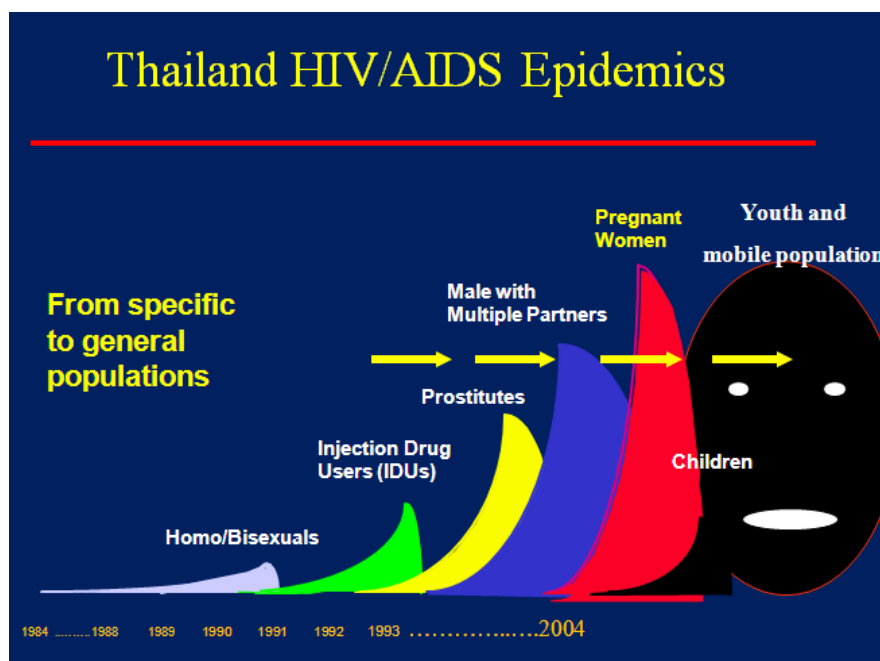## 5. "People living with HIV/AIDS and Their Households: Impact Mitigation: the Need for Strategic Action"

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Thailand HIV/AIDS Epidemics

Impact Mitigation: the Need for Strategic Action

State of Art: Impact of HIV/AIDS at the household level;

Poverty; Inequality; Food security; Policy to mitigate the impact; inter/multi/trans-disciplinary approaches: What do we know already?

Broad scopes:

- From HIV vaccines to agriculture through care and treatment

- Short, medium and long term

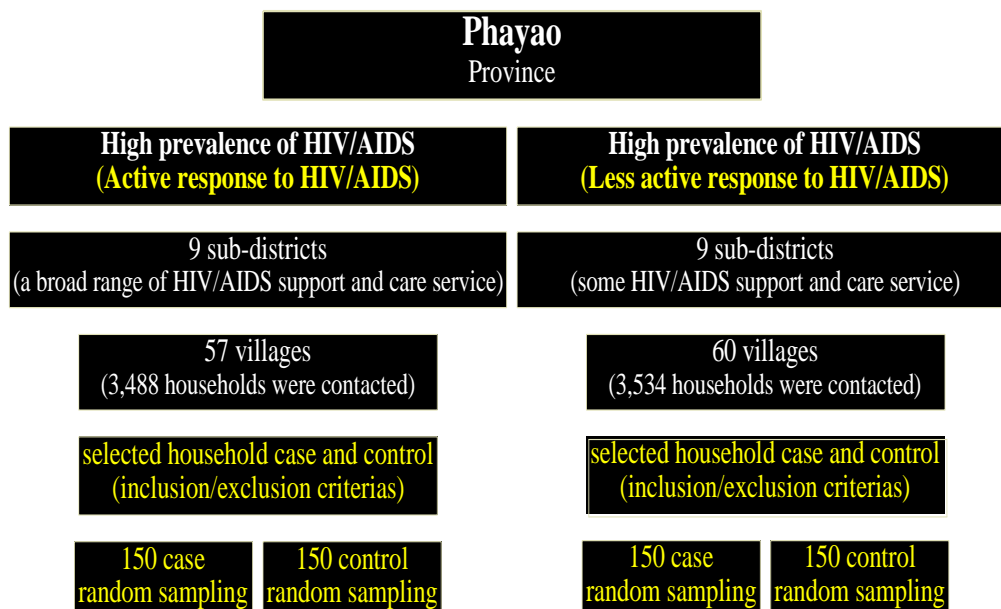- Trade-offs between resources for HIV/AIDS vs. other issues

The economic impact of HIV/AIDS morbidity on households in rural Thailand:

An analysis of household coping strategies

Study location: Phayao, Thailand
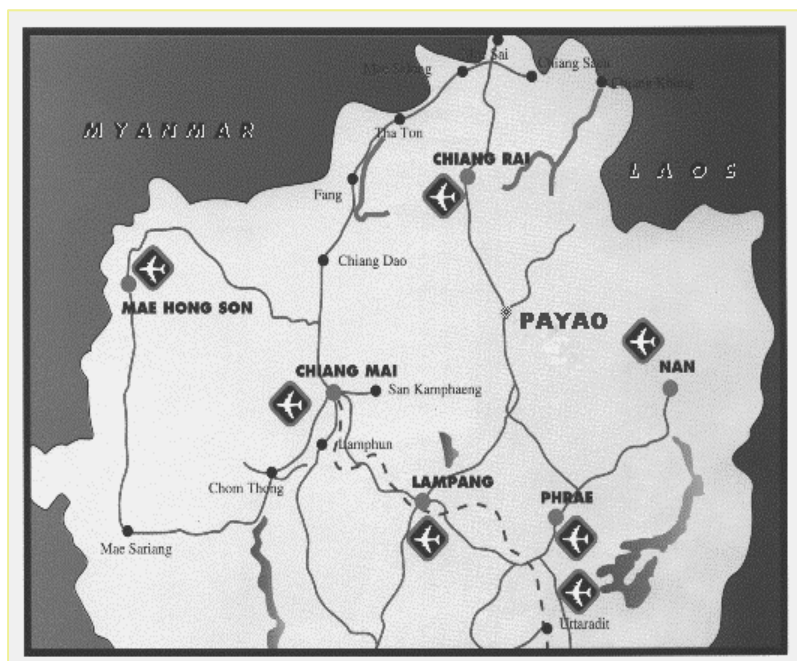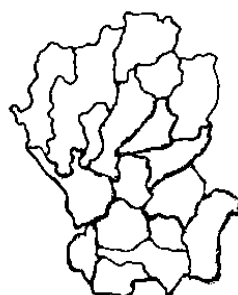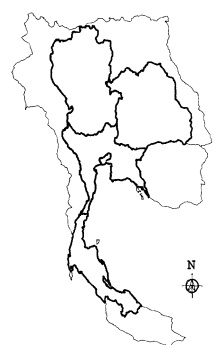
- ❑ where reported HIV/AIDS cases were among the highest in Thailand in 1998
- ❑ multi-sectoral assistance to people and communities affected by AIDS.

Selection of comparison districts and sub-districts

Phayao Province	
High prevalence of HIV/AIDS (Active response to HIV/AIDS)	**High prevalence of HIV/AIDS (Less active response to HIV/AIDS)**
9 sub-districts (a broad range of HIV/AIDS support and care service)	9 sub-districts (some HIV/AIDS support and care service)
57 villages (3,488 households were contacted)	60 villages (3,534 households were contacted)
selected household case and control (inclusion/exclusion criterias)	selected