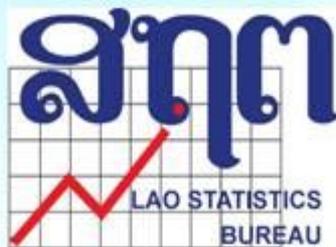




MINISTRY OF
AGRICULTURE AND FORESTRY



LAO STATISTICS BUREAU



FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

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Result of Analysis on Lao Agricultural Census 2010/11

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Laos is an agriculture based

- Population: 6.3 million (49 ethnic groups)**
- Two-third of population living in rural areas (74% average revenue < USD 2 a day)**
- Agriculture employs > 75% of the labor force.**
- Agriculture contributes up to 26% of the GDP in 2012**



1. Lao Census of Agriculture 2010/11: an overview

- The Lao Census of Agriculture **2010/11** was the second agricultural census undertaken in Lao PDR.
- There have been many changes in agriculture sector since the first census was conducted in **1998/99** and it was important to capture the changes through another census so as to help devise agriculture development policies and future strategies.
- The LCA 2010/11 was much more comprehensive, with significant improvements in the system of data collection as well as coverage of themes and topics.
- It was based on a critical review of the LCA 1998/99 by the MAF, with technical inputs and support provided by the FAO, including the recommendations of an Agricultural Statistics Expert

LCA 2010/11: three major components

Data component	Type/ nature of data collected
<p>1. <u>Village component</u>: a survey of all villages in the country to collect data from village heads on rural infrastructure and services (8662 villages)</p>	<p>Access to electricity, irrigation facilities, credit facilities, schools, health facilities, agricultural markets, public services and community facilities, transport links, sale of agricultural produce, shifting cultivation practices, sources of drinking water, Unexploded Ordnance (UXO)-affected agricultural land, resettlement, soil degradation, weather patterns, natural disasters and changes in living standards</p>
<p>2. <u>Household component</u>: a survey of all private households in Lao PDR to collect basic data on crops and livestock (complete enumeration of over 1 million households)</p>	<p>Identification of farm households, area of agricultural land, area irrigated, area of temporary crops, areas of productive and non-productive permanent crops, livestock numbers by type, purpose of agricultural production, sale of agricultural production, ownership of tractor and water pump, aquaculture and capture fisheries, household size, sex, age and ethnic group of household head, presence of forest land and primary source of income</p>
<p>3. <u>Sample farm household component</u>: a sample survey of 41660 farm households to collect detailed data on agricultural activities</p>	<p>Farm size, land tenure, land fragmentation, land use, shifting and rotating cultivation, use of crop inputs, age, sex and purpose of livestock by type, vaccination, use of credit, agricultural marketing, certified agricultural produce, farm population by age and sex, employment of farm population, farm management, forestry activities and types of fishing activities</p>

LCA 2010/11 - Main Topics covered

1. Farm households	Numbers- Farm & Non-Farm HHs
2. Land holdings	Area, size and structure of land holdings, land holdings by type of village
3. Crops	No of growers and area grown with temporary and permanent crops, rice growers and type of rice grown
4. Irrigation	Status and use of irrigation by rice growers by type of villages and land location
5. Livestock	No of households growing and type of livestock and purpose of growing livestock
6. Farm practices/ services	Sale of agricultural produce, use of selected farm machinery, credit, fertilizers, pesticides by farm households, sources of farm information
7. Farm population	Characteristics: sex, age, ethnic status and farm household size
8. Farm labour	Farm labour use by age, sex and type of activities, use of outside (hired) labour and wage payment systems
9. Farm management	Management by type: single or multiple/ joint management
10. Fisheries	Farm households engaged in aquaculture and capture fishing
11. Forestry	Dependence on forests: own forest and public forests and type of products extracted and sale of forest produce
12. Village infrastructure	Villagers' access to selected infrastructure and services: road, primary health, water supply, electricity, irrigation, markets, development projects

