

Generating Impetus from within to address External Stimuli: Global Trends and Local Actions

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Global Trends Seminar, RRI and KSLA

“Blue Skies” deliberations

- State
- Market (commodification and carbonization)
- Communities
- Non-traditional Security (food security, energy security, ecological/environmental security, water scarcity and conflicts, etc.)
- Communities and the poor; equity/inequity; assets and agency of communities

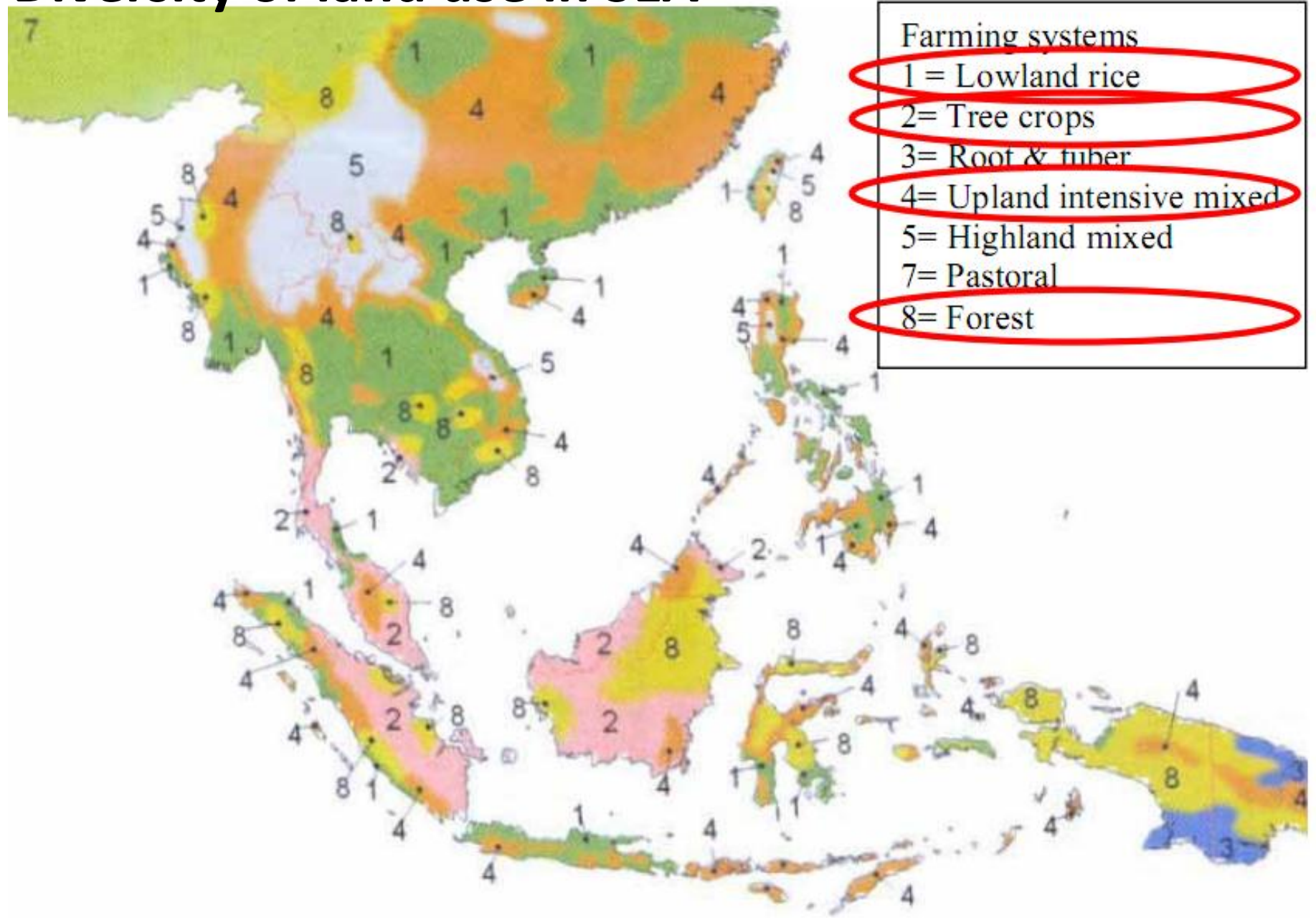
Specificities of Asia/SEA

- Weather and Climate Extremes (Philippines, Bangladesh, Vietnam: typhoons etc.)
- Sea level and temperature rise (settlements and biodiversity)
- Water Scarcity, floods, and glacier melts
- Land use emissions and agrarian transformations (shifting cultivations, plantations, forest areas, food crops estates, logging etc.)

Specificities of Asia/SEA

- Ecological refugees and environmental security
- Demographic Shifts and transitions (increase in youth populations but the “hollowing out” of rurality)
- Diverse ecological zones, and diverse social and ethnic groups (local variations, IP rights, customary practices and local governance structures/nested governance systems of social groups and NRM practices)
- Increasing fundamentalism

Diversity of land use in SEA



CHINDIA FACTOR

- 2nd largest economy and economies that have emerged
- Development and economic growth and the poor falling through the cracks
- Balance and necessity for economic and social rights; safety nets; social protection schemes
- Increasing vulnerabilities of the poor and poor as assets and with their own agency

Trends in forest and land-use in the region

- Forest size in Southeast Asia 1990 – 2010 contracted by 3.32 million hectares (FAO 2010)
- *Forest cover:* In the two decades beginning 1990, there has been a net increase in forest cover for the Asia-Pacific region of about 0.7 million hectares (FAO, 2010)
- *Land-use change:* Market forces and national policies have in many cases established sets of perverse incentives, leading to the degradation or conversion of other land uses such as for agriculture, commercial plantation, land commercialization, mining, and urban development
- *Drivers of deforestation:* Rates of deforestation are highest in Southeast Asia, where forest cover decreased by 0.41% per annum between 2000-2010, compared to a 0.36% annual decrease in Oceania, 0.28% annual increase in South Asia, and annual increase of 1.16% in East Asia (FAO, 2010). A key driver of deforestation throughout the region is agricultural expansion for crops and food production, which in turn is being driven by population growth and a growing global demand for biodiesel, foodgrain, and cash crops such as rubber, sugarcane and coffee (Wertz-Kanounnikoff and Kongphan-Apirak, 2008).

