













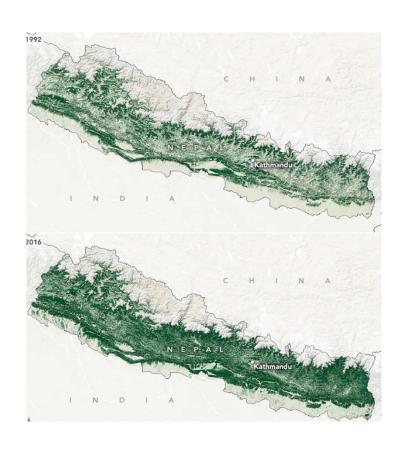






#### Forest cover and poverty have improved

- Impressive increases in forest cover; 45% in 2019 (Acharya et al 2022; MoFE, 2022)
- Forest cover increased and poverty reduction
  - Community forestry for public forests (Oldekop et al 2019; Acharya et al 2023; Libois et al 2022)
  - Out-migration (Li et al 2022; Chhetri et al. 2023): remittances reduce dependency on public forests.







Source: NASA Land-Cover and Land-Use Change Program

#### Other changes have been observed

- Increase in tree-planting on private agricultural lands (land use changes)
- Remittances come in; labor in short supply
- Are forests still important for livelihoods, poverty and inclusive development?
  - Public forests (govt. managed/protected; community forest; leasehold, religious; collaborative)
  - Private 'forests': groves of trees on private agricultural land (private afforestation/tree planting)







## Large-sample socioeconomic surveys that also deal with environmental amenities

- Not done often due to several factors:
  - Technical complexities
  - Different jurisdictions (in ministries and WB)
  - Takes time
  - Takes money
  - Takes coordination
- When done, can be very informative for guiding investments, policy, dialog
  - If forest products are not traded, GDP will not capture them





#### 4<sup>th</sup> Nepal Living Standards Survey (3<sup>rd</sup> Wave)

- Nationally representative sample of 3,204 households
- Main module: demographic, income, expenditure, assets, etc.
- Forest module:
  - Dependency (and change in) on forest products from public and private forests
- Examine
  - Importance of public forests and private treelands in welfare of households
  - Inclusiveness (economic and social)





### Many households depend on forest products

(N =3,204 households)	Nationally representative
Access public forests for NTFPs	37%
Access private trees for NTFPs	48%
Access either public forests or private trees	66%





#### Females collects forest products

(N = 3,204)	Firewood collection (% hhs)	Other forest products (% hhs)			
Use male hh labor	27%	22%			
Use female hh labor	45%	40%			





#### Dependency on products is high

- Public forests
  - Firewood (45%); grass (22%); litter (17%)
  - Other products are food items, medicinal plants
  - Value of products ~17% of food consumption value per household
- Private forests
  - Firewood (45%); grass (30%), litter (27%)
  - Other products are food items, bamboo
  - Value of products ~18% of food consumption value per household





# Forest use by p.c consumption expd. quintiles suggest equity in access

N = 3,204 households

	Q1	Q2	Q3	Q4	Q5	Total
Don't access any	0.05	× 0.07 ≈	0.11 <	0.25	<b>&lt;</b> 0.52	1.00
Access public forests only	0.20	× 0.24 ≈	0.30	0.18	>> 0.09	1.00
Access private trees only	0.22	× 0.21 ≈	0.23	<b>0.22</b>	<b>&gt;&gt;</b> 0.12	1.00
Access both	0.23	<mark>≈</mark> 0.25 ≈	0.24	<b>0.19</b>	>> 0.10	1.00

- Larger share of hhs. in higher quintile of p.c. con. expd. dont access any forest >> sign of GRID
- Larger shares of hhs. in q1-q3 access public forests than in q4-q5 >> progressive use of shared resources
- Larger shares of hhs. In q1-q4 access forest products from their private resources >> 'rich' and 'poor' households are creating environmental amenities
- Larger shares of hhs. in q1-q3 access forest products from both than in q4-q5 >> progressive use and creation of resources





### Forests are important safety nets for the poorest

In the last 5 years, how has your household's consumption of forest products changed? Plotted against per-capita consumption quintiles generated by NLSS

	Q1		Q2			Q3		Q4		Q5
INCREASED	0.18	>	0.15	>	>	0.10	>	0.07	>	0.04
DECREASED	0.35	$\approx$	0.36	<b>≈</b>	3	0.35	>	0.24	>>	0.14
NO CHANGE	0.28		0.31			0.31		0.26		0.14
NOT APPLICABLE	0.19	$\approx$	0.18	<	<	0.23	<<	0.43	<<	0.68
	(sum =1)		(sum = 1)		(s	um = 1	)	(sum =1)		(sum =1)





#### **Policy Implications**

- Forests are important (esp) for energy needs; have high 'value' despite not traded
- Public forests show progressiveness; cater to economically/socially vulnerable; safety-nets
  - Progressive in access by economic status; equity by social status
  - Would 'commercial development' of opportunity affect these impressive achievements?
  - Builidng on the institution of comm. For. User groups; hw they are managed etc. (develop)
- Private forests are an emerging asset by ALL households (esp. remittance/women headed)
  - Help increase forest cover
  - Support sustenance of rural households; ease pressure from public resources
  - Case for supporting private activity to raise value and incomes
    - Tree mix (cash vs. products to satisfy males and females)
    - Local saw mills
    - Regulations related to private land
    - Extension for afforestation (not available in Nepal)