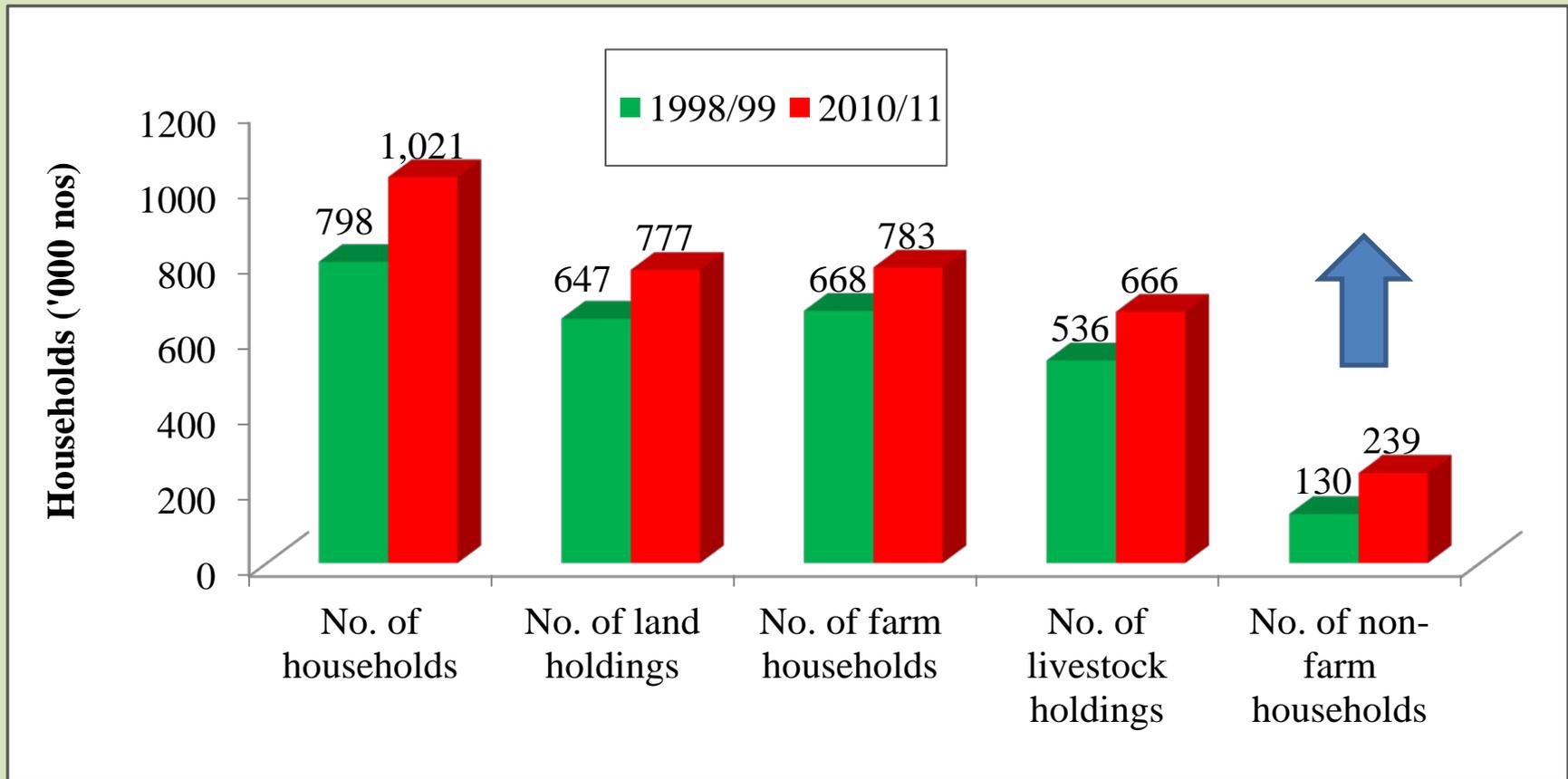
Thematic reports based on LCA 2010/11

- 1. Profile of farm households in Lao PDR.**
- 2. Land use, cropping pattern changes and agricultural performance in Lao PDR.**
- 3. Livestock sector in Lao PDR .**
- 4. Forestry, aquaculture and fisheries sectors in Lao PDR.**
- 5. Status of Infrastructure and Development Constraints in the Lao PDR Villages .**
- 6. Gender in Agriculture in Lao PDR.**

