

7th ASEA Meeting, Hanoi
October 13th, 2011

Impact of Liberalized Border Trade on Household Welfare and Food Security: The Case of Laos-China Border Area

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Issues

- Trade liberalization has been implemented in Asia both
 - Institutionally such as FTA, and
 - Physically such as highways
- Macroeconomic benefit in both parties is obvious
- How about at micro-level?

Issues, continued

- Theoretically, trade will increase economic welfare in both sides
- If it is not,
 - there should be some constraints in which policies can intervene
- Even if it is yes,
 - there may be negative externalities, which must be taken care of

Study Site

- Border area between Laos and Yunnan
- Very interior and remote
- Without border trade poverty will remain



Border Trade Laos-China

- Laos: Local farmers near the border obtained a huge market in China, not only in the border area but also any place in side China
- China: Local farmers near the border, do they have anything to export Laos? Will they have any benefit from the expansion of border trade?

Hypotheses

- Assumptions
 - Yunnan is more populated and agriculture is already intensified
 - Laos is relatively land-abundant and agriculture is less intensified
- Local trade without free movement of labor will
 - decrease intensity in Yunnan agriculture
 - Increase intensity and/or expand cropping area in Laos

Study Site: Laos-China Border



Local Trade Route



Local Trade Route



Sample Households

- 120 Households from 4 villages in Laos
- 121 Households from 5 villages in China
- Surveys were carried out in November-December 2010

Sample Households in Laos

	V1	V2	V3	V4	Total	Yunnan
Number of Sample Households (Total Number)	30 (73)	30 (35)	30 (62)	30 (200)	120 (370)	121 (482)
Number of Population in Sample Households	169	183	193	141	686	532
Household Size (Standard Deviation)	5.63 (1.67)	6.10 (2.11)	6.43 (2.14)	4.70 (1.18)	5.72 (1.91)	4.40
Per Household Land, ha (Standard Deviation)	2.84 (1.81)	3.49 (2.92)	4.14 (2.28)	3.69 (1.58)	3.54 (2.23)	2.58

Ethnic Groups of Household Heads

	V1	V2	V3	V4	Total
Akha/Ikoh	30	0	29	0	59
Yao/Mien	0	30	1	0	31
Lu	0	0	0	28	28
Khmu	0	0	0	2	2
Total	30	30	30	30	120

Relationship with China

	V1	V2	V3	V4	Total
Relatives in China	3	6	3	9	21
Friends in China	8	5	1	9	23
Unknown	0	0	1	0	1
Total	30	30	30	30	120

Household Heads

- Male: 118, Female 2
- Age: 20 – 71 (mean 41)

- Education

Level	Number
Illiterate	43
No school, but literate	22
3 years or less	23
4 – 6 years	26
7 years or above	6

- Distribution of Illiterates

V1	V2	V3	V4
19	11	12	1

Age Distribution of Sample Population

Age	Male Population	Female Population	Yunnan
0-5	33	32	
6-14	85	87	
15-65	204 (62.2%)	223 (62.3%)	71 – 84%
Above 65	6	16	Less then 6%
Total Number	328	358	532

