%) and National (~16%)**
  
- ▶ **Dependence value (~50%) and Disturbance value (~50%)**

# Externalities of forest diversion

- ▶ A disaggregated cost-benefit analysis of forest diversion for a hydro-power dam

Item	User-agency	SHs at local level	SHs at state level	SHs at national level
Benefits	20391	956	15299	28794
Costs	18990	4967	0	20393
CBA	<b>0.93</b>	<b>5.20</b>	<b>Infinity</b>	<b>0.71</b>
Overall CBA		<b>0.68</b>		

# Recommended institutional changes

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- ▶ **Greater decentralization in management and utilization of funds**
- ▶ **Many activities recommended can be carried out efficiently at local level**
  - **e.g. providing water services where forest diversion has impacted water supply**
- ▶ **Imperative to involve Gram Sabhas (most fundamental governance unit) and JFMCs**

# Recommended institutional changes

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- ▶ **Many projects face local resistance due to loss of livelihoods**
- ▶ **Decentralization can harmonize development and conservation activities**
- ▶ **A 3-tier structure for management of funds is recommended**
- ▶ **An institutional mechanism to compensate losses of SHs at local level is needed**





**Thank you**



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