PROFILE OF FARM HOUSEHOLDS



1. Changes in the number of households, including farm HHs: National scenario



- Total number of households increased by 28% (> 2%/ annum)
- Farm households increase by 20% (about 1.5%/ annum)
- Livestock holdings increase by 24% (about 2%/annum)
- Non-farm households increase by 84% (5.2%/annum) : a notable shift

2. Farm households- rural and urban settings, 2010/11

		Northern	Central	Southern	Lao PDR
All households					
	Total ('000)	322.95	499.69	198.80	1021.44
	Rural %	75.1	62.1	77.8	69.3
	Urban %	24.9	37.9	22.2	30.7
Composition of rural households (%)					
	Farm (%)	89.5	67.3	79.2	76.6
	Non-Farm (%)	10.5	32.7	20.8	23.4
Composition of urban households (%)					
	Farm (%)	68.1	37.4	50.7	47.1
	Non-farm(%)	31.9	62.6	49.3	52.9

- Proportion of urban households at national level was 31%.
- The proportion of urban households varied between regions: Central region showing the highest (38%) compared to North (25%) and South (22%).
- The larger proportion of urban farm households in the Central region was mainly attributable to Vientiane Capital, where the proportion of urban farm households was 69%, compared with less than 30% in others.

3. Geographical location of farm households, 2010/11

Geographical location	Farm households			Lao PDR ['000 nos]
	Urban (%)	Rural-with road (%)	Rural - without road (%)	
Lowland	24.6	68.3	7.1	385.9 (49.3)
Upland	9.6	71.9	18.5	209.4 (26.8)
Plateau & mixed	17.4	75.8	6.8	187.6 (24.0)
Lao PDR	18.9	71.0	10.1	782.8 (100.0)

- Lowland areas report larger proportion of farm households engaged in farming in the urban areas
- Larger proportion of farm households are located in the uplands without road connectivity

Land use and Cropping pattern changes in Lao PDR: Evidence from LCA



Changes in land use (1999 and 2011)

Land use category	Agricultural land area ('000 ha)		
	1998/99	2010/11	(%) annual growth*
I. Agricultural land	976 (93.1)	1 623 (86.8)	4.3
(a) Land under temporary crops	765 (73.0)	1 230 (65.8)	4.0
(b) Land under permanent crops	81 (7.7)	149 (7.9)	5.2
(c) Land temporarily fallow	112	198	4.9
(d) Meadows and pastures	18	26 (1.4)	3.1
II. Non-agricultural land	72 (6.9)	247 (13.2)	10.8
(a) Forest and other wooded land	54 (5.2)	122 (6.5)	7.0
(b) Other land	18 (1.7)	125 (6.7)	17.5
Grand Total	1 048 (100.0)	1 870 (100.0)	4.9

Note: "Other land" includes land under water, land occupied by buildings or roads, wasteland, and other uncultivated land. Figures in brackets indicate the relative share of total land area. * Growth rates indicate annual compound growth.

Important features of rice production in Lao PDR, 2011

Features of rice-growing areas		North	Central	South	Lao PDR
1. Total rice area ('000 ha)		255.29	514.03	217.23	986.55
2. Total wet season rice area (%)		96.7	93.2	94.0	94.2
3. Lowland rice area (%)		39.7	84.6	82.0	72.4
4. Upland rice area (%)		57.0	8.6	11.9	21.8
5. Total dry season lowland rice area (%)		3.3	6.8	6.0	5.8
6. Local rice seed area (%)		87.7	46.3	35.0	54.5
7. Improved rice seed area (%)		12.3	53.7	65.0	45.5
8. Glutinous rice-growing area (%)		85.4	94.1	92.9	91.6
9. Maturity (% of glutinous rice-growing area)	Short (3 months)	25.1	35.6	49.9	36.3
	Medium (4 months)	25.8	46.5	40.8	40.3
	Long (5 months)	49.0	17.8	9.2	23.4

