

The MRC Regional Stakeholder Forum

14th – 15th December 2017

Vientiane, Lao PDR



MRC Council Study - Social and Economic Assessment

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Outline of Presentation

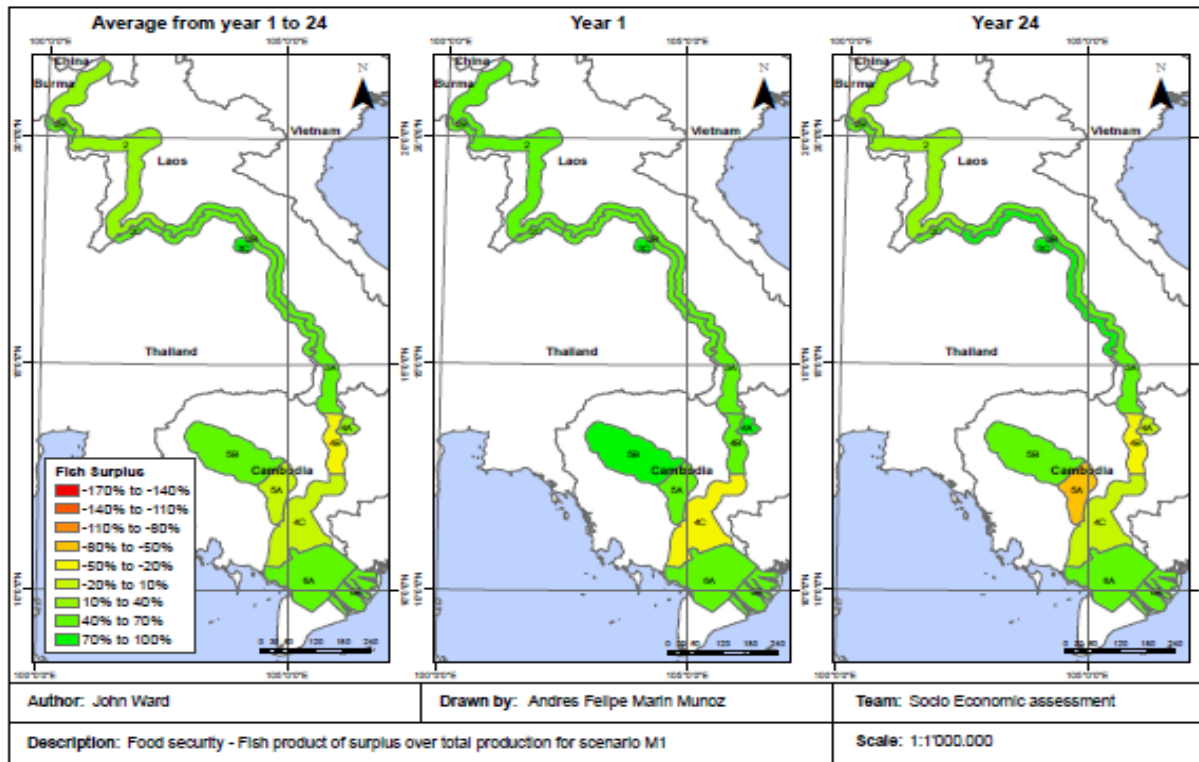
- 1. Development scenario changes in livelihoods and wellbeing**
 - I. Food security**
 - I. Food surplus**
 - II. Undernourishment**
 - II. Water security: floods and droughts**
 - III. Income security**
 - IV. Employment**
 - V. Poverty**
 - VI. Rice and fish monetary values**
 - VII. Subsistence fish and rice production**



When interpreting the results please consider:

- The results are estimates only, not definitive solutions; pointing to areas of “risk” that require additional deliberation;
- Social and economic data specific to the LMB corridor are limited;
- There is a near absence of gender specific data for the corridor;
- Factors were held constant for all scenarios: migration, livelihood activities, rice and fish prices and farm productivity; only the scenario investment “combinations” change;
- Project by project assessments were not conducted;
- The factors are not treated as interactive and interdependent;
- A dynamic approach would enable an improved facsimile of “*corridor realism*” and yield different results.

