

FOREST MANAGEMENT OPPORTUNITIES AND CHALLENGES IN NEPAL



VIJAYA RAJ SUBEDI
LIFE MEMBER
NEPAL FORESTERS' ASSOCIATION



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.

Presented by VR Subedi 2



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)

Presented by VR Subedi 3



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

Presented by VR Subedi 4

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

Presented by VR Subedi

5



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

Presented by VR Subedi

6

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)

Presented by VR Subedi

7



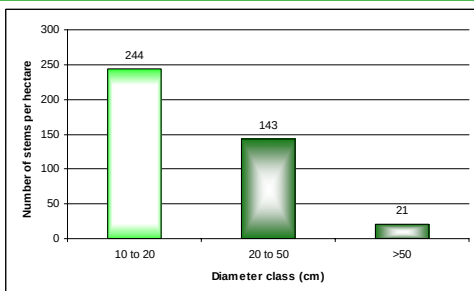
Share in total GS

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

Presented by VR Subedi

8

Condition of Growing stock



Source: MFSC, Department of Forest Research and Survey 1999

Presented by VR Subedi

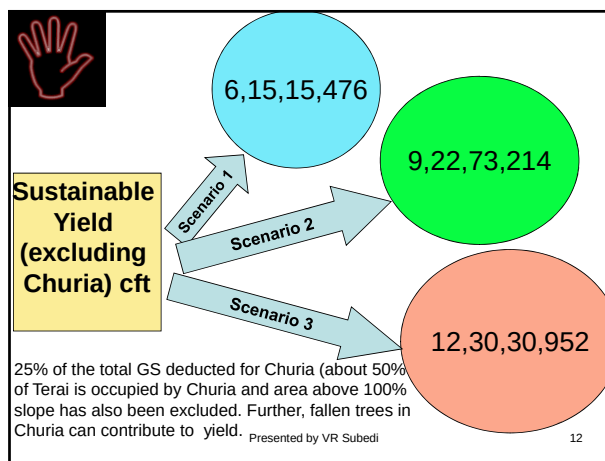
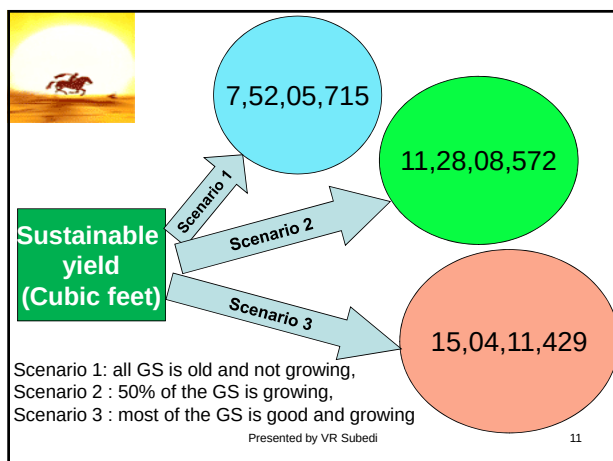
9

Sustainable yield

Forests	Growing stock (mm3)	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

Presented by VR Subedi

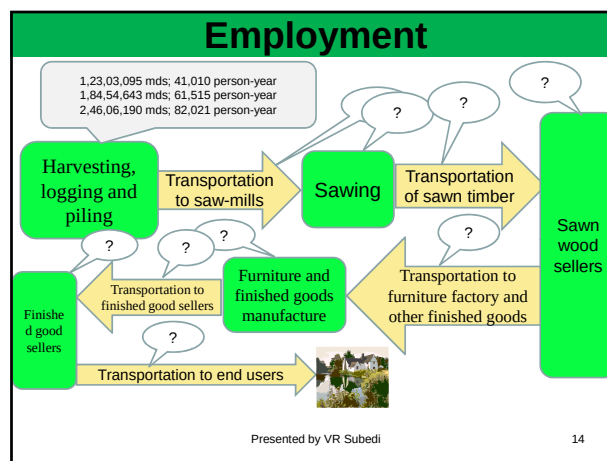
10



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

400/cft Terai, 150/cft other

Presented by VR Subedi 13



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

Presented by VR Subedi

15

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

Presented by VR Subedi

16

Principal Activities in Different Management Regimes

Community Forests

- 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

Collaborative Management

- 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

Government Managed Forest

- Protection Collection of fallen and dry erect trees from the whole area
- Focus on protection from illegal felling, encroachment and fire

17

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

Presented by VR Subedi

18

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

Presented by VR Subedi

19

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

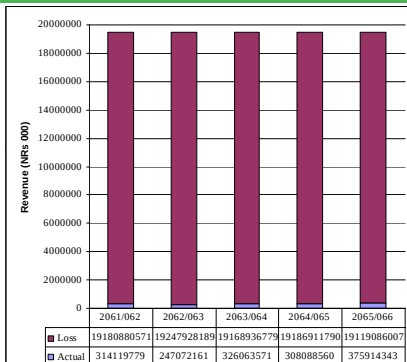


Navajagriti CF, Pipara Kapilbastu

Presented by VR Subedi

20

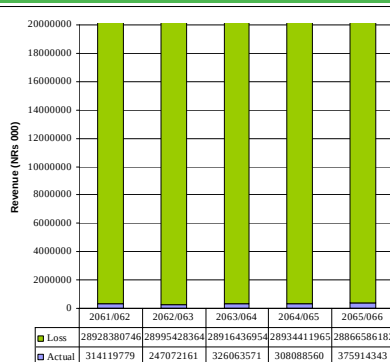
Huge loss of (foregone) revenue



Low production scenario considering only most feasible and accessible forests only

25

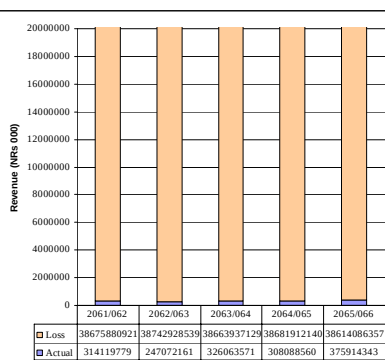
Huge loss of (foregone) revenue ..



Medium production scenario considering only most feasible and accessible forests only

26

Huge loss of (foregone) revenue ..



High production scenario considering only most feasible and accessible forests only

27

Financial Return of Forest management is very high

- For example
 - Benefit - cost ratio of Tilaurakot 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

Presented by VR Subedi

28

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

Presented by VR Subedi

29

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

Presented by VR Subedi

30

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

Presented by VR Subedi

31



Thanks !
Welcome for any
queries and suggestions

Presented by VR Subedi

32