Use of irrigation

Irrigated land use and rice area irrigated, by type of land, 2010/11

Region	Total agri. land ('000 ha)	Rice area (%)	Irrigated area (%)			
			Total land	Total rice	Wet season rice	Dry season rice
North	587.08	43.5	21.3	30.3	27.9	3.5
Central	716.42	71.7	26.1	17.8	11.7	7.3
South	319.61	68.0	12.2	10.7	4.9	6.4
Total	1 623.12	61.0	21.6	19.4	14.5	6.1

➤ At the national level, **irrigation development reported was 22%**, suggesting need for development of irrigation potential in regions and provinces that are not currently covered under the national development strategy.

➤ Regionally the proportion of irrigated area was relatively high in the Central (26%) and Northern (21%) provinces and lowest in the Southern (12%) provinces

Livestock and poultry production in Laos



Farm households by ethnic status owning livestock and poultry, LCA 2010/11

Parameter	Total	Ethnic Group			
		Lao Tai	Mon- Khmer	Hmong- Lewmien	Other
No. of farm HHs ('000)	782.8	479.8	238.3	63	1.7
% farm household with Livestock and poultry					
Cattle	38%	39%	31%	61%	31%
Buffalo	29%	29%	30%	26%	27%
Pig	39%	28%	55%	63%	30%
Local chicken	62%	60%	64%	78%	52%
Average number of livestock/poultry per holding					
Cattle	5.3	5.8	3.9	5.8	5.8
Buffalo	3.4	3.6	2.9	4.3	3.5
Pigs	3.2	3.2	2.9	4.4	3.1
Local chicken	17.8	19.7	13.9	18.7	17.7

**Number of farm households with livestock/poultry and number of animals
by type, Lao PDR, between the LAC 1998/99 and 2010/11**

Species	No. HH with livestock/poultry ('000)				No of livestock/poultry ('000)			
	1998/99	2010/11	% Change	% Change per annum	1998/99	2010/11	% Change	% Change per annum
Cattle	208	297	42.7	3.6	944	1,586	68.0	5.7
Buffalo	322	226	-29.7	-2.5	992	774	-21.9	-1.8
Pigs	328	306	- 6.5	-0.5	1,036	978	- 5.6	- 0.5
Goats	26	45	73.2	6.1	95	236	147.9	12.3
Local chicken	487	488	0.2	0.0	9,379	8,665	-7.6	-0.6
C. chicken	4.4	4.0	-8.0	-0.7	290	649	124.0	10.3
Duck	191	213	11.5	1.0	1,351	1,791	32.5	2.7

Forestry, Aquaculture and fisheries sectors in Lao PDR: Findings from LAC 2010/11



Forest lands owned by Farm households in Lao PDR

Region	Share of HHs with forest on holdings (%)		Average size of forest land on holdings (ha)	
	1998/99	2010/11	1998/99	2010/11
North	6.7	13.5	0.73	0.78
Central	10.2	11.0	1.13	1.96
South	6.9	11.5	0.96	1.05
Lao PDR	8.2	12.0	0.99	1.30

➤ All three regions show an increase in household access to forest lands both at the household and village levels.

➤ With a sizeable increase in forest land area brought under farm households, the average size of forest area per farm had increased from 0.99 ha during 1998/99 to 1.3 ha during 2010/11.