Agricultural productivity and surpluses



M1 year 24: fish surplus reduced due to population growth

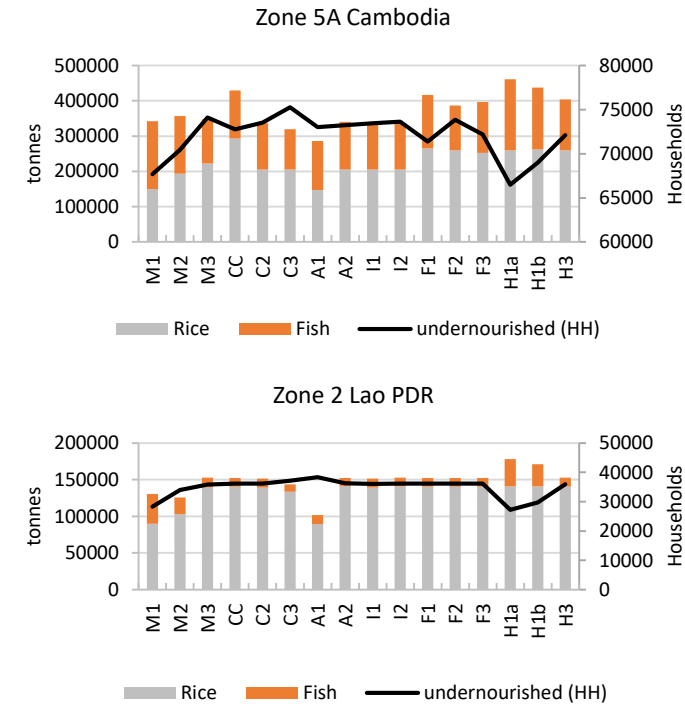
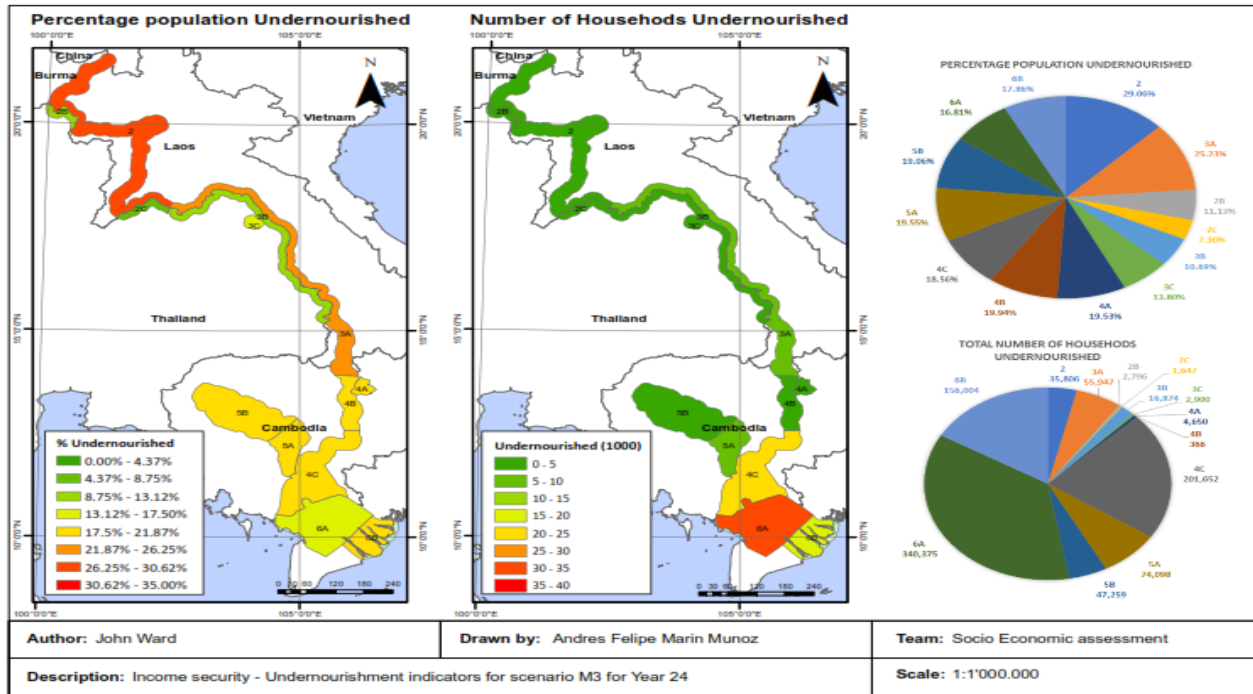
M2 year 24: fish surplus reduced mainly in Lao PDR and Cambodia due to impoundments -32% (cf M1)

