

FOREST MANAGEMENT OPPORTUNITIES AND CHALLENGES IN NEPAL




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Presentation Outline

- Potential of Forest Management in Nepal
- Past and Present Forest Management Activities and their appropriateness in connection with scientific/sustainable forest management
- The way forward
- Total slide 31, estimated time 1 hr.


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REACHABLE FOREST

- A forest that is not non-reachable is reachable forest
- Non-reachable forest: a forest area that is located on a slope of more than 100% (45 degree), or surrounded by steep slopes, land slides or other physical obstacles. Also forests inside the protected areas (NPs, WRs, and CAs)

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Reachable forest area

- 2.18 million ha (about 51%)

Region	Reachable Forest Area (RFA)	Non-RFA	Total Forest Area	RFA (%)
FWDR	358800	328600	6874000	52.2
MWDR	454400	738000	11924000	38.1
WDR	262100	472200	7343000	35.7
CDR	527700	390900	9186000	57.4
EDR	576300	159800	7361000	78.3
Total	2179300	2089500	42688000	51.1

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Growing stock of reachable forests

- Average GS : 178 m³/ha
- Maximum : 200 m³/ha (FWDR)
- Minimum : 157m³/ha (MWDR)
- Total growing stock (stem volume)
 - Over bark : 387.5 mm³
 - 10 cm top under bark : 285 mm³
 - 20 cm top under bark : 239.8 mm³

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Growing stock of reachable forests by altitude

Altitude	Percent reachable forest area	Percent GS of reachable forests
Up to 1000 m	55	50
Up to 2000 m	81.13	69.24
Up to 2500 m	90	80

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Focusing Management Efforts on Important Forests

- **Chirpine** (in western Nepal)
- **Terai forests**
 - Sal
 - Asna and Karma
 - Khair-sissoo
 - Other (Banjhi, Jamun, Botdhayaro etc.)
- **Schima-castanopsis** forest including **Alnus nepalensis** (in eastern Nepal)

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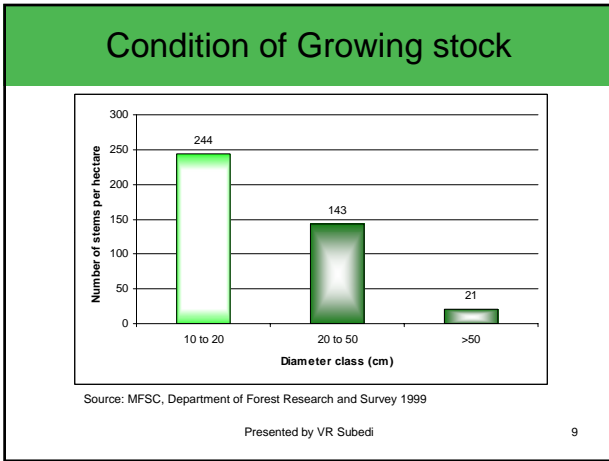
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Share in total GS

Forests	% share in total GS	Growing stock (mm ³)
A. Terai forests	43.6	15.2877
Sal	28.2	9.8947
Asna(7.6%), Karma(1.8%)	9.4	3.2982
Khair(0.6)-sissoo(0.57)	1.17	0.4105
Other (Banjhi 1.6%, Jamun 1.9%, Botdhairo 1.3%)	4.8	1.6842
B. Chirpine forests	6.3	2.2105
C. Schima (2%)-castanopsis(1%), Alnus(2.9%) forests	5.9	2.0702
Total :	55.8	158.9445

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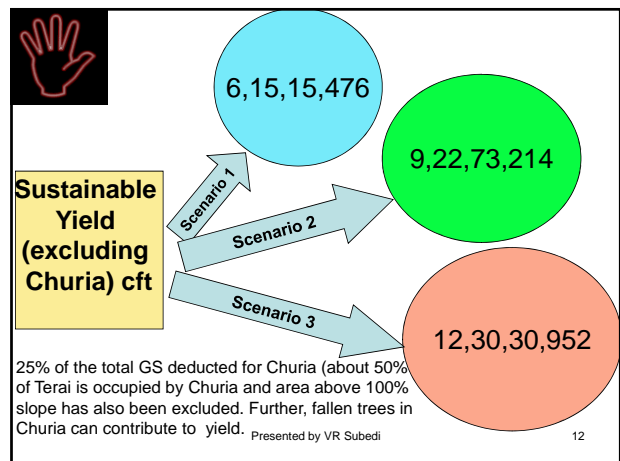
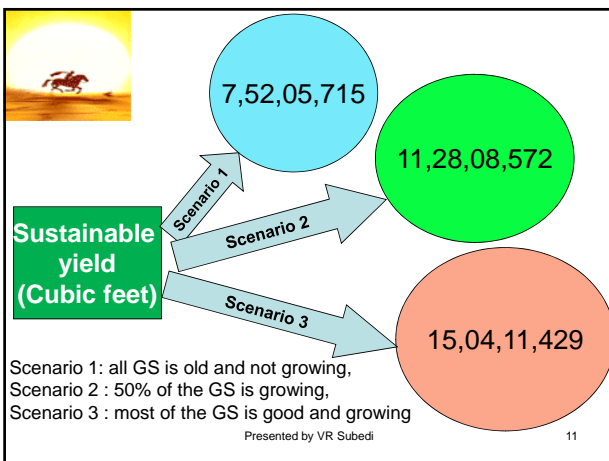
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Sustainable yield