Household dependence on aquaculture and fisheries: evidence from LCA 2010/11

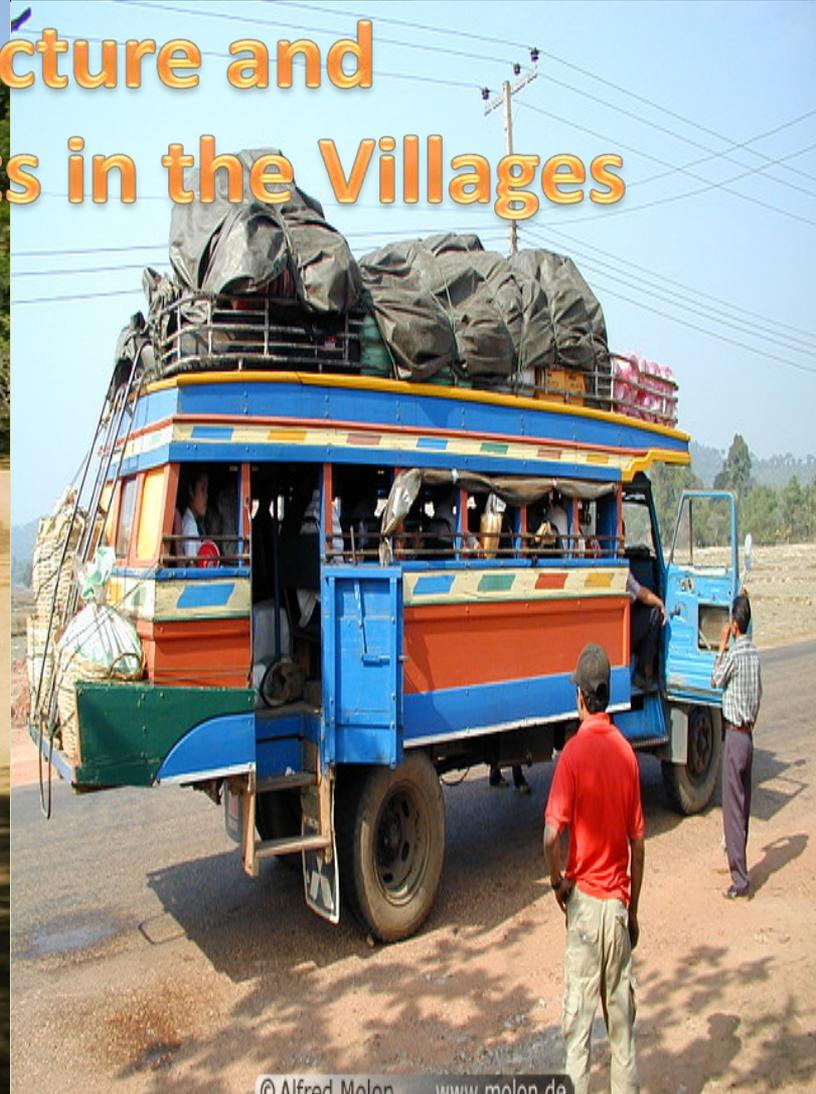
- Both rounds of Agri. Census reported that almost **65% to 70% of the households are engaged in aquaculture** and fishing as a part-time activity to add to the household food security as well as to supplement the household income and thereby ensure livelihood security.
- There was a **13% increase in the number of farm households** engaged in capture fishing between 1999 and 2011 (1% per annum), with higher proportions in the northern provinces
- The period witnessed about **23% increase** (1.7% per annum) **in the number of aquaculture holdings** and in area under aquaculture at the national level with much of the area increase reported from the central provinces.
- As a result of the increase in area brought under aquaculture activities, there was also a notable **increase in the average size of aquaculture holdings**, with southern and northern provinces having larger holdings than in the northern region.