M3: -43%

M3CC: -40%

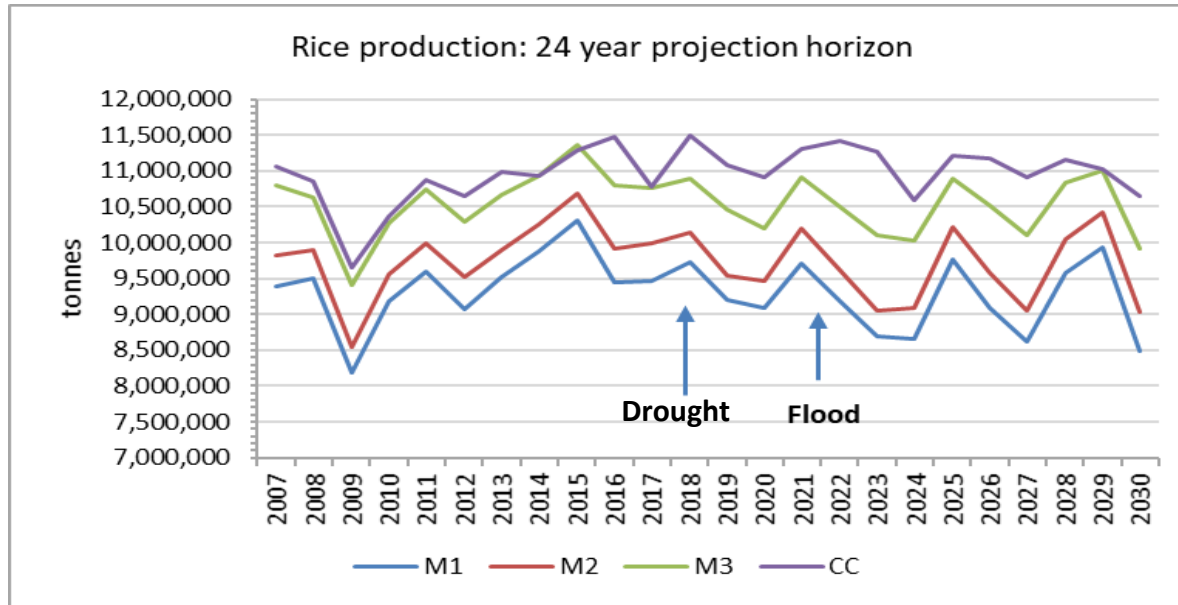
- Food surpluses in the corridor zone are a measure of capacity to respond to food shortfalls
- Nutrition security levels were held constant for all scenarios (100% of population are food/nutrition secure)
- In all scenarios there is a fish and rice surplus at whole of basin level but with regional shortfalls. Dependent on distribution systems and household capacity to purchase fish.