Forests	Growing stock (mm ³)	R (yr)	Yield (million cubic meter)		
			No growth (G/R)	Slight growth (1.5G/R)	Growth (2G/R)
A. Terai forests	124.175	80	1.5521	2.3283	3.1044
B. Chirpine forests	17.955	60	0.2993	0.448875	0.5985
C. Schima (2%)-castanopsis(1%), Alnus(2.9%) forests	16.815	60	0.2803	0.420375	0.5605
Total :	158.945		2.1317	3.1975	4.2634
Yield in cubic meter			2131681	3197522	4263363

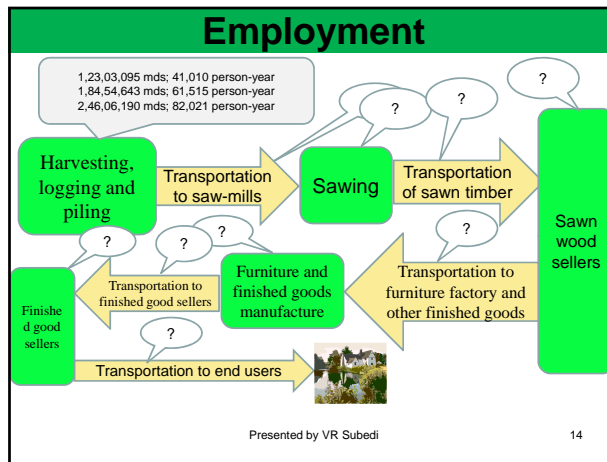
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Income (Royalty)		
Scenario 1	Yield 6,15,15,476 cft	Royalty (NRs) 19,49,50,00,350
Scenario 2	Yield 9,22,73,214 cft	Royalty (NRs) 29,24,25,00,525
Scenario 3	Yield 12,30,30,952 cft	Royalty (NRs) 38,99,00,00,700

400/cft Terai, 150/cft other

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- ### Forest Management Practice in Nepal
- Selling of Sal Timber to East-India-Company for railway slipper (since 1927)
 - Establishment of Kathmahal for administration of timber extraction and timber trade
 - Nationalization of Private Forests in 1957
 - Establishment of Timber Corporation of Nepal (TCN) in 1961 for extraction and utilization of timber
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- ### Forest Management Practice in Nepal....
- OFMPs prepared for scientific management of forests in Bara, Parsa, Rauthat and Makwanpur districts by FMUDP (1991-1995)-But OFMPs not implemented
 - Expansion of CFs after Promulgation of Forest Act 1993 and Forest Rules 1994
 - Initiation of collaborative management of government managed forests since 2003
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Principal Activities in Different Management Regimes

<p>Community Forests</p> <ul style="list-style-type: none"> • Protection (from fire, illegal felling by outsiders) but encroachment and grazing largely not controlled especially in Terai • Collection of fallen, dry and old trees as per AAH from the Whole forest • Block divided but no silvicultural connection • No silvicultural system applied (or selection system?) • Focus on participation, equity, governance, empowerment and livelihood improvement 	<p>Collaborative Management</p> <ul style="list-style-type: none"> • Protection (from fire, illegal felling by outsiders) but encroachment and grazing largely not controlled • Management scheme generally scientific, uniform or irregular shelter wood system adopted • Limited implementation generally protection and collection of fallen and dry erect trees. • Focus on participation, benefit sharing, silvicultural management of forests 	<p>Government Managed Forest</p> <ul style="list-style-type: none"> • Protection • Collection of fallen and dry erect trees from the whole area • Focus on protection from illegal felling, encroachment and fire
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All management practices so far are silviculturally unsustainable/unscientific

Because

- No management regime follow silvicultural system (except CFM in plan)
- Current practices do not promote regeneration, appropriate age classes, growing stock and increment

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How current management practices are silviculturally unsustainable/unscientific

- Harvesting of AAH in CFs or fallen and dry erect trees in government managed forests are done over the whole area every year
 - Such harvesting can not create sufficient opening to invite new regeneration
 - Harvesting, logging and transportation process damages regeneration if any and creates undesirable tracks
 - Uncontrolled grazing (which exists in almost all forests including CFs-for example grazing is open in all 94 CFs in Kapilbastu district) further aggravates the problem

