

Effects of Migration (incl. urbanization & remittances) on Forests and Livelihoods

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For the last 25 years, the majority of Amazonians have lived in urban places

- In 1991, the population of “Amazônia Legal” (Brazil) was 58% urban; by 2000 it was 70% urban
- The population of the Amazonian state of Amapá is about 90% urban
- The population of the Peruvian Amazon shows similar trends: Ucayali and Loreto are more than 70% urban



Demographic flows have *not* been simple, linear, or unidirectional



- Migration is not a new phenomenon
- Amazonian families have long been highly mobile
- Many Amazonian households are both urban and rural or “multi-sited”
- Many suggest that not only has contemporary rural-urban migration been largely misunderstood but that little meaningful distinction can be made between what and who is rural or urban

20 years of land use change in floodplain communities of Peruvian Amazonia

Area under use (ha)	1986	1996	2006
Average landholding	29	27	28
Forests	7	6	3
Fallows	5	12	18
Fields	8	3	2
Pastures	9	6	5



Changes over 20 years in average area of land use units on landholdings near Contamana from 1986 to 2006 from an average of 47 landholdings



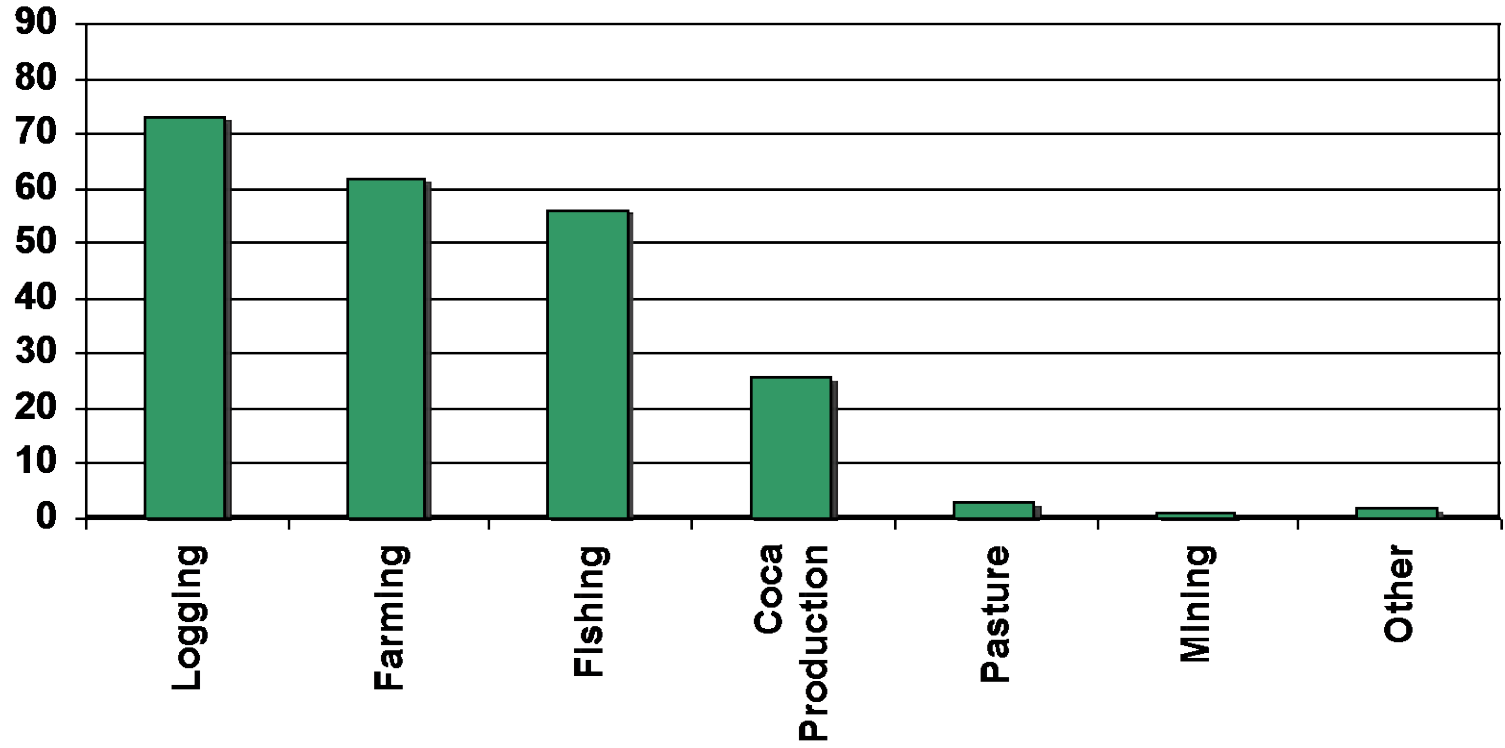
Urban Residence, Rural Employment

- Many urban residents employ resource management and extractive expertise and familiarity with rural places to continue rural occupations.
- Only 11% of urban families have no rural employment.
- 89% of urban families have at least one member engaged in rural economic activities



Rural Activities Conducted by Urban Residents

Number of Urban Residents Engaged in Activity (N = 90 Individuals)



Logging is an urban-centered occupation

Teams of loggers are recruited in the city; all equipment is brought from the city; all workers are paid in the city



. Logging camp workers and their areas of origin in the Provincia Ucayali, Región Loreto

Year	# Logging camps	# workers	# workers from Pucallpa	# workers from Contamana	# workers from rural areas
2000	32	254	237	5	12
2001	47	470	438	15	17
2002	21	189	167	18	4
2003	38	304	283	14	7
2004	17	170	158	7	5
2005	22	154	137	9	8
2006	14	140	133	3	4
2007	26	208	188	11	9

Issues discussed in CIFOR workshop

- Importance of the linking forests with demographic changes: Still little recognized and little researched
- Generalizations about such links often crude and little informed: “migrants deforest and destroy environments”
- Little understanding of the complexity of forest-dependence, forest-dependent communities, households, migrants, of forest trends & processes; invisibility of “forest-dependent people”; little recognition of value of forests to rural (and urban) livelihoods and forests in the context of the rural
- Poor availability of data, esp on local migration and local urban-rural transfers of money, even less of other goods.
- Difficulty of applying earlier data and definitions: multiple differences with Euro-N. American “forest transitions”
- What little data-based research exists, tends to be ambiguous and contradictory: more remittances, less forest cover; more remittances more forest cover



A distinguished group of participants and partners

- Susanna Hecht, UCLA
- Nancy Lee Peluso, UC Berkeley
- Susan Kandel, PRISMA
- David Lopez-Carr, UCSB
- Daniel C. Miller, PROFOR, WB
- Cecilia Tacoli, IIED
- T. Mitchell Aide, U. Puerto Rico
- Andreas Egelund Christensen, U. Copenhagen
- Luke Parry, Lancaster U
- Jonathan Rigg, Nat. U. Singapore
- Kathleen Neumann, Wageningen U.
- Deborah Bryceson, U. Glasgow
- Rebecca Elmhirst, U. Brighton
- Ruth de Fries Columbia U
- Peter Dewees PROFOR, WB
- Katherine Gough Loughborough U, UK
- Diji Chandrasekharan Behr PROFOR, WB
- Richard E. Bilsborrow Carolina Population C.
- Alex de Sherbinin (CIESIN), NY
- Jim Robson University of Manitoba
- Dilip Ratha KNOWMAD, WB
- and others.....
- Dede Rohadi, MinFor Indonesia & CIFOR
- Peter Cronkleton, CIFOR
- Habtemariam Kassa
- Pham Thu Thuy
- Christine Padoch
- Miguel Pinedo-Vasquez
- Grace Wong
- Terry Sunderland
- Amy Ickowitz
- Maria Brockhaus
- Houria Djoudi
- Kiran Asher
- Anastasia Yang





I will focus on discussions of:

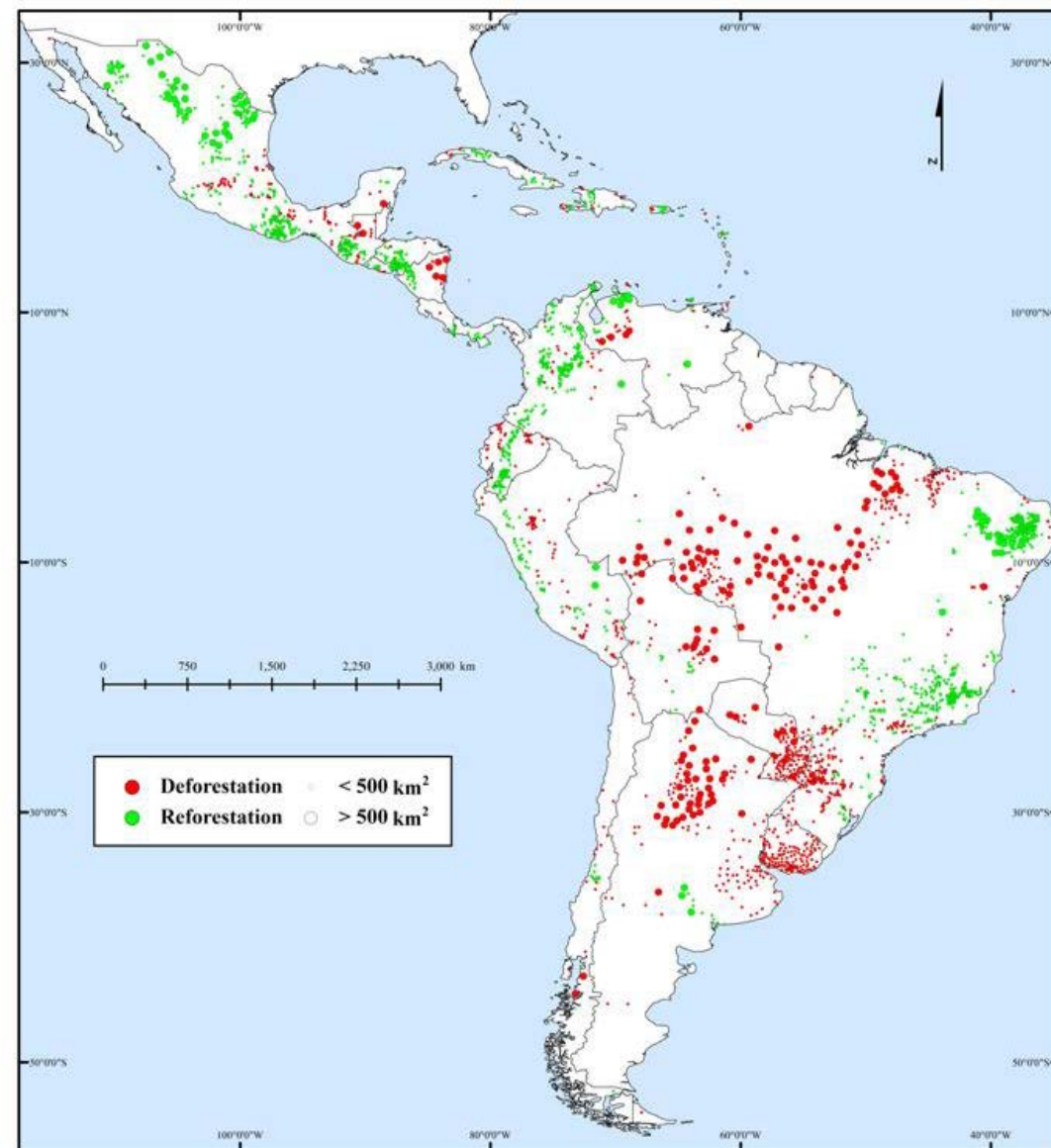
- The complexity of forest processes
- The diversity and complexity of community and household patterns & processes
- The difficulties and necessity of getting reliable data and the problems of applying existing models
- What is new and where we would like to go from here..

Forest patterns and processes: Deforestation is not the only story:

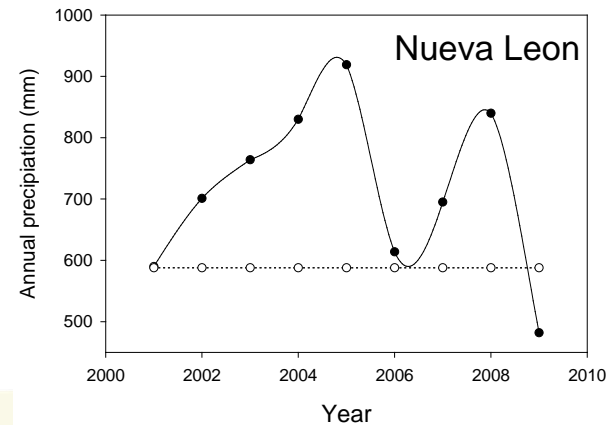
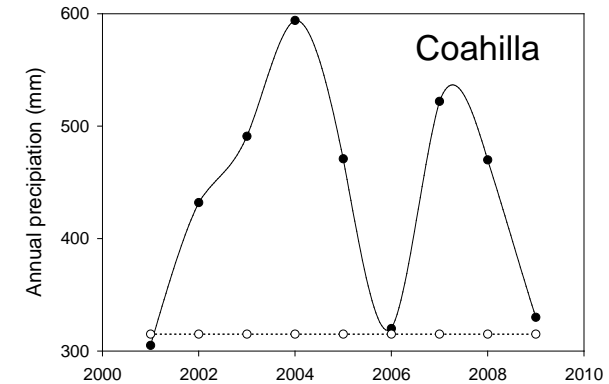
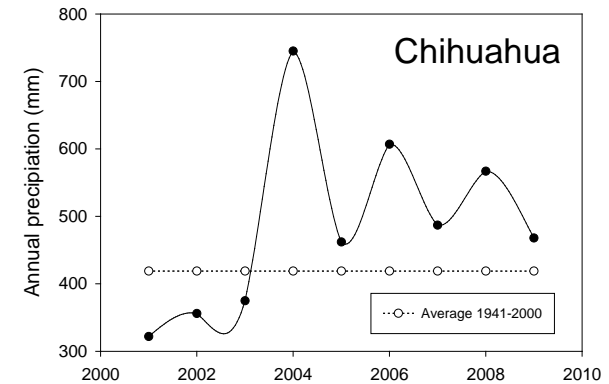
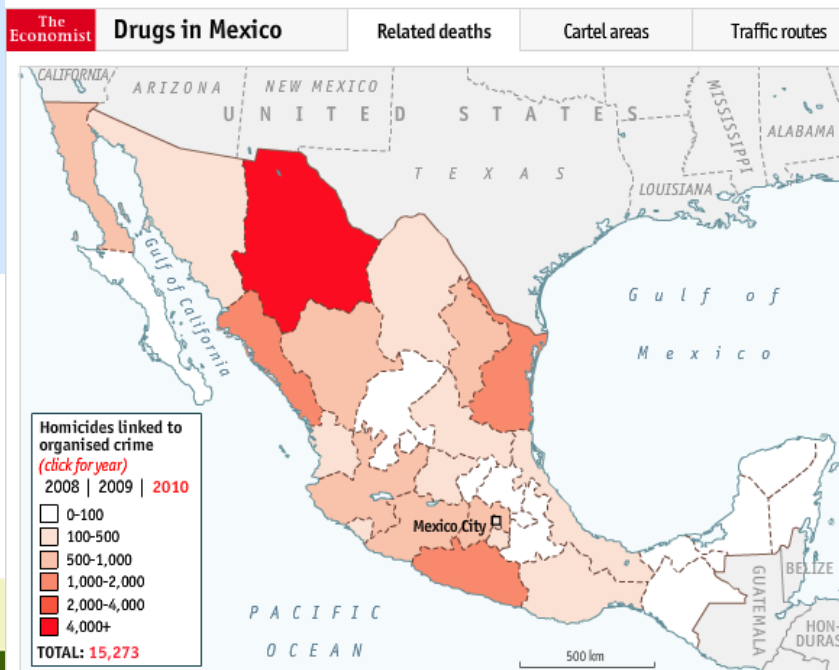
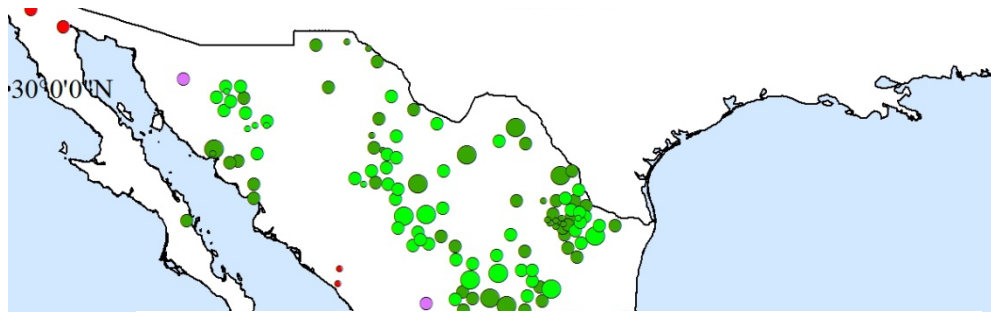
Woody vegetation change 2001-2010

- Municipalities (n > 16,000) with a significant 10 yr trend in woody vegetation change
- Deforestation was the dominant land change in Latin America and Caribbean
- But, there was much more reforestation than had previously been reported
- There was no clear relationship between population change and woody vegetation change at the municipality scale

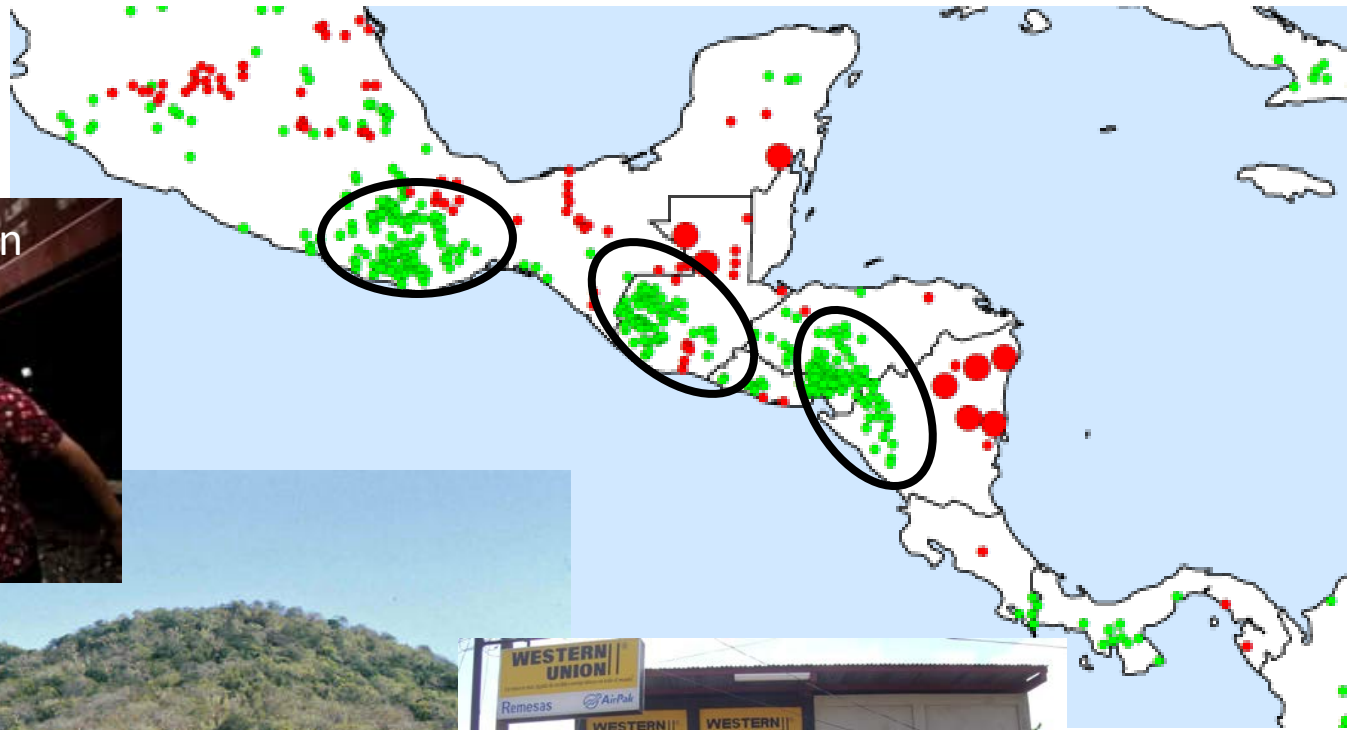
Aide et al. 2013 Biotropica



Climate change, violence, and agricultural abandonment in northern México



Reforestation in the dry forests of Mexico/Central America



Migration



Remittance



Forest recovery in the Andes of Colombia and Ecuador

- rural violence
- economic opportunities in major cities
- rural/urban migration



Country	City	Population in 1992	Population in 2009
Colombia	Bogotá	5,029,459	7,609,436
	Cali	1,975,619	2,663,568
	Medellín	2,198,641	3,231,428
Ecuador	Guayaquil	1,711,054	2,732,180
	Quito	1,372,431	2,165,060

Pares et al. 2013

But difficulties of linking forest cover change with migration, remittances

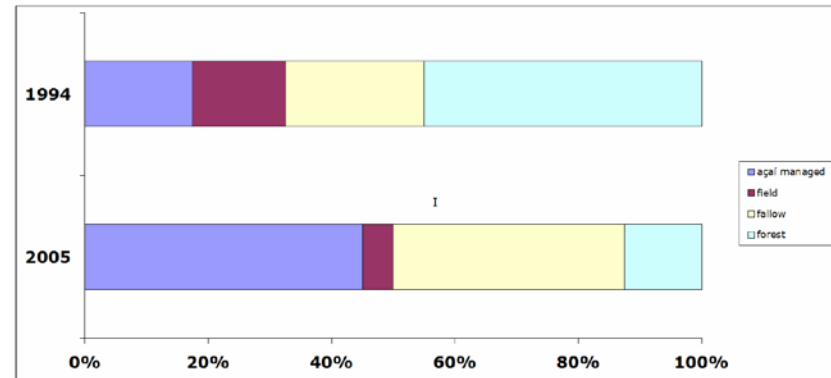
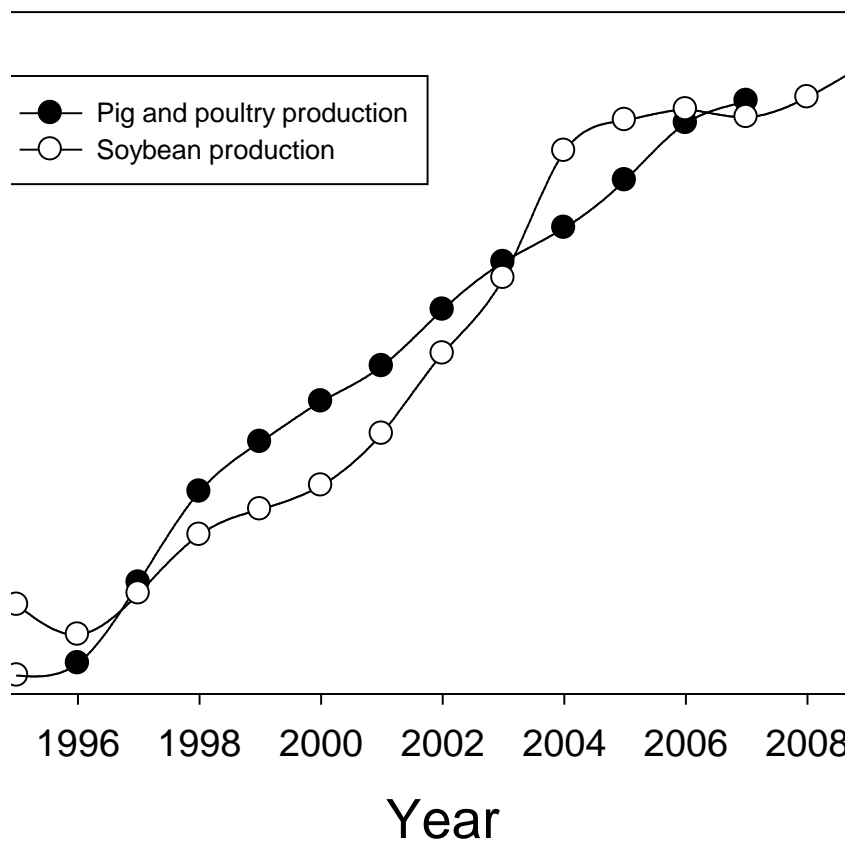
Gray & Bilborrow 2014 Consequences of out-migration for land use in rural Ecuador. Land Use Policy 36:182-191

In rural Ecuador and elsewhere in Latin America, the departure of migrants and the receipt of migrant remittances have led to declining rural populations and increasing cash incomes. It is commonly assumed that these processes will lead to agricultural abandonment and the regrowth of native vegetation, thus undermining traditional livelihoods and providing a boon for biodiversity conservation. However, an increasing number of household-level studies have found mixed and complex effects of out-migration and remittances on agriculture. We advance this literature by using household survey data and satellite imagery from three study areas in rural Ecuador to investigate the effects of migration and remittances on agricultural land use. Multivariate methods are used to disaggregate the effects of migration and remittances, to account for other influences on land use and to correct for the potential endogeneity of migration and remittances. Contrary to common assumptions but consistent with previous studies, we find that migrant departure has a positive effect on agricultural activities that is offset by migrant remittances. These results suggest that rural out-migration alone is not likely to lead to a forest transition in the study areas



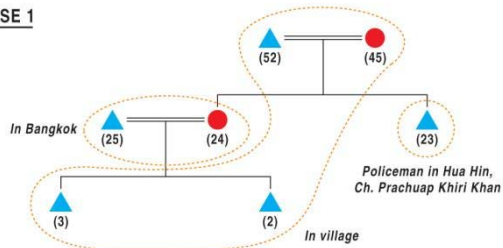
Changes in food consumption: complexity of shifts from rural to urban patterns

Global meat consumption and deforestation

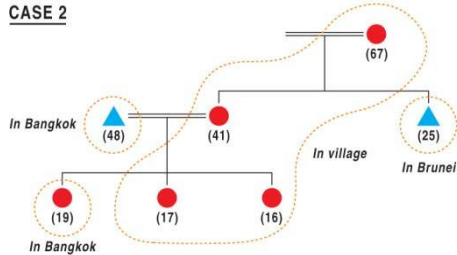


Complexity of communities and households: Multi-sited households & livelihoods

CASE 1



CASE 2



▲ Man
● Woman
90
80
70
60
50
40
30
20
10
0

40:60 agricultural/non-agricultural

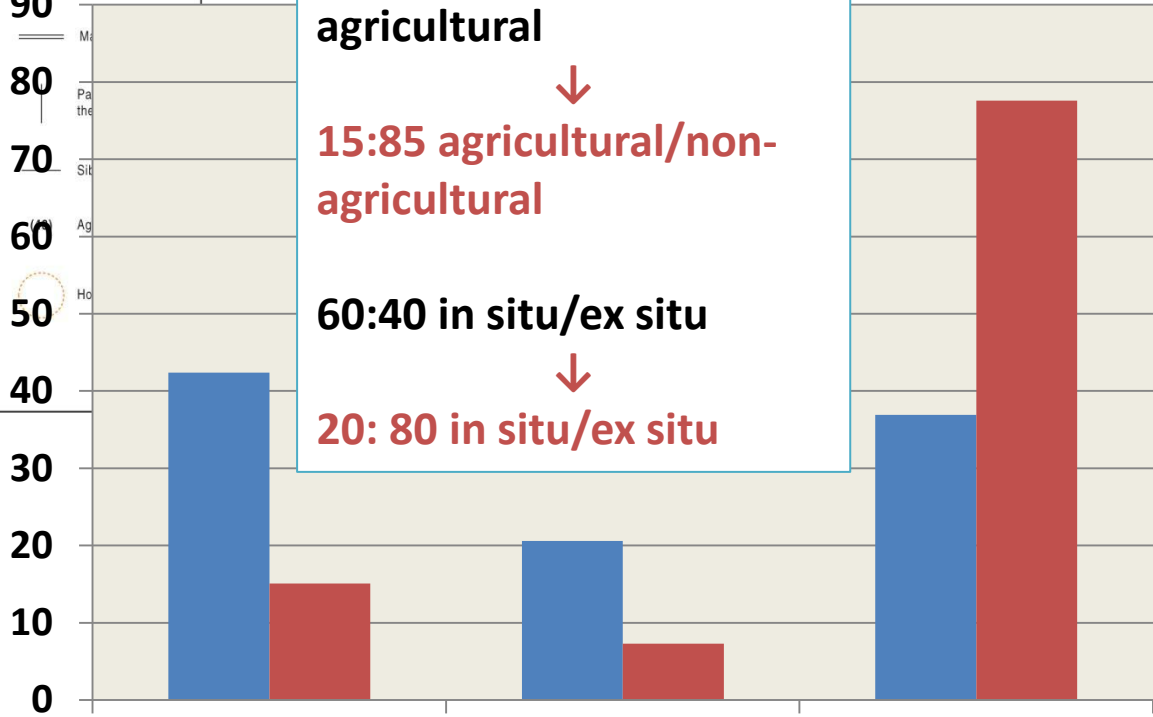


15:85 agricultural/non-agricultural



60:40 in situ/ex situ

20: 80 in situ/ex situ



■ 1981
■ 2002

Village-based, agricultural

Village-based, non-agricultural

Non-village based, wages and remittances





- Geriatrification of farming: (Average age of household heads risen from 47 to 60 years old)
- Mechanisation
- Disintensification
- Land use change
- Cropping changes (transplant – broadcast rice culture)
- Idle land

Changing populations of migrants:

Migrants in Bangkok circa 1990



Second generation migrants
in Bangkok circa 2005



Migration and return: the migrants of the 1980s departed as sojourning farmers; the migrants of the 2000s depart as school leavers with only a tenuous link to farming and the land



Difficulties of getting reliable data
Ban Khokmayom: Gauging the population of a village in Thailand

	Households	Population
Uthai district census bureau (2005)	-	378
Tambon data (<i>Kor Chor Chor 2 Khor</i> 2003)	126	425
Tambon health station (2005)	288	1,257
Survey estimate (2005)	-	3,000

Forests as part of rural livelihoods still are underrecognized

- The roles they play in livelihoods still remain relatively invisible. A few attempts to quantify in a few places: PEN, etc.
- In many areas forests supply up to 30% of household revenues.
- Forests are especially important for poorer households who use them as sources of food , fodder medicinals , marketable NTFPs (like mushrooms, fruits), and fuel.
- Forests are spheres of "agricultural" management. Many analysts overlook the "domesticated nature" of many forest ecosystems. Hence when looking at remittances into agricultural systems intensification that occurs in wooded situations are not noted even if they occur in places with agroforestry systems



Diversity and complexity in migration, urbanization processes

- Large variations within regions and nations
- Diversity of urban centres: megacities (10m+, 10% of total urban population); cities (1-5m, 22%); small cities (0.5-1m, 10%) – and **over half the world's urban population live in small towns**
- Evidence of de-urbanization in some African nations, slower than expected urbanization in India
- But indications of greater mobility (temporary movement) rural-rural, rural-urban, urban-urban and urban-rural
- Great diversity of rural-urban linkages, elements of survival and accumulation livelihood strategies, diverse forms of migration: often circular, temporary



Current transitions in the developing world differ from the Euro-American pattern

- They have occurred extremely quickly; northern processes that often took centuries
- They reflect strong exogenous pressures at least as much as endogenous dynamics;
- Rural areas even though forested, often have high population densities and strong relations to historical and current forms of agriculture
- Processes are, as a general rule much more globalized in terms of commodities, financial flows, and often, labor (or its lack), and shaped by new ideologies like neoliberalism and environmentalism



Multiple “transitions” are underway

- 1) The *urban transition* which reflects a massive economic shift in the locus of economic production, construction and and a dramatic growth in urban settlements of many types
- 2) the *agrarian transition* which addresses structural changes in agriculture, its new production, institutional and access regimes, and how these are reflected in land use
- 3) the *forest transition*, or a resurgence in forested landscapes as areas undergo processes of modernization, globalization, and ecological politics which have radically changed production technologies and agroecologies.
- The demographic transition, or a change in fertility, mortality, and health in some, not all, regions
- Migration links these ‘transitions’ together and it does so through accelerating flows of people, commodities, symbolic goods, finance, remittances, ideologies and information



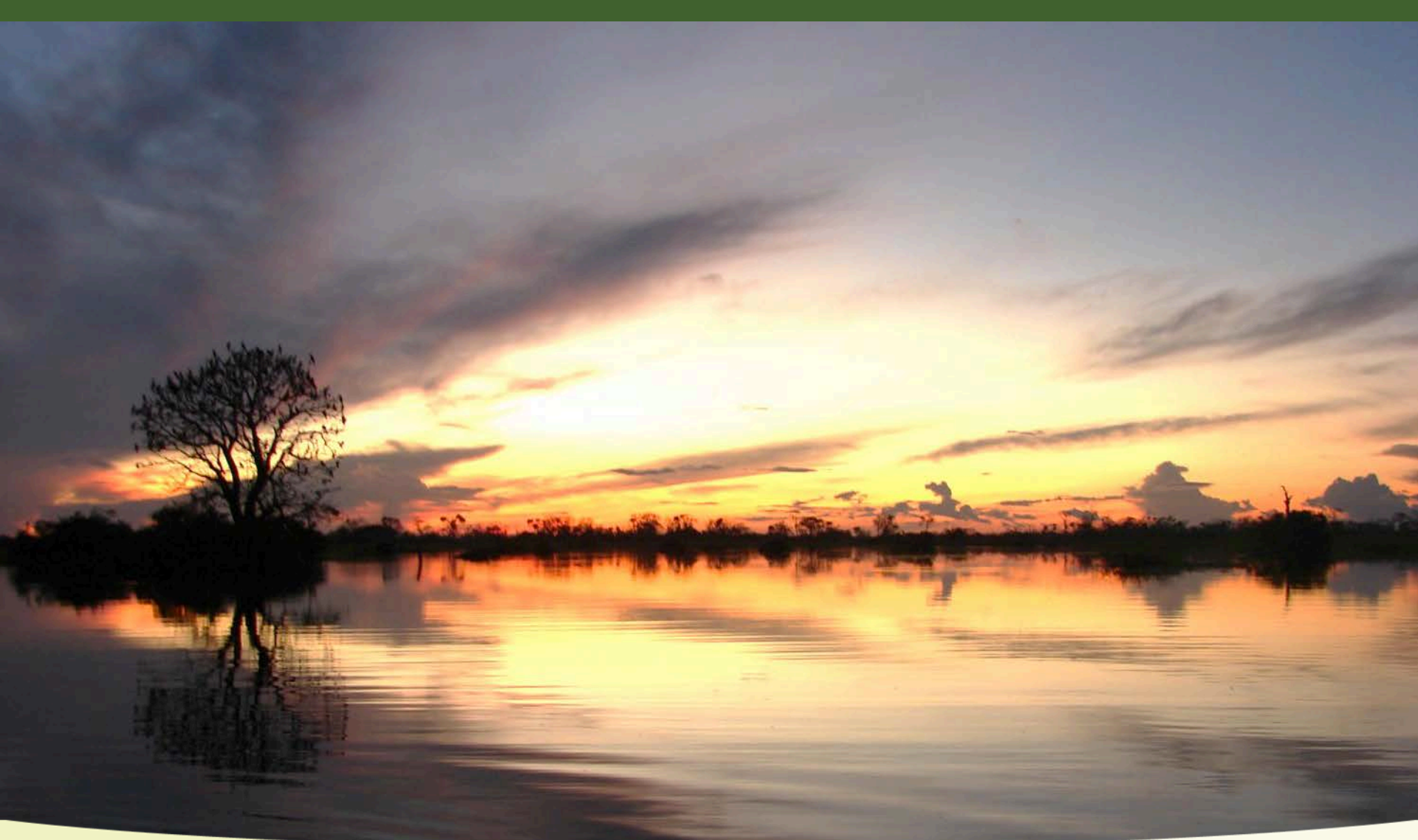
Three “seed projects” just started:

- Ethiopia (Focused on investment of remittances and smallholder production of construction materials, largely Eucalyptus)
- Central Java, Indonesia (focused on changes in agricultural labor availability and small-scale forestry)
- Nepal (focused on migration, forest governance, gender issues)

Other areas that we wish to explore with partners:

- Migration and fires: “fewer people...more fires” in Amazonia
- Investment of remittances and change in mangrove forests
- REDD+, multi-sited communities, and forest governance
- Migration for small-scale mining and forest degradation
- Investment of remittances and changes at “farm-forestry interface”
- Urbanization, food security, and forest use.
- Multi-scale, multi-generational comparative research on changes in forest cover, forest use, forest access, and migration
- *Ultimately, an updating of “Forests and Livelihoods”*





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