Under nourishment



- M1 → M2, M3 and M3CC: increasing rice + decreasing fish = increasing undernourishment, mainly affecting households in Lao PDR and Cambodia.
- A1 sub-scenario: less rice: ↓ 12,500 tonnes rice ~1000 additional households undernourished
- H1a sub-scenario: more fish: ↑ 3,800 tonnes fish ~1000 less households undernourished

Floods and droughts



Rice based livelihoods affected;

Drought

M1: 700,527

M2: 745,593

M3: 587,288

Floods

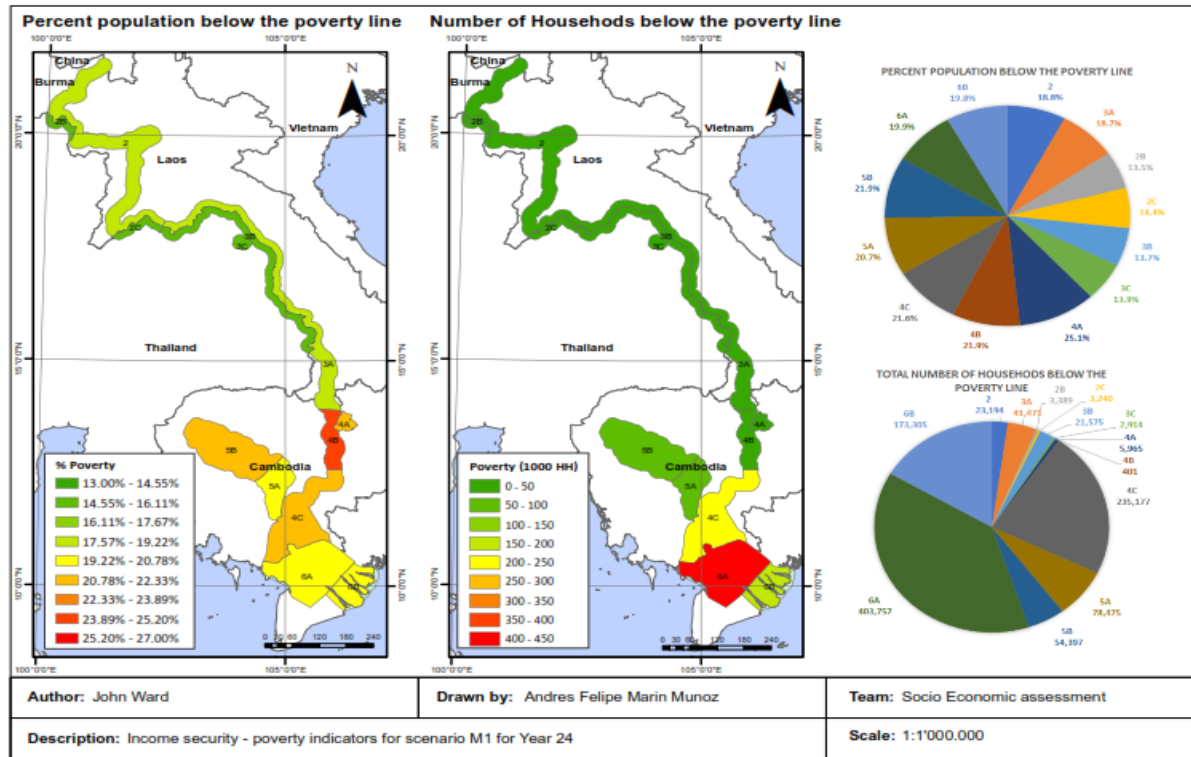
1,137,264

1,232,452

818,887

- El Niño : Compared 1993 to 1997; Floods: compared 2003 with 2000
- Households in Cambodia and Vietnam were the most affected
- M3: reduces the impacts of floods and drought on rice based livelihoods
- 10-11% decrease in rice production due to extreme flood affects ~ 5% of the corridor population
- 11% decrease in rice production due to extreme drought affects ~ 3% of the population
- **Years where drought or floods coincide with large fish declines are predicted implying acute undernourishment. The effects are likely to be more severe in Cambodia under the M3 scenario requiring careful transboundary planning.**