Farm household dependence on capture fishing and aquaculture 1998/99 & 2010/11

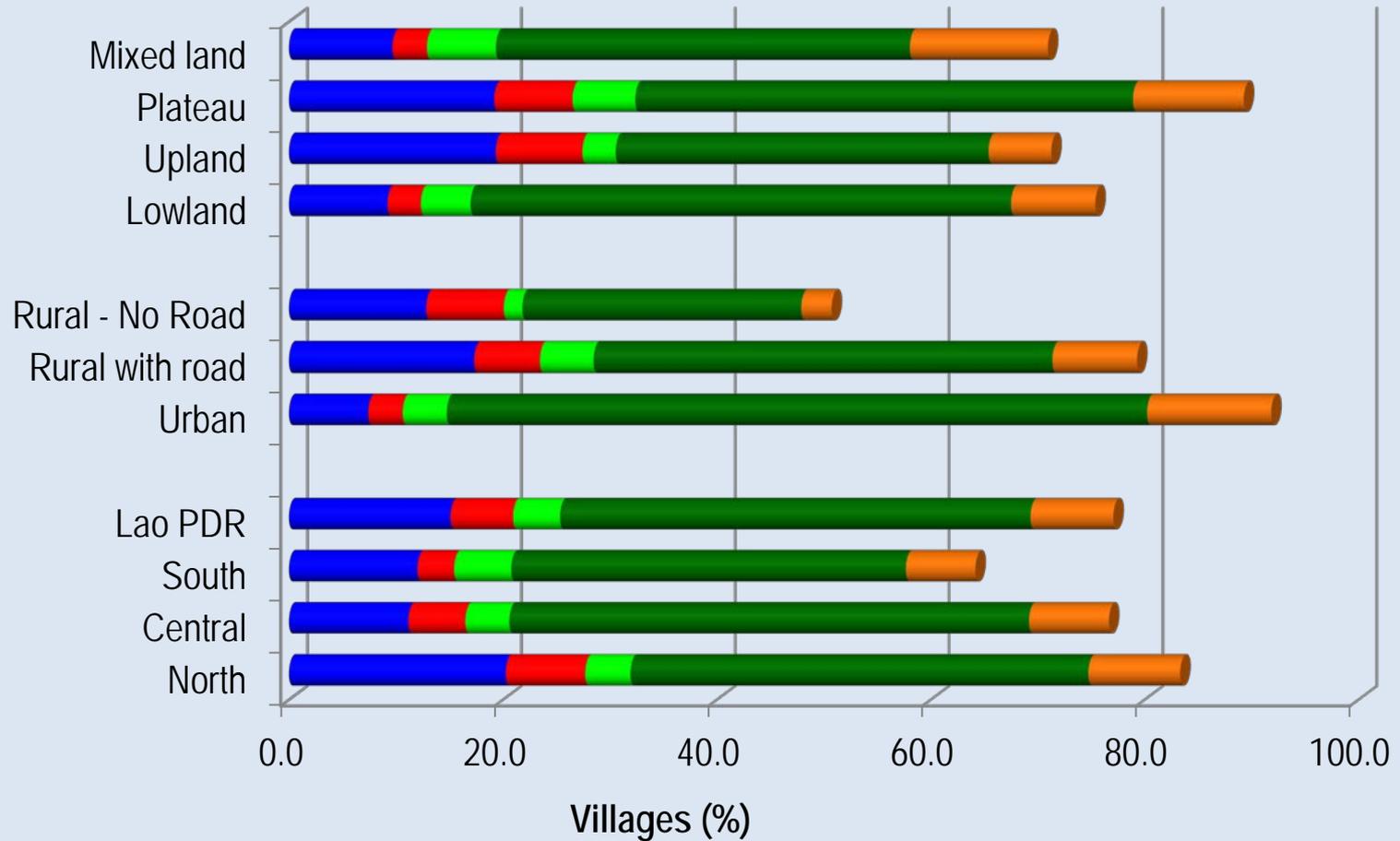
Holdings & area	Census period	North	Central	South	Lao PDR
1. No. of farm HHs with capture fishing ('000)	1998/99	153.2 (64.3)	208.7 (73.0)	102.9 (75.7)	464.7 (69.6)
	2010/11	187.3 (64.8)	230.3 (68.5)	108.6 (69.0)	526.3 (67.2)
	(%) ann. Change	1.7	0.8	0.5	1.0
2. No. of aquaculture holdings ('000)	1998/99	28.6	21.1	5.1	55.5
	2010/11	28.9	30.2	9.1	68.2
	(%) annual change	0.1	3.0	4.9	1.7
3. Area of aquaculture ('000 ha)	1998/99	2.5	2.9	0.9	6.4
	2010/11	4.2	8.1	2.7	14.9
	(%) annual change	4.4	8.9	9.6	7.3
4. Avg. Aqua. Hold. Size (ha)	1998/99	0.09	0.14	0.18	0.12
	2010/11	0.15	0.27	0.29	0.22

- Although capture fishing is a major secondary activity of farm households, the share of farm HHs with their own aquaculture holdings was only about 9% at the national level
- This suggests that the vast majority depend upon common pool water sources for capture fishing. The majority (around two thirds) of farm households undertake capture fishing and aquaculture mainly for own consumption.