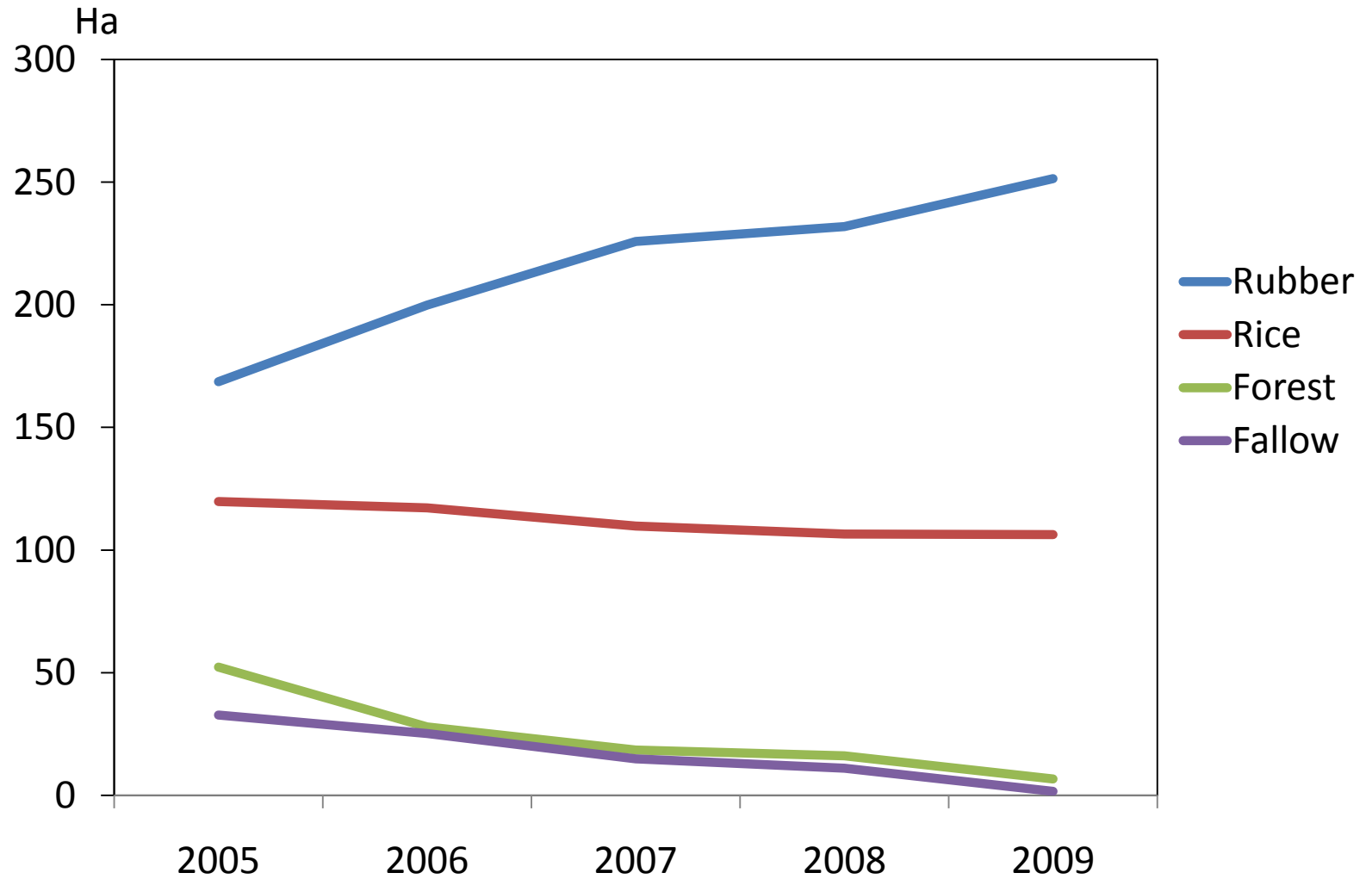
Off-farm Work by Sample Households

	V1	V2	V3	V4	Total	Yunnan
Trade/Shop	1	2	0	5	8	5
Formally Employed	1	4	0	0	5	3
Agricultural Laborer	0	4	0	0	4	?
Self-employed						10
Weaving	0	1	0	0	1	
Furniture making	0	0	0	1	1	
Tourist guide	0	0	0	1	1	
Migrant worker						19
Total	2	11	0	7	20	37
Total Sample Population	169	183	193	141	686	532

Land Resources of Sample Households

	V1	V2	V3	V4	Overall	Yunnan
Upland per capita (ha)	0.36	0.34	0.39	0.32	0.36	0.48 (including forest)
# of HH without upland	0	5	0	6	11	
Lowland per capita (ha)	0.14	0.23	0.26	0.46	0.26	0.11
# of HH without lowland	0	0	0	0	0	