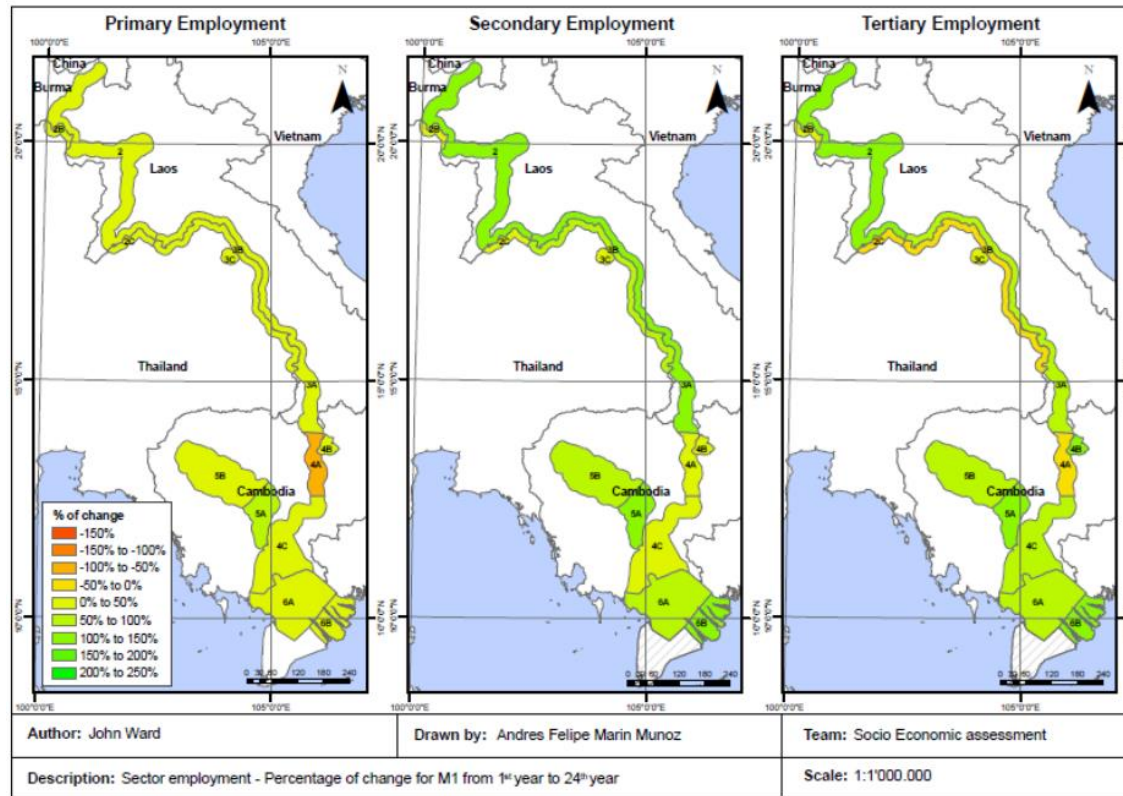
Poverty levels



Percent population below the poverty line.					
	M1 yr1	M1 24	M2	M3	M3CC
Zone 2-Lao	21.7%	18.8%	19.1%	20.6%	20.6%
Zone 3 A-Lao	21.2%	18.7%	19.7%	22.4%	22.0%
Zone 2 B-Thailand	13.6%	13.5%	13.6%	13.8%	13.6%
Zone 2 C-Thailand	14.5%	14.4%	14.8%	15.0%	15.0%
Zone 3 B Thailand	14.2%	13.7%	14.3%	14.5%	14.4%
Zone 3 C Thailand	14.1%	13.9%	13.8%	13.8%	13.6%
Zone 4 A Cambodia	24.0%	25.1%	25.9%	24.7%	23.1%
Zone 4 B Cambodia	25.2%	21.9%	23.7%	23.8%	22.5%
Zone 4 C Cambodia	23.5%	21.6%	21.9%	23.2%	23.9%
Zone 5 A Cambodia	23.5%	20.7%	20.9%	21.1%	21.5%
Zone 5 B Cambodia	23.0%	21.9%	21.9%	21.9%	22.1%
Zone 6 A VietNam	19.4%	19.9%	20.0%	20.0%	20.0%
Zone 6 B VietNam	19.0%	19.8%	19.9%	19.9%	19.7%