Status of Infrastructure and Development Constraints in the Villages



Presence of public services in the villages



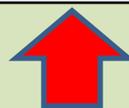
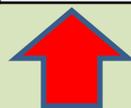
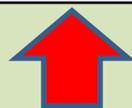
Presence of UXO in the rural villages and potential for land development, 2010/11

Village type/Land type	(%) villages with UXO affected land	UXO affected land		Potential agri. Land\$ ('000 ha)
		Area ('000 ha)	(%) of total land area	
North	5.8	14.8	2.3	465.6
Central	23.1 	90.7 	10.5	549.2
South	26.7	38.5	10.8	216.7
Lao PDR	16.4	144.0	7.7	1231.5
Rural with road	15.9	108.3	7.7	828.0
Rural without road	18.6 	35.7	22.6	403.5
Lowland	11.1	15.5	1.6	343.3
Upland	18.2 	85.4	18.8	631.6
Plateau	21.7	42.6	10.1	254.9
Mixed land	11.1	0.5	5.6	1.7

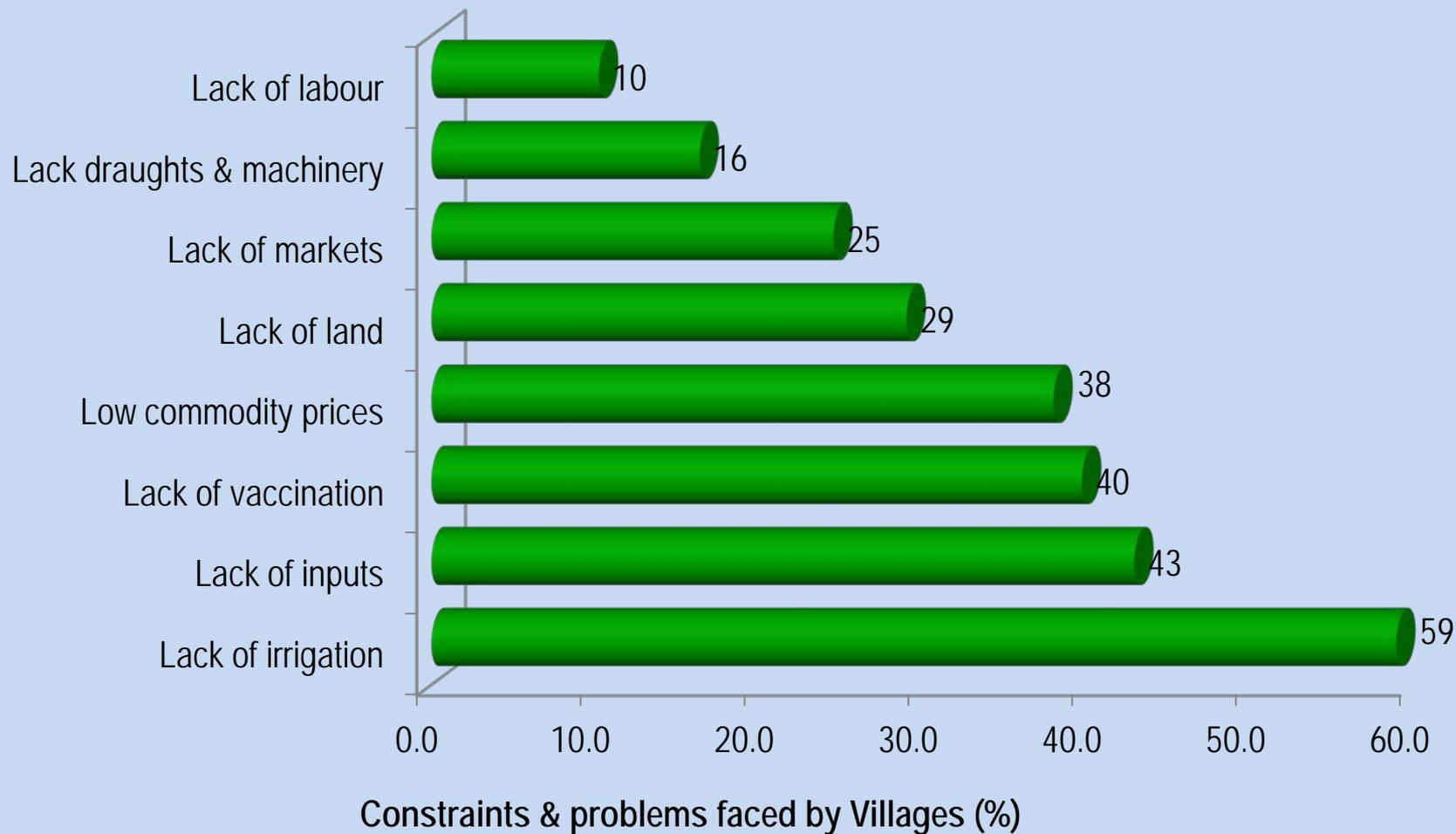
Note: \$- The LCA 2010/11 classifies this land as non-agricultural land that could be brought under farming.