Land Use Change in Lao Study Site

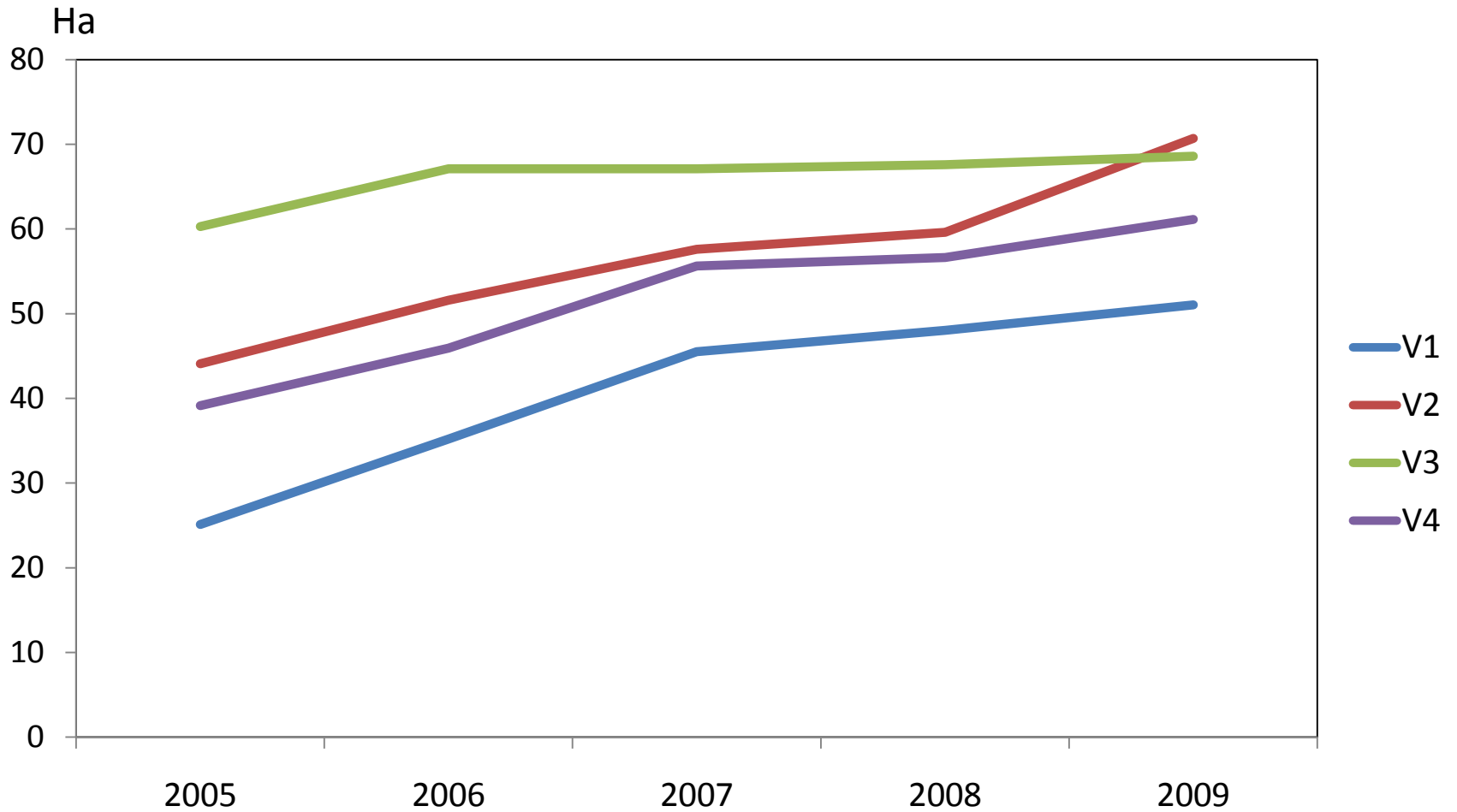


Rubber Plantation in Lao Study Site

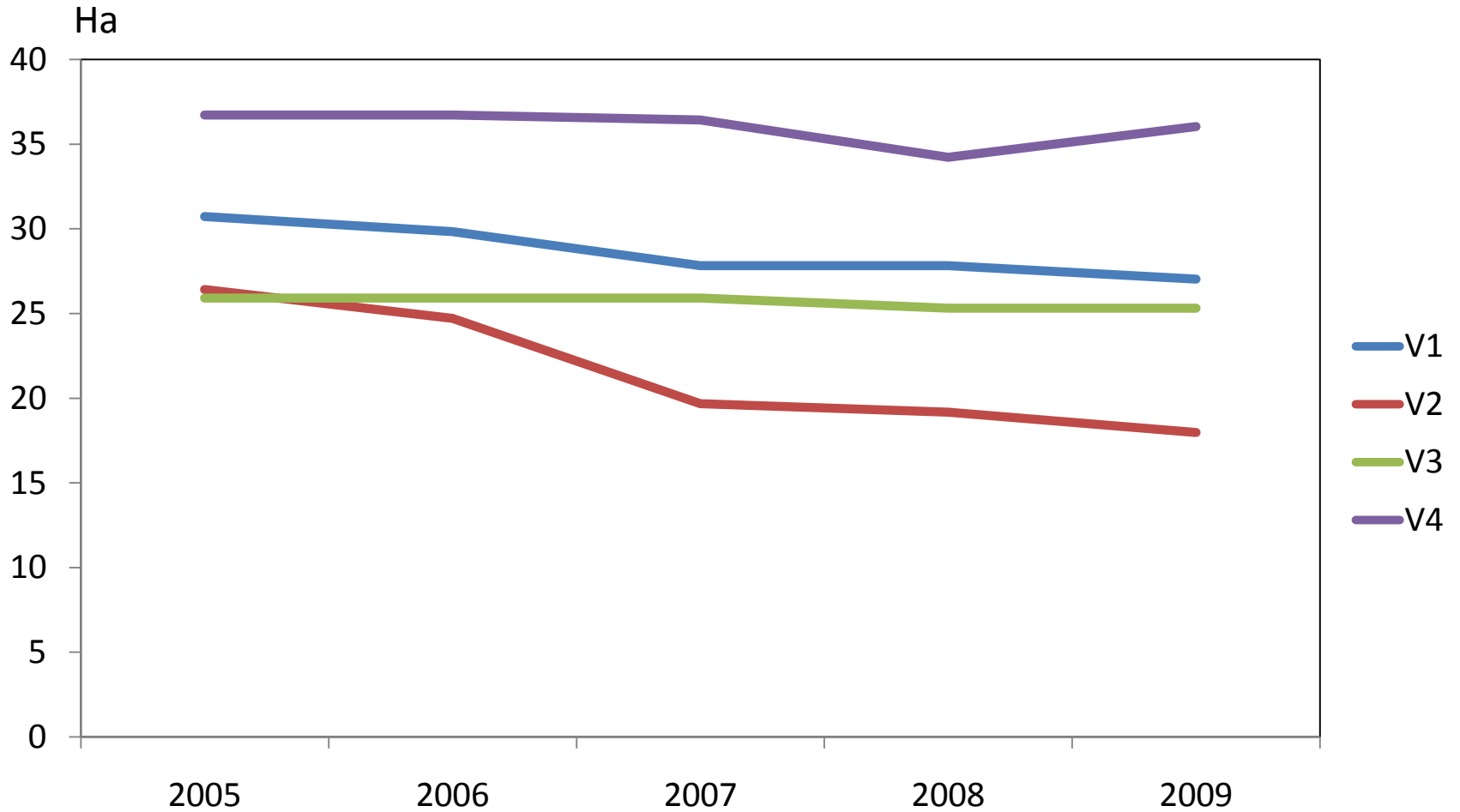
	2002	2003	2004	2005	2006	2007	2008
V1	0	1	4	10	4	5	0
V2	0	2	5	5	2	2	1
V3	2	0	0	14	2	0	0
V4	0	3	8	7	3	0	0
Total	2	6	17	36	11	7	1