- Poverty estimated as HHs less than median income, matched to national poverty lines (reported as total number of HHs and % change across scenarios)
- M1: (year 24) tends to have lowest levels of poverty (small % change in zone 3c).
- M3: highest levels in Lao PDR, Thailand and Vietnam: Cambodian zones vary across M2, M3 and M3CC

Sector employment



M1 year 24: primary sector decreases, secondary and tertiary increase

M2, M3 and M3CC year 24: primary sector increases, secondary and tertiary decrease

- At current rates of productivity: labour constraints mean either agricultural expansion **OR** increases in secondary and service sectors: **not both**
- Agricultural expansion: >10-20% increases in productivity (Lao PDR and Cambodia) are estimated to meet both primary and secondary sector labour demands
- **OR** migration patterns within and outside zones need to be accounted for

Rice and fish values in the corridor

Changing values of wild fish catch = **\$1.57 billion loss**

Lao PDR and Thailand most affected (as % change between scenarios)

Changing values of rice production = **\$0.95 billion gain**

Lao PDR and Thailand most affected (as % change between scenarios)

Fish production SIMVA Zone	M1-M2		M1-M3		M3-M3CC		M2-M3	
	\$'000	%	\$'000	%	\$'000	%	\$'000	%
Zone 2-Mainstream - Lao	-54,378	-39%	-95,312	-67%	-3,290	-7%	-40,934	-47%
Zone 3 A - Lao - Mainstream	-143,710	-34%	-222,263	-53%	-14,056	-7%	-78,553	-28%
Zone 2 B-Upper Thailand	-25,767	-41%	-33,888	-55%	-385	-1%	-8,122	-22%
Zone 2 C-Lower Thailand	-27,831	-39%	-45,975	-65%	-959	-4%	-18,143	-42%
Zone 3 B Thailand-Mainstream	-259,429	-37%	-407,490	-58%	-20,071	-7%	-148,062	-34%
Zone 3 C Thailand-Songkhram	-55,141	-40%	-86,611	-63%	-4,266	-8%	-31,470	-38%
Zone 4 A Cambodia-Khone Falls to Kratie	-9,125	-15%	-20,696	-33%	214	1%	-11,571	-22%
Zone 4 B Cambodia-3S	-2,126	-15%	-4,822	-35%	50	1%	-2,696	-23%
Zone 4 C Cambodia Kratie to Viet Nam border	-77,002	-18%	19,223	4%	2,284	0%	96,224	27%
Zone 5 A Cambodia-Tonle Sap river	-100,060	-18%	-177,125	-32%	15,506	4%	-77,065	-17%
Zone 5 B Cambodia Tonle Sap lake	-81,782	-15%	-149,746	-27%	-37,783	-9%	-67,964	-14%
Zone 6 A VietNam Delta - freshwater	-102,828	-2%	-170,567	-3%	97,470	2%	-67,739	-1%
Zone 6 B VietNam Delta - saline	-108,712	-8%	-176,644	-13%	99,795	8%	-67,933	-5%
Total	-1,047,892	-25%	-1,571,918	-38%	134,509	-2%	-524,026	-21%