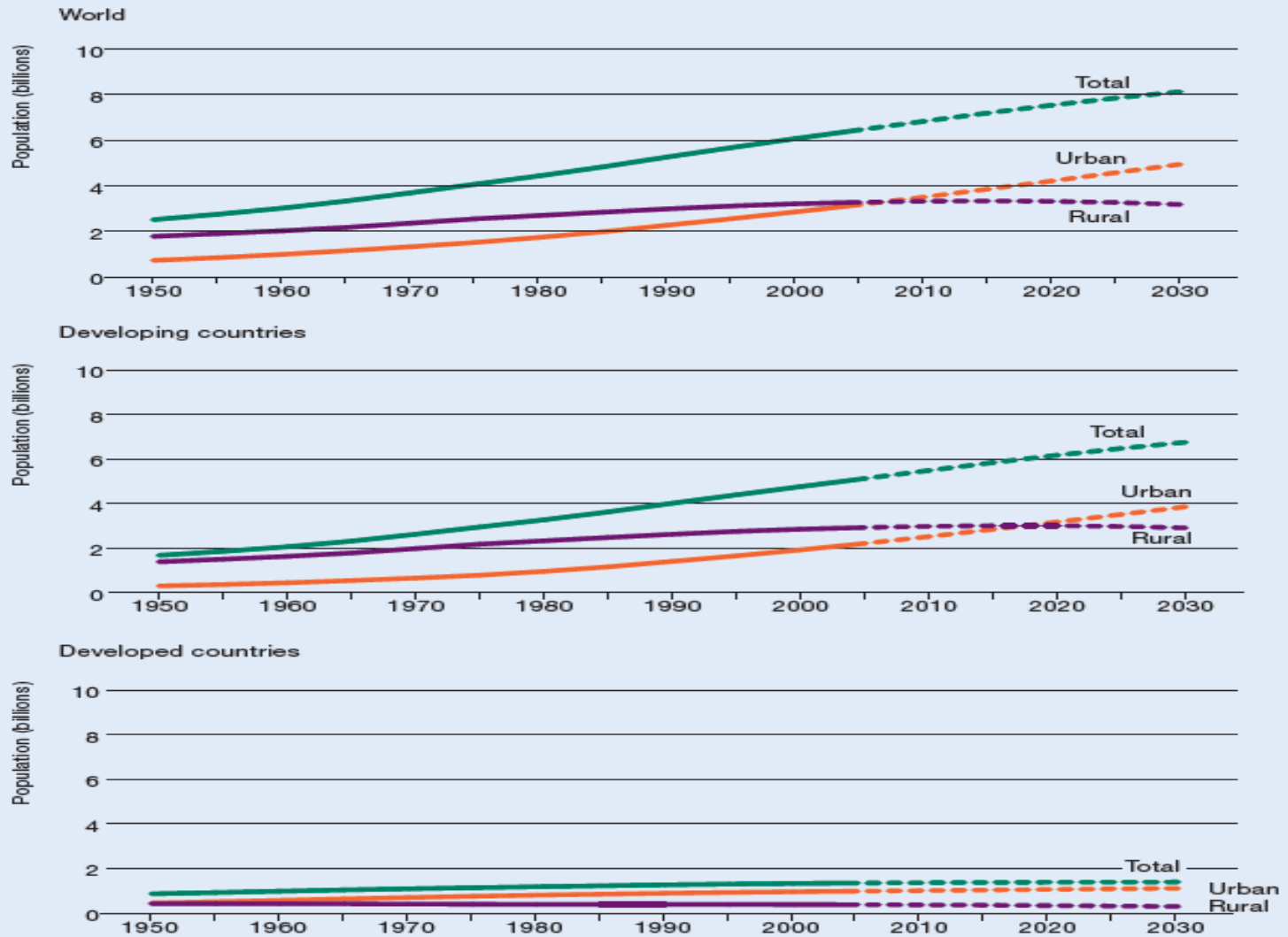
- *Drivers of degradation:* major contributions: intensive logging; subsistence collection of fuelwood, construction timber and non-timber forest products (FAO, 2005); unclear land tenure and use rights; illegal logging
- *Forest ownership:* Sixty-eight percent of forest resources in Asia are currently state owned, while 25% are owned by communities or indigenous peoples, according to a 2009 report that analyzed data from eight Asian countries, accounting for 90% of Asia's tropical forests. The area of forest land designated for community use increased by 45% between 2002 and 2008 (RRI, 2009).

Source: FAO Regional Report, 2010: Forests and climate change in the Asia-Pacific Region

Key demographic developments and implications for land and resource use

- *Population growth*: expected to grow by 600 million between 2010 – 2020 in Asia-Pacific region, reaching a total of 4.2 billion people (FAO, 2009a)
- *Increasing wealth*: as higher incomes lead to reduced dependency on forests for daily subsistence and livelihoods
- *Residual poverty*: 640 million people in the Asia-Pacific region live on less than USD 1/day, a high percentage of whom live in and around forested areas (ADB, 2007)
- *Industrialization*: The economies of many countries in the Asia-Pacific region, particularly in Southeast Asia, are shifting towards the development of value-added manufacturing industries and services. This has led to a decline in the proportion of people employed in agriculture, and the contribution of agriculture to domestic incomes (FAO, 2009a). The expansion of industry is also placing increased pressure on forest areas, as they are cleared for mining activities and infrastructure development in Indonesia, Malaysia, Thailand and the Philippines

The world's population is shifting to the cities

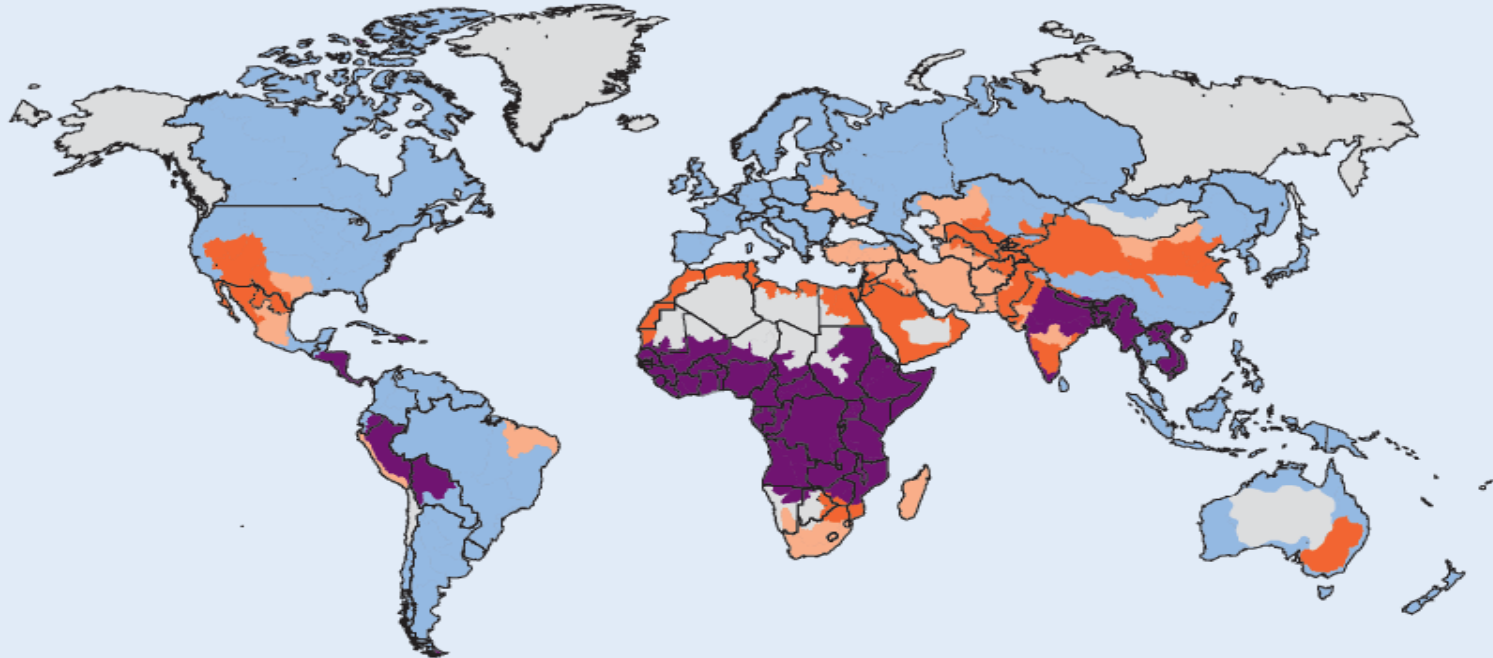
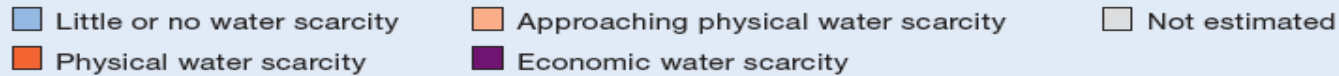


Source: FAO 2006b.

- *Energy consumption:* increasing exponentially throughout the region, especially in countries such as China and India. Globally, woodfuels comprise about 7 % of the world's total primary energy consumption. Of this, approximately 44 % is in Asian countries (UNASYLVA, 2002). Dependent on fuelwood as their primary energy source remains high.
- *Water consumption:* Agriculture outpaces industrial and domestic use of water; Highest water consumption rate in the Asia-Pacific region. Water scarcity will impact the expansion of agriculture and industry, and inhibit economic growth in countries facing freshwater shortages, especially Australia, China, India, Mongolia and Pakistan (UNESCAP, 2002).
- Water is currently free or heavily subsidised by governments for farmers, encouraging inefficient use and waste. Water pricing for agricultural use is a politically inflammable policy which is likely to become unavoidable over the next decade

Source: FAO Regional Report, 2010: Forests and climate change in the Asia-Pacific Region

Areas of physical and economic water scarcity



Definitions and indicators

- *Little or no water scarcity.* Abundant water resources relative to use, with less than 25% of water from rivers withdrawn for human purposes.
- *Physical water scarcity (water resources development is approaching or has exceeded sustainable limits).* More than 75% of river flows are withdrawn for agriculture, industry, and domestic purposes (accounting for recycling of return flows). This definition—relating water availability to water demand—implies that dry areas are not necessarily water scarce.
- *Approaching physical water scarcity.* More than 60% of river flows are withdrawn. These basins will experience physical water scarcity in the near future.
- *Economic water scarcity (human, institutional, and financial capital limit access to water even though water in nature is available locally to meet human demands).* Water resources are abundant relative to water use, with less than 25% of water from rivers withdrawn for human purposes, but malnutrition exists.

Source: International Water Management Institute analysis done for the Comprehensive Assessment of Water Management in Agriculture using the Watersim model.



Photo by Mats Lannerstad

Economic water scarcity: water exists in nature, but access is difficult

Real GDP growth of ASEAN, developing Asia and the world

Country	Average Growth ^a		Projected Growth ^b		
	1990–99	2000–2007	2008	2009	2010
Brunei Darussalam	2.1	2.3	-2.7	-0.4	2.3
Cambodia	..	9.5	6.5	2.5	4.0
Indonesia	4.1	5.1	6.1	3.6	5.0
Lao PDR	6.4	6.6	7.2	5.5	5.7
Malaysia	7.1	5.6	4.6	-0.2	4.4
Myanmar	6.0	12.0	2.0 ^a	6.0 ^a	4.0 ^a
Philippines	2.8	5.1	4.6	2.5	3.5
Singapore	7.5	6.0	1.1	-5.0	3.5
Thailand	5.1	5.0	2.6	-2.0	3.5
Vietnam	7.4	7.6	6.2	-2.0	3.0
ASEAN-5	4.6	5.4	4.3	0.7	4.2
World	2.9	4.1	3.9^a	3.0^a	4.2^a
Developing Asia	7.2	8.1	6.3	3.4	6.0

Note: Developing Asia composed of 23 countries which includes ASEAN 5 (Indonesia, Malaysia, Philippines, Singapore, and Thailand), India, PRC and 16 other Asian countries.²

Sources: ^aIMF World Economic Outlook October 2008b; ^bADB Asian Development Outlook 2009b.

Source:

<http://www.adbi.org/files/2009.05.27.wp138.infrastructure.dev.asean.economic.pdf>

Infrastructure access indicators in selected ASEAN member countries (% of total population)

Infrastructure	Cambodia	Indonesia	Myanmar	Viet Nam
Electricity	10.0	80.0	5.0	60.0
Water	34.0	78.0	80.0	73.0
Sanitation	16.0	52.0	73.0	41.0
Teledensity	38.0	127.0	8.0	88.0
Road Density (population)	1.0	1.7	-	1.2
Road Density (area)	70.0	203.0	-	287.0

Notes: Electricity: Access to electricity network; Water: access to improved water sources; Sanitation: access to improved sanitation; Teledensity: telephone subscribers per thousand population; Road density (population): road km/ 1,000 people; Road density (area): road km/ 1,000sq.km; -- where data is not available

Source: Estache and Goicoechea 2005.

Source:

<http://www.adbi.org/files/2009.05.27.wp138.infrastructure.dev.asean.economic.pdf>

Private sector investments in ASEAN 1990–2006 (US\$ million)

Sector	Energy	Transport	Water & Sanitation	Telecom	Total
Cambodia	231	445		331	1,007
Indonesia	13,160	4,634	992	18,455	37,241
Lao PDR	2,586			198	2,784
Malaysia	14,313	16,113	10,144	8,577	49,147
Myanmar	719	50			769
Philippines	15,818	2,625	8,071	11,545	38,059
Thailand	12,244	3,576	596	14,254	30,670
Viet Nam	2,715	115	213	946	3,989
Total	61,786	27,558	20,016	54,306	163,666

Source: Goh Ching Yin 2008 and Nangia 2008.

Source: <http://www.adbi.org/files/2009.05.27.wp138.infrastructure.dev.asean.economic.pdf>

Climate Change (CC) effects and implications of responses to CC

- Commodification and carbonization of environmental services and goods
- Carbon centric; Carbon and other co-benefits or carbon as co-benefits (water, biodiversity, etc.); water and forests links and assumptions and perceived scarcity
- Tradeoffs and opportunity costs
- Need for spatial certainty (designated forest areas, institutional definitions and human settlements)

CC...

- REDD+ and REALU
- REDD+ has increased the stakes for everybody: legislations, policies, demarcations and boundary settings; centrality of legality of rights; who has carbon rights and who decides who has carbon rights; carbon rights being defined by land centricism (customary norms and practices and multiple claims –bundle of rights and power at stake)
- Recentralization and the role of the state, nation state, state locality relationships, administratively and implications for ongoing decentralization
- NRM dependent marginalized communities further made more vulnerable and hence the need for safeguards, due process, and collective advocacy



RaTA:

A Rapid Land Tenure Assessment Manual for Identifying the Nature of Land Tenure Conflicts

Gamma Galudra, Martua Sirait, Gamal Pasya, Chip Fay, Suyanto,
Meine van Noordwijk and Ujjwal Pradhan

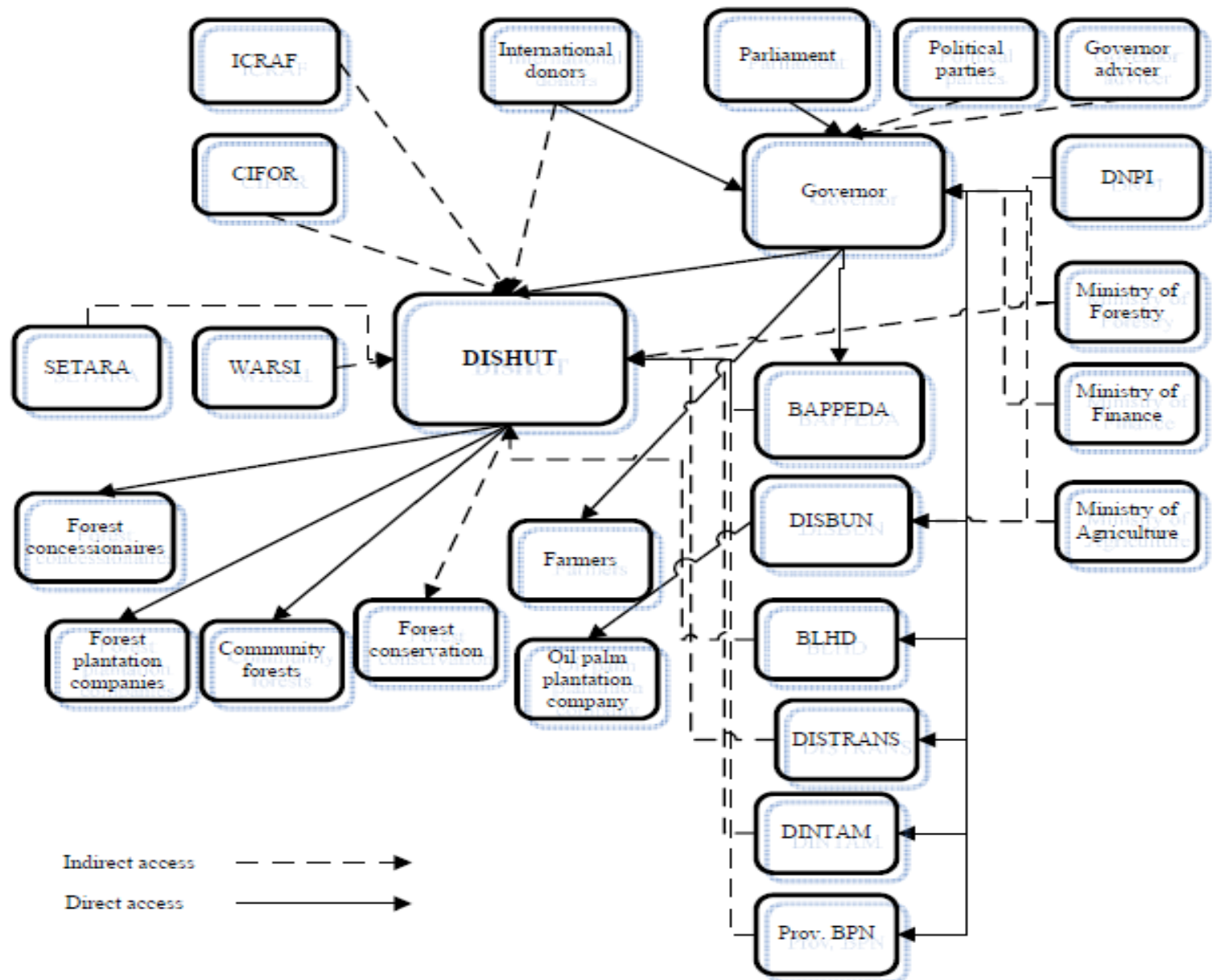
MOVING BEYOND REDD: REDUCING EMISSIONS FROM ALL LAND USES IN NEPAL

*Laxman Joshi
Naya Sharma Poudel
Hemant Chandra
Dil Bahadur Khatri
Kishor Karki*

*Rajendra Pradhan
Bhaskar Karki
Ujjwal Pradhan
Seema Karki*



Partnership for the
Tropical Forest
Margins



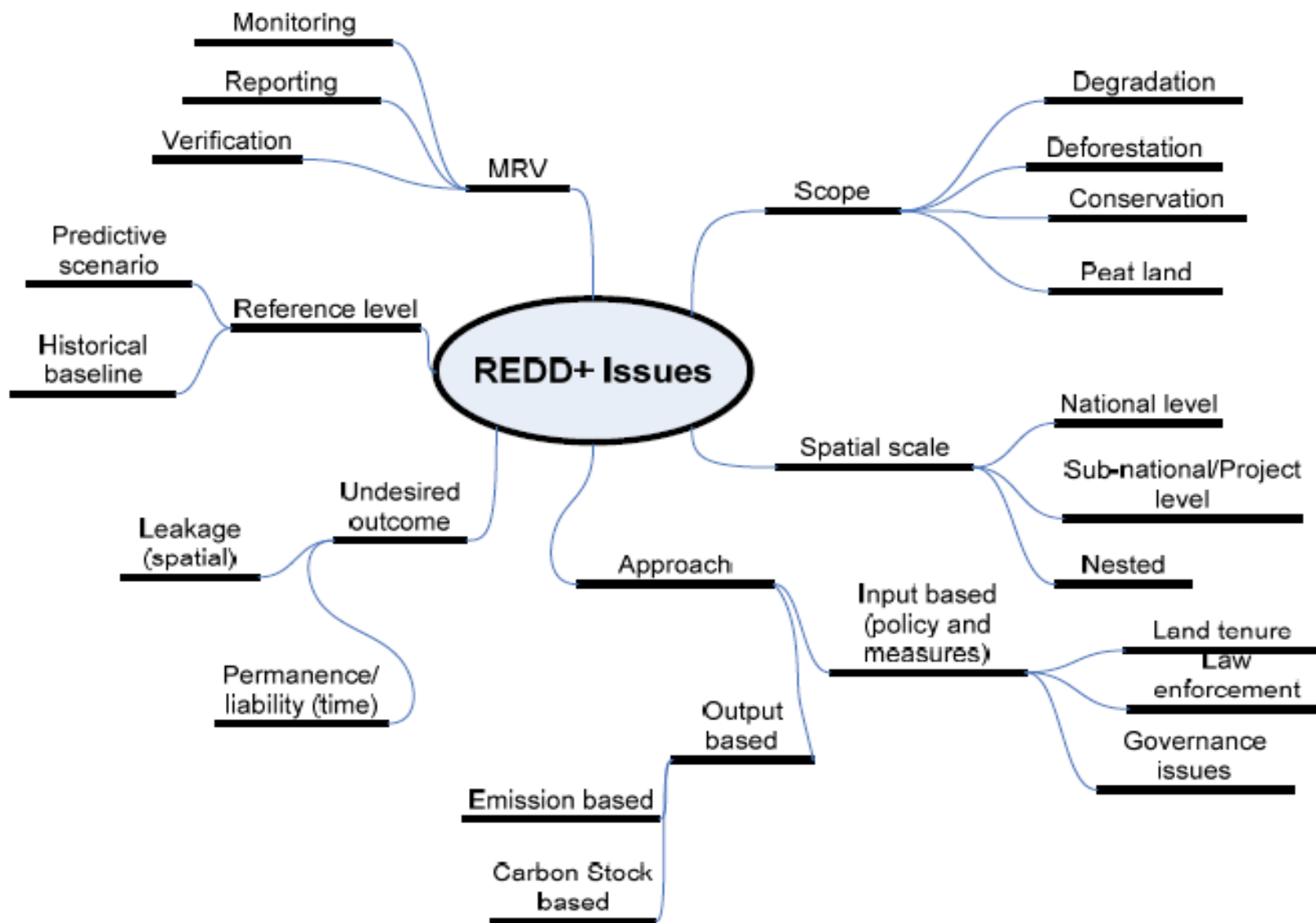


Figure 2. REDD+ issues

CC...

- Land based carbon accounting vs commodity based (nation states accounting vs consumers)
- LU emissions from designated areas vs focusing on where emissions can be reduced
- Green economy; low carbon development pathways and land use planning responses such as in Jambi and Central Kalimantan in Indonesia
- IP and local communities responses and political space: local adat recognition laws (central kalimantan) and mapping (counter mapping) of IP land and forest dwellers land {AMAN's work}; FPIC, IP rights, Access Principles

Shortage of land, periods of weak/unstable/corrupt forestry governance

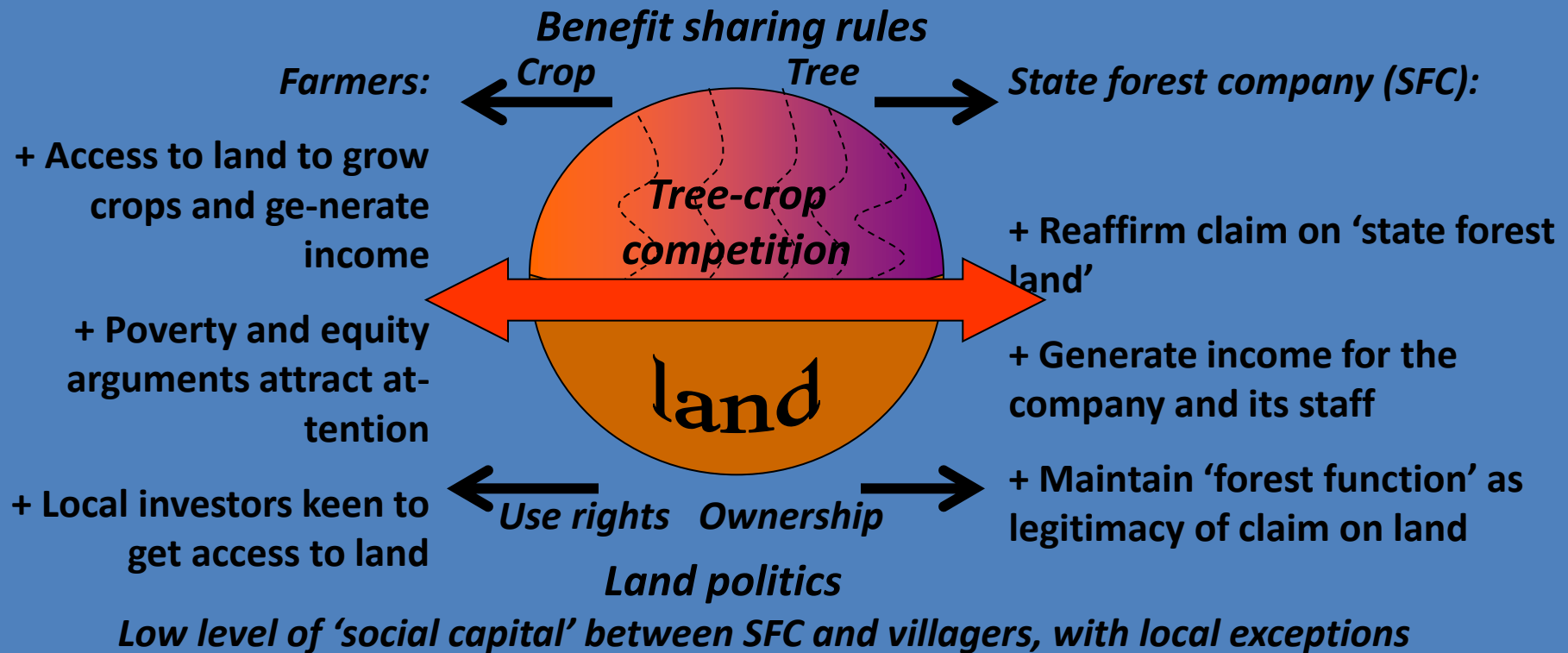
Non-fertile soils, poor market access

*Abandoned after cropping
exhausted the soil*

Fertile soils, good market access

*De facto conversion to
permanent crop production*

Taungya, Tumpang Sari, Java Social Forestry, Shamba system & similar schemes



Research questions:

1. Under what rules can outcomes satisfy both SFC and farmers?
2. Do the outcomes matter for other stakeholders in the landscape?

CC...

- Access, tenure, period of tenure (carbon accounting and intergenerational equity) and benefit sharing and distribution for marginalized groups (gender and social stratification disaggregated information vital)
- Transaction costs for managing benefits (market mechanisms vs trust fund approaches)
- Moratorium and the role of business and permit issuance
- Maps as entry points for negotiations and landuse planning

CC ...

- Research responses: c accounting; research on forest cover and local drivers of land use changes, carbon rights and customary rights,
- Fairness vs efficiency arguments (CES, COS, CIS work of ICRAF based on work pertaining to rewarding upland people for environmental services (RUPES) and implications for benefit distribution
- CGIAR reforms (megaprogramme or CGIAR research program on “Forests, trees, and Agroforests) components described in following Forest Transition Slide. {oxfam report **“Growing a Better Future”**: CGIAR annual budget of \$500 m+ is less than half the \$1.2 bn spent on R&D by the multinational company Monsanto

Supporting high C-stock livelihoods

1. There are many examples of 'agroforests' developed under local conditions that can provide adequate income > 50 persons per km² at >60 t C/ha in aboveground biomass
2. Promote appropriate frequency of '*Trees farmers want*' in landscapes managed for both marketable goods and environmental services.
3. Forest definition needs to be expanded to include other tree-based systems
4. 'REDD' needs to be more comprehensive in coverage and relatively easily 'accessible'
5. The issues of leakage and additionality needs to be addressed at appropriate scales – national accounting system
6. Need to consider indigenous communities rights, access, tenure, roles and responsibilities, distribution of benefits, accountability, +++

Tree Values

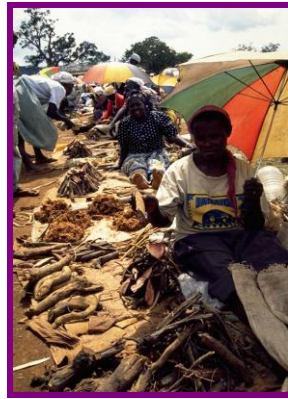
A. Trees for Products



fruit



firewood



medicine



income



sawnwood



fodder

B. Trees for Services



soil
fertility



carbon
sequestration



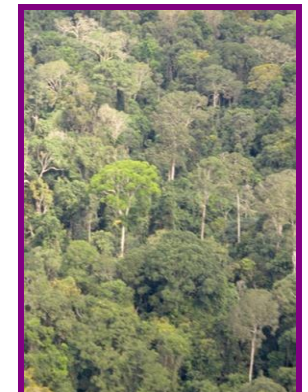
soil
erosion



watershed
protection



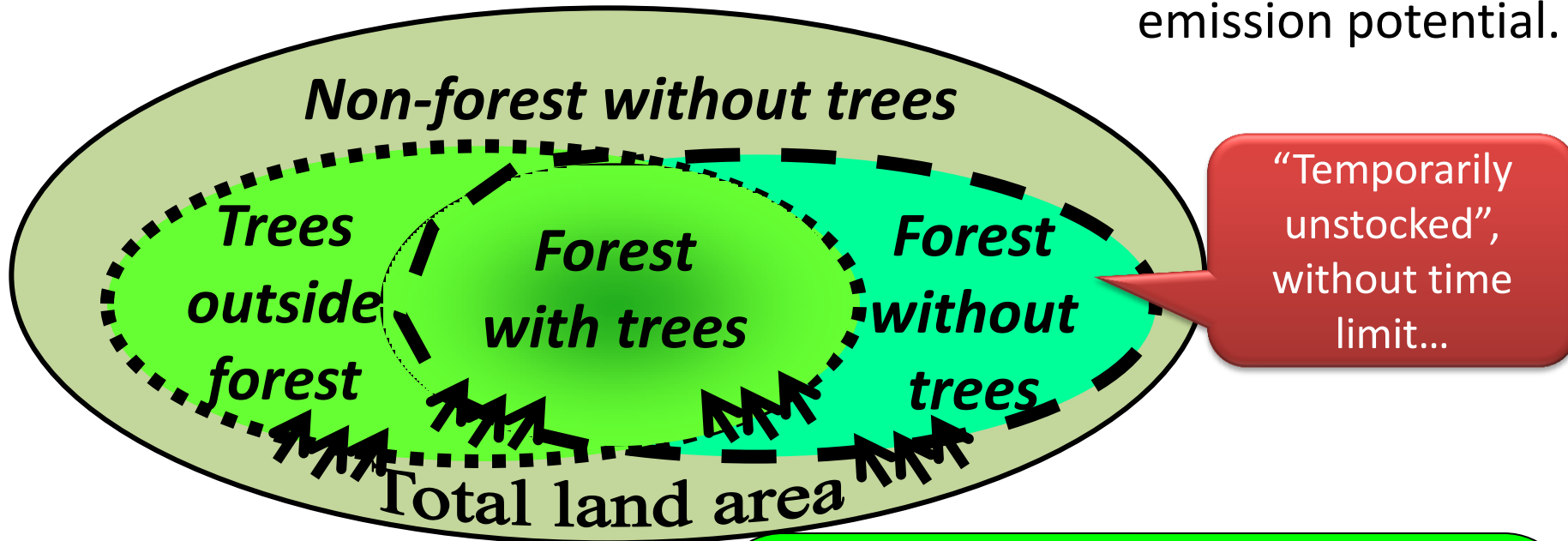
shade



biodiversity

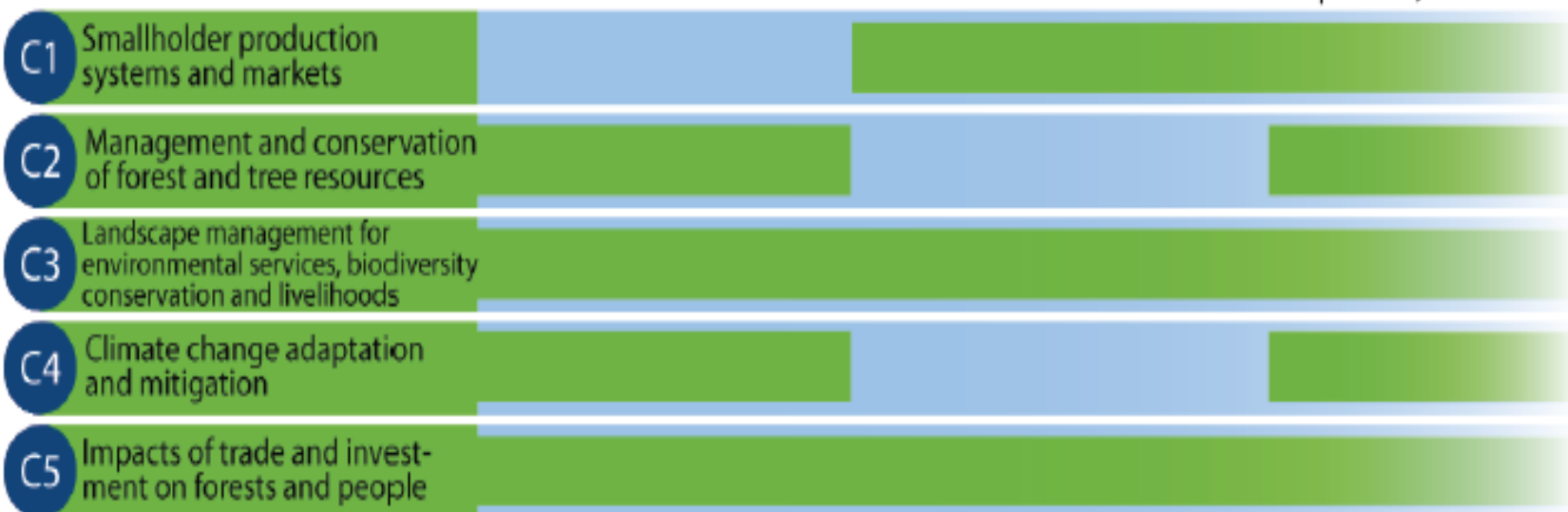
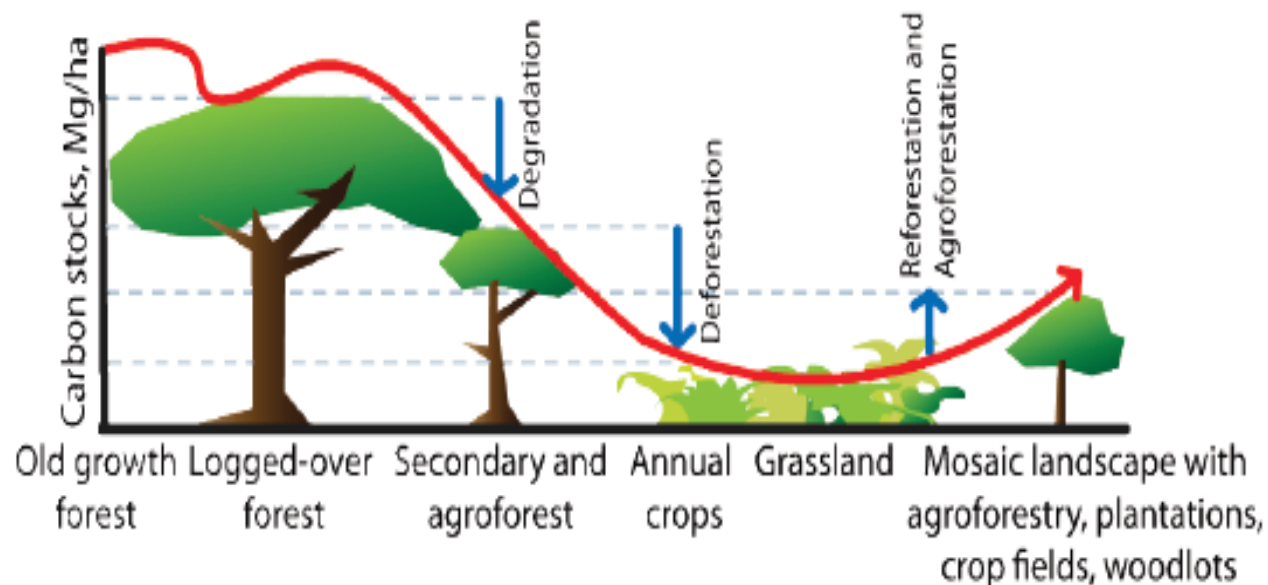
Basics: forest ↔ trees

The term '**Forest**', as defined for the UNFCCC, can cover many types of land cover and use, varying in presence of trees (including zero tree cover lands), C-storage and C-emission potential.



The term 'Non-Forest' can cover many types of land cover and use, potentially with a lot of trees, C-storage and C-emission potential.

"FORESTers Forest" – the FAO definition
Land spanning more than 0.5ha with trees higher than 5m and a canopy cover of more than 10%, or trees **able** to reach these thresholds in situ. **It does not include land that is predominantly under agricultural or urban land use.**



REALU = reducing emissions from all land uses

Reducing forest-based emissions

Reducing peat land emissions

Restocking trees & soils

Reducing agricultural N₂O & CH₄ emissions

Adaptive sustainable livelihoods and climate resilience

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Integrity of accounting system based on AFOLU guidelines

National sovereignty within differentiated global responsibility

Respect of rights of indigenous people, free & prior informed consent

Increased **efficiency** and flexibility in producing well-defined ES using operational indicators for 'scalable' ES; price based on bargaining power & total supply

CES Open market trade in 'commoditized' ES produced by legal land users on demand

ES are scalable with MRV in place

COS Compensate legal land users for skipping their opportunities to shift land use to more profitable but less ES friendly land use

Legality of land use is clear and non-contested

CIS Seek co-investment by external and local stakeholders to reduce legal, semi- and illegal threats to ES, through support for collective action and building of social & human capital

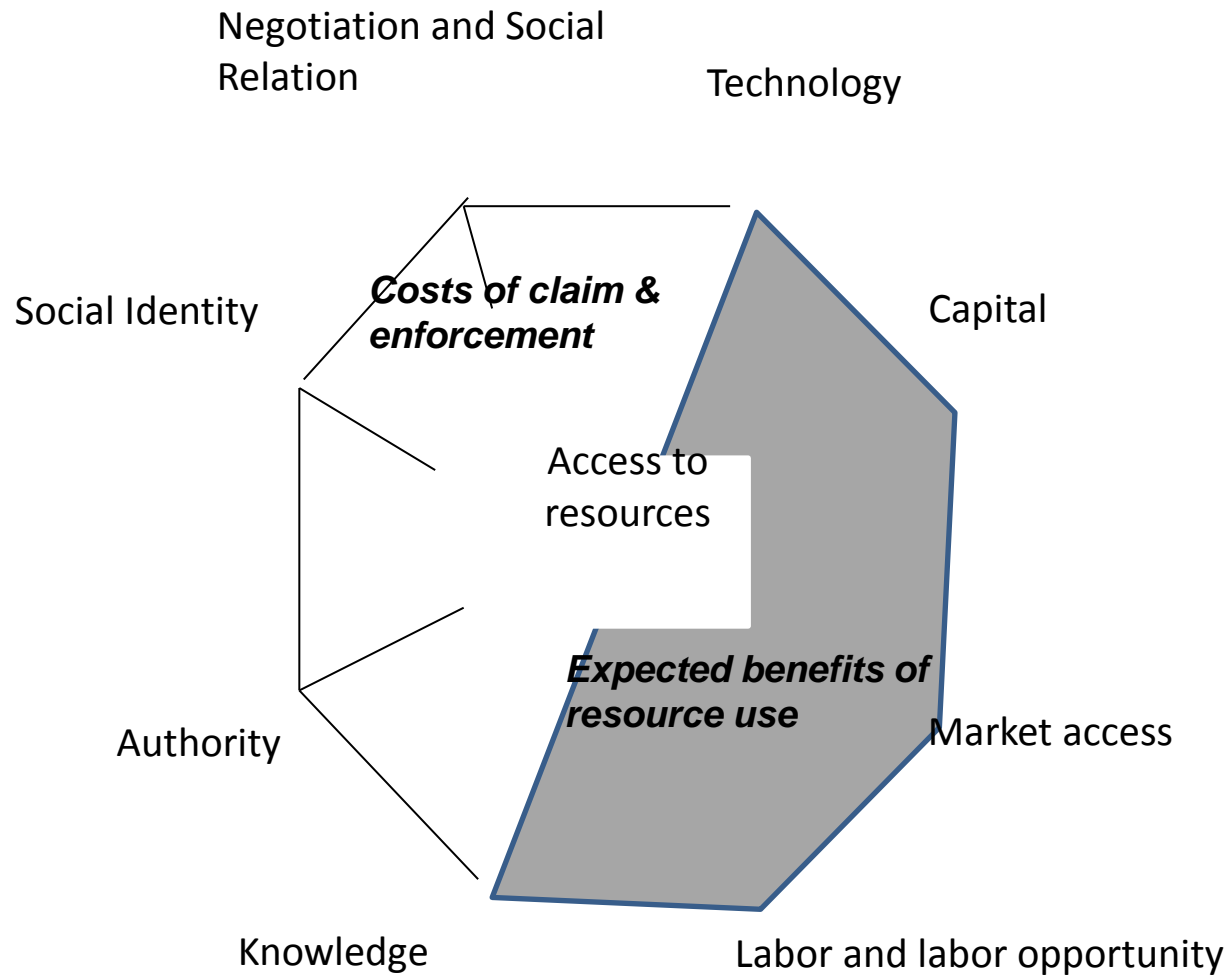
External value of environmental services exceeds local appreciation

Clarify the relationship between land use options, productivity, profitability and provision of environmental services (ES) – from the perspective of local, public/policy and scientific ecological/economic knowledge

Increased **'fairness'** and opportunity to support interest of rural poor in situations with contested land use rights and ES as emergent properties of landscape mosaics



Expectations of benefits and costs of claims and enforcement

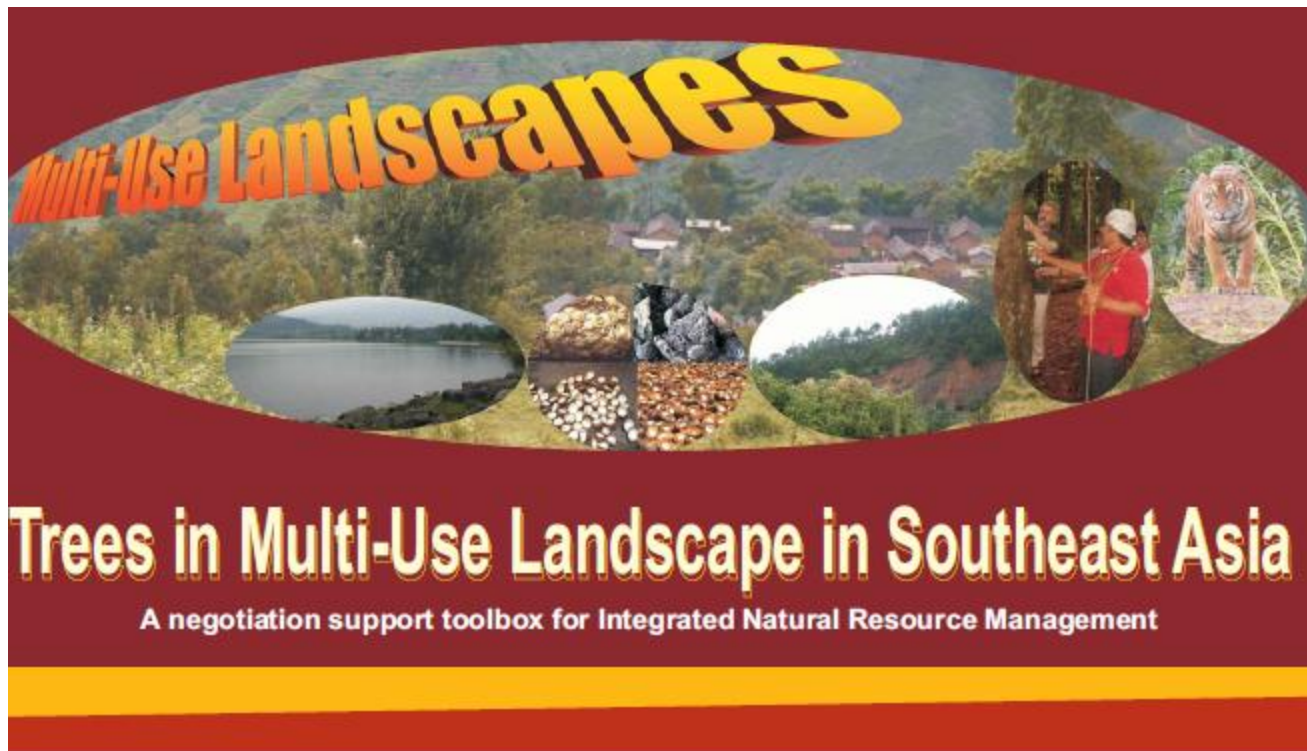


Quo Vadis

- Revisiting Rurality (providing incentives, jobs, youth concerns, local NRM governance systems)
- Supporting disaster mitigation and recovery (tree cover; right tree at the right place; settlements etc)
- Promoting smallholder producers agency in a globalized world (making markets work for the poor; collective action; food systems and food security)

Quo Vadis.....

- Partnering for a change/impact pathways
(How can we make a meaningful difference collectively);
institutional mapping and niches of institutions
- Promoting knowledge to Action reiterative process;
insightful action; praxis (ICRAF's toolkits from TULSEA
program)
- Support good environmental governance and
democratization of NRM (inclusive and consultative
land use planning and use) and the agency of the
communities; non-forestry sector mechanisms



Diagnostic tools outlined in CRP 6

Integrated Natural Resource Management (INRM) requires site-specific understanding of tradeoffs between and among the goods and services that trees in agro-ecosystems can provide. ICRAF in SE Asia has developed a negotiation support toolbox consisting of tools for rapid appraisal of landscape, tenure conflict, market, hydrology, agrobiodiversity and carbon stocks, and simulation models for tree and crop interaction at the plot level and landscape dynamics. Local resource managers in national institutions need access to cost-effective, replicable tools and approaches to appraise the likely impacts of new technologies and changes in market access and to support evidence-based negotiations of contentious issues. However, prior to wider applicability, there are needs for:

1. Cost-effectiveness tests of the toolbox under a wide range of agroforestry contexts in SE Asia conducted by the local institutions,
2. Capacity enhancement of national institutions to use these tools.

Approach of the project

The project aims to:

- bridge perception gaps between stakeholders (local, public/policy and scientific knowledge paradigms),
- increase recognition and respect for these multiple knowledge systems,



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Quo Vadis.....

- Ensuring spatial (geo-locating) certainty and equity
- Ensuring transparency and access to information and data (for low carbon emission development pathways)
- RRI collaborations focusing on community rights and amplifying community voice; safeguards; and ecology and equity nexus; resource mobilization for tenure and safeguards work and movement
- Harnessing the potential of IT for the marginalized
- Protecting and securing the hard won political space (role of CSOs and communities)

“ The Future belongs to those who
give the next generation reasons to
hope”

Peirre Teilhard de Chardin, French
Philosopher

Thank You