Number of Households that started rubber plantation by year and village

Total Rubber Planted Area in Lao Study Site



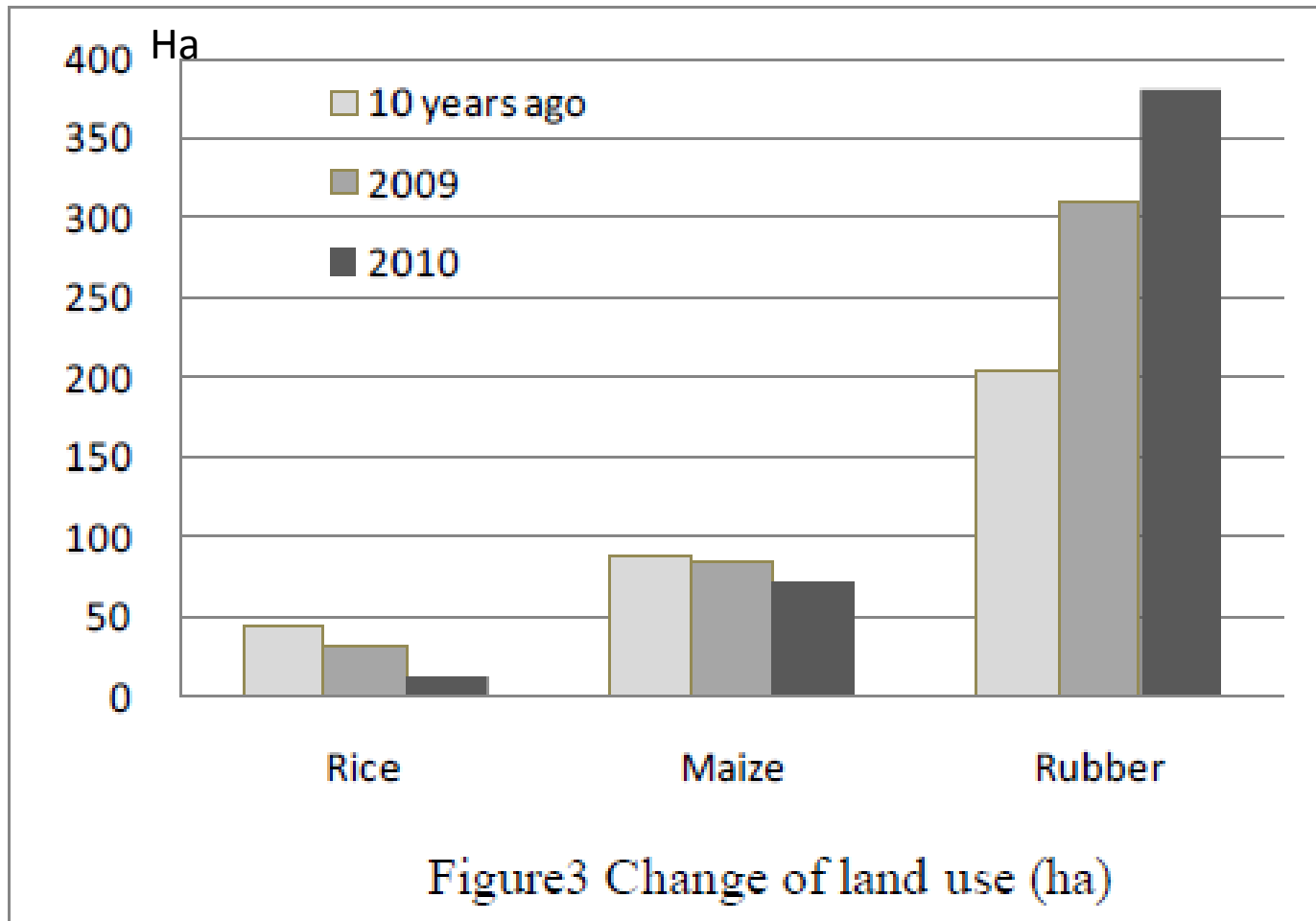
Total Rice Field Area in Laos Study Site