Rice production SIMVA Zone	M1-M2		M1-M3		M3-_M3CC		M2-M3	
	\$'000	%	\$'000	%	\$'000	%	\$'000	%
Zone 2-Mainstream - Lao	11,742	13%	43,518	48%	-10,394	-8%	31,775	31%
Zone 3 A - Lao - Mainstream	144,812	33%	459,478	105%	-29,460	-3%	314,666	54%
Zone 2 B-Upper Thailand	4,640	10%	10,723	23%	-5,182	-9%	6,083	12%
Zone 2 C-Lower Thailand	16,583	66%	23,864	96%	-1,419	-3%	7,281	18%
Zone 3 B Thailand-Mainstream	87,794	30%	132,765	45%	-16,680	-4%	44,972	12%
Zone 3 C Thailand-Songkhram	-1,658	-3%	-2,482	-5%	-995	-2%	-824	-2%
Zone 4 A Cambodia-Khone Falls to Kratie	871	9%	-1,376	-14%	-2,938	-34%	-2,246	-20%
Zone 4 B Cambodia-3S	-3	0%	48	7%	-124	-16%	52	7%
Zone 4 C Cambodia Kratie to Viet Nam border	47,013	3%	330,144	19%	-41,371	-2%	283,130	16%
Zone 5 A Cambodia-Tonle Sap river	36,376	8%	61,643	13%	2,850	1%	25,266	5%
Zone 5 B Cambodia Tonle Sap lake	1,764	0%	2,061	0%	2,454	0%	297	0%
Zone 6 A VietNam Delta - freshwater	-12,357	0%	-108,056	-3%	-15,324	0%	-95,699	-2%
Zone 6 B VietNam Delta - saline	-262	0%	-344	0%	-16,394	-2%	-82	0%
Total	337,314	13%	951,986	26%	-134,977	-6%	614,672	10%

Sector incomes

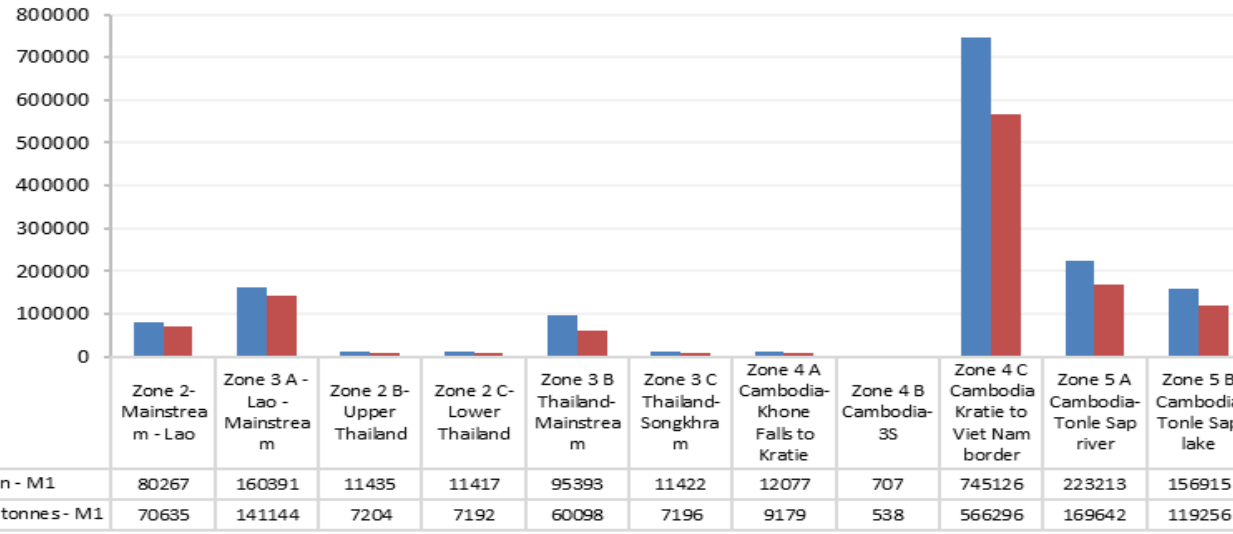
	M1 (year1)-M1 (year 24)		M1-M2		M1-M3		M2-M3	
	Primary	M'facturing & Service	Primary	M'facturing & Service	Primary	M'facturing & Service	Primary	M'facturing & Service
Lao PDR	-2%	109%	18%	-8%	69%	-30%	44%	-24%
Thailand	-5%	14%	25%	-16%	40%	-25%	12%	-11%
Cambodia	-15%	101%	7%	-3%	34%	-16%	25%	-13%
Vietnam	-5%	82%	-1%	1%	-4%	3%	-2%	2%
Total Income	-6%	81%	1%	-2%	4%	-9%	3%	-6%
Total income change (US\$)	-\$1.48	+\$7.9 B	+\$0.19 B	-\$0.44 B	+\$0.88 B	-\$1.5 B		
Total income change (US\$)	↑ +\$6.4 B		↓ -\$0.25 B		↓ -\$0.63 B		↓ -\$ 0.38 B	