Agricultural infrastructure status in the rural villages of Lao PDR, 2010/11

Location/ type of villages	Type of agricultural infrastructure (% of rural villages)							
	Perm. market	Shop	Shops selling		Credit facilities	Veterinary clinic	Petrol station	Traditional/ Comm. Fish. management
			Agri. inputs	Agri. Mach. & tools				
Northern	1.4	56.2	1.4	1.7	44.1	1.3	19.0	23.0
Central	2.4	68.7	5.3	5.2	44.4	2.6	35.8	26.2
Southern	1.2	61.1	2.9	3.3	43.7	0.8	31.1	26.6
Lao PDR	1.7	61.8	3.1	3.3	44.1	1.7	27.6	24.9
Rural with road	2.0	65.5	3.7	3.8	46.9	1.9	30.4	24.4
Rural – No road	na	44.2	0.7	1.2	31.1	na	14.7	27.5
Lowland	2.0	74.5	6.3	5.4	45.5	2.2	34.1	25.2
Upland	0.9	46.8	0.6	1.5	38.9	1.1	18.3	22.7
Plateau	2.7	67.5	2.7	3.3	51.1	1.8	33.6	28.4
Mixed land	na	71.4	na	na	35.7	3.6	21.4	14.3



Constraints and problems faced by the villages



Incidence of natural disasters

Region/ Village/ Land type	Villages prone to natural disasters (%)	Percentage of villages prone to			
		Floods	Droughts	Landslides	Pests
North	81.5	24.2	66.5	19.2	64.8
Central	81.6	39.6	64.7	9.9	59.2
South	96.0	30.8	88.2	14.1	83.9
Lao PDR	84.4	31.2	70.2	14.7	66.6
Rural with road	84.3	32.4	69.6	14.1	65.6
Rural - No road	84.8	25.5	72.9	17.9	71.1
Lowland	87.6	36.7	76.1	7.0	68.8
Upland	80.5	26.1	64.4	21.7	62.5
Plateau	86.0	31.2	70.9	14.8	70.2
Mixed land	85.7	35.7	64.3	25.0	60.7

- Along with increasing incidence of natural disasters, local climate was also reported to be at variance in terms of lower rainfall and delayed onset of the wet season.
- These perceptions need detailed empirical validations...

LAO CENSUS OF AGRICULTURE

Summary Tabulations

2010/ 11



<http://www.decide.la/en/tabulations>

Access to the LCA 2010/11





Thank you all