Newly Planted Rubber Trees in Laos



Land Use Change in Yunnan Study Site



Matured Rubber Plantation in Yunnan



Rubber and Banana in Yunnan



Banana Plantation in Lowland in Yunnan



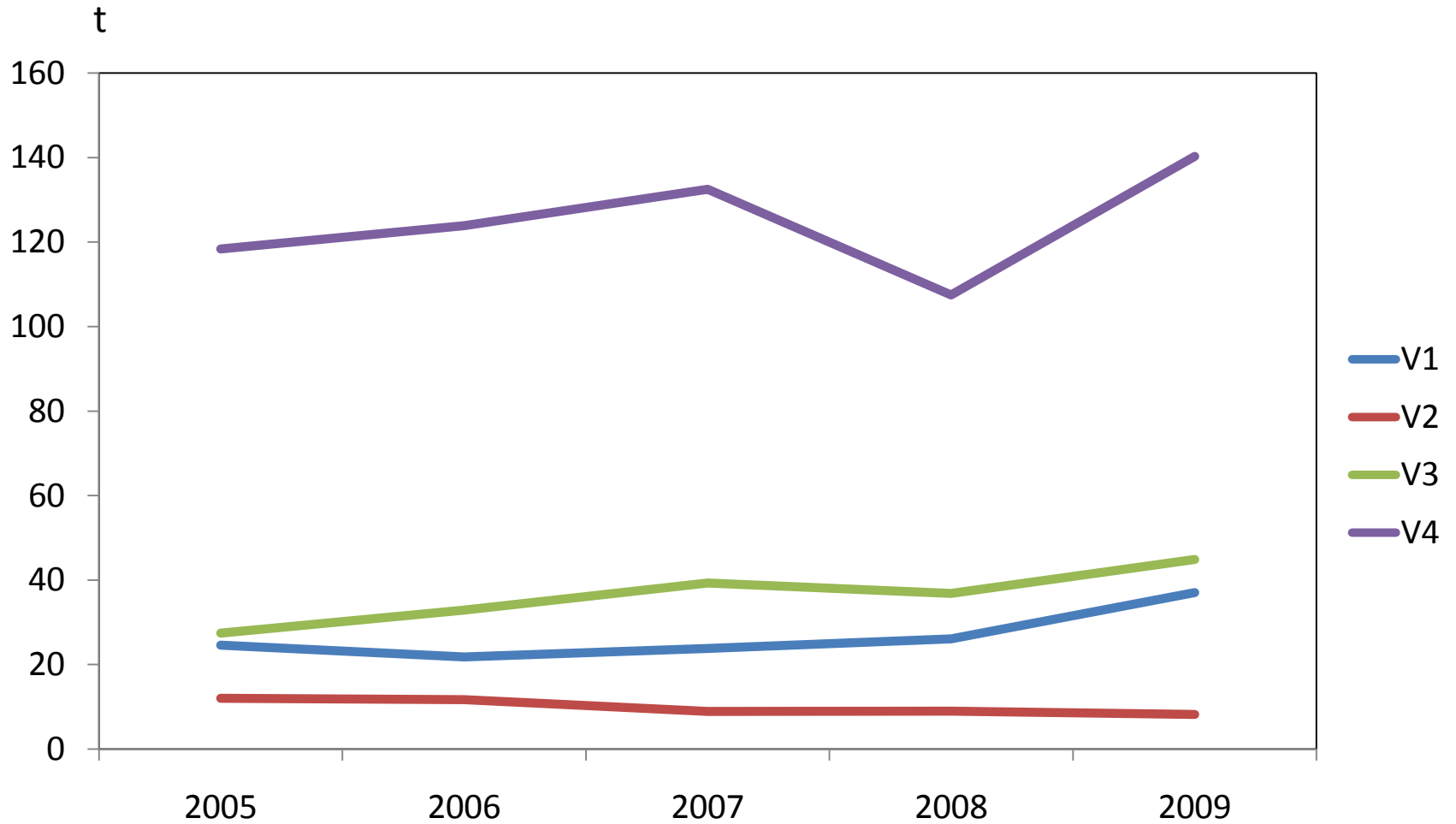
Crop Sales of Laos Households in 2009 (in USD per household)

	No Sales	Rice		Maize		Rubber		Sugar Cane		Vegetables	
	N	N	USD	N	USD	N	USD	N	USD	N	USD
V1	5	22	529	4	117	0		13	1234	0	
V2	17	4	574	6	459	1	15975	3	1858	0	
V3	0	22	652	0		0		29	1663	0	
V4	2	25	2175	0		0		8	1813	3	63
Total	22	73	1132	10	322	1	15975	53	1592	3	63

Average of households that have sold the particular crop

Note in Yunnan rubber income is almost 60% of total income of sample households. About 3600 USD per household per year

Total Quantity of Rice Sold in Lao Study Site



Summary Laos:

- Benefit from increasing rice export to China
- They will start selling rubber soon, which will bring a huge cash income
- In spite of the slight decrease in area planted, rice production has been increased recently, which is a sign of intensification
- Farmers converted forest and fallow land to rubber plantation. Its implication for sustainability need to be addressed

Summary: China

- Benefit from cheap Lao rice
- Instead of growing rice for self-consumption, farmer can concentrate more on rubber production, and lease out paddy field for banana plantation
- Land use intensity may have decreased by the shift to banana production
- But area expansion in the forest is taking place

Conclusions

- Border trade of rice intensifies rice production in Laos and extensifies rice production in Yunnan and benefits both sides as predicted
- The expansion of rubber plantation is also due to the liberalization of border trade, even in the case of Yunnan, and will benefit both sides
- In Laos, they have not started harvesting rubber and can increase rice production, but once they start harvesting, it is not known if farmers can continue both activities because of labor constraint