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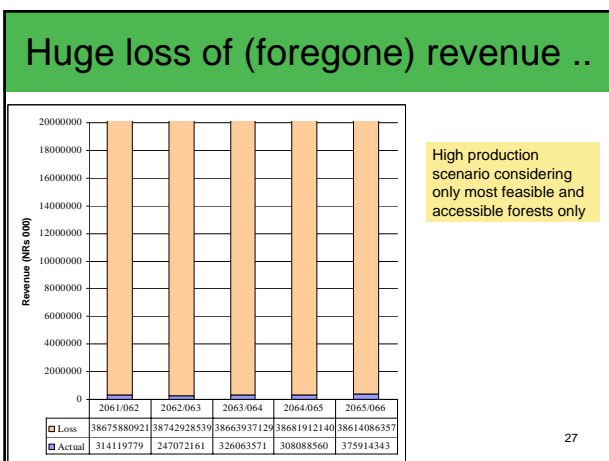
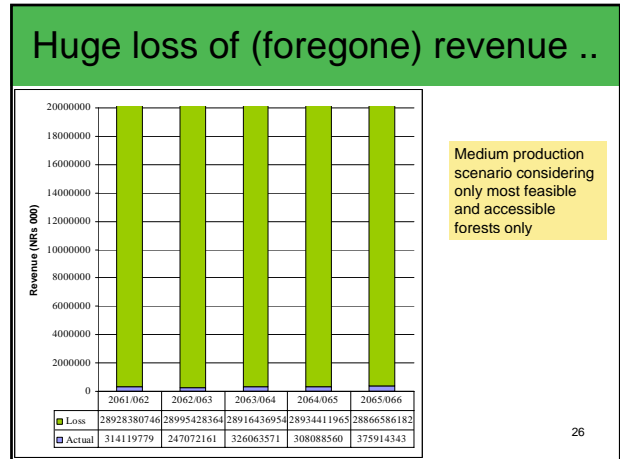
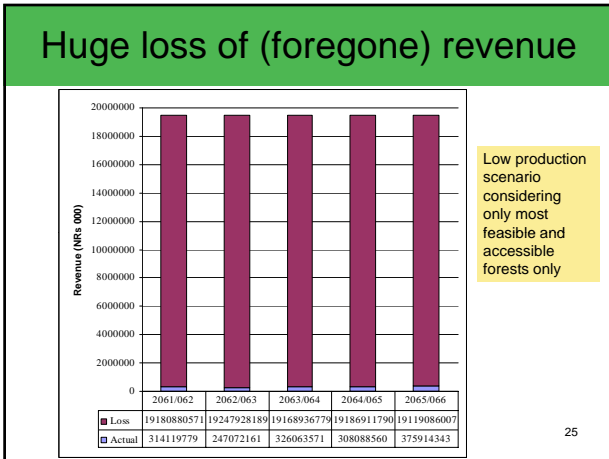
A case of Navajagriti CF in Kapilbastu District

- Area-95 ha.
- Growing stock-268m3/ha
- Regeneration-nil
- Open grazing
- Forest Condition-Medium as per inventory guidelines
- Growth-2% (as per inventory guidelines)
- AAH-60% of AAH (i.e. 1.2%)= about 4500 cft
- AAH collection from the whole area every year-generally fallen, dry and very old trees extracted



Navajagriti CF, Pipara Kapilbastu

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Financial Return of Forest management is very high

- For example
 - Benefit - cost ratio of Tilaarakot CFM is 4:1
 - Benefit -Cost ratio of Gautambuddha CFM is 3:1
 - Benefit-Cost ratio of Banganga CFM is 3.5:1

Return period is short (8-9 months only)-Kartik to Asar

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The way forward

- Reorienting policies and priorities towards scientific forest management of all types of forests (CF, GMF and CFM)
- Immediately start scientific (silvicultural system based) forest management-to start with regional or district based piloting may be under taken
- Reorient human resource so that OPs (including CF OPs) are prepared following silvicultural systems

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The way forward.....

- Carry out research on silvicultural systems for different types of forests and different management regime
- Promote adaptive management approach (guideline based administrative management may not be effective for complex ecosystems like forests)
- Zoning of forests with permanent boundary
- Follow plans and learn from it. Plan once approved is the responsibility of all, not only DFO's

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The way forward.....

- Respond the market demand with appropriate management of forest and ensure steady supply of forest products (necessary for garnering public support for forest protection and controlling illegal felling)
- Human resource development, use of appropriate technology (GPS, GIS, Internet) and equipments
- Ensure predictable tenure of DFOs

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Thanks !
Welcome for any
queries and suggestions

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