M1 year 24: primary sector incomes tends to decrease, secondary and tertiary increase

M2, M3 and M3CC year 24: primary sector tends to increase, secondary and tertiary decrease

Subsistence production

Rice:M1 subsistence and total consumption (tonnes)

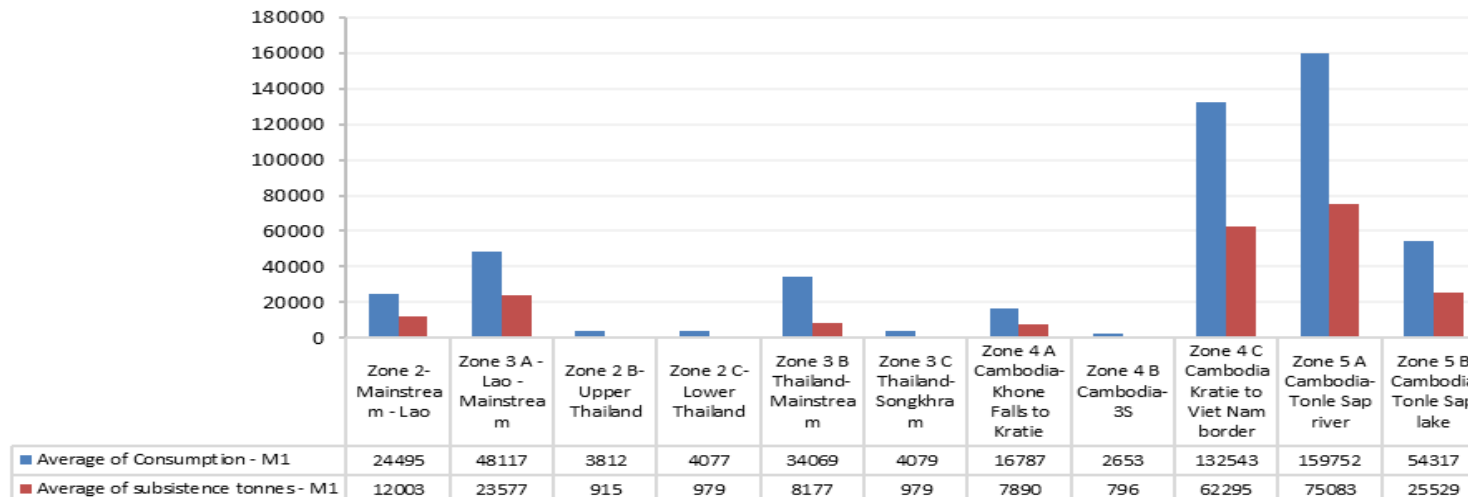


Total Corridor Rice

Total: \$9.7 b

Subsistence: \$3.3 b

Fish: M1 subsistence and total consumption (tonnes)



Total Corridor Fish

Total: \$10.3 b

Subsistence: \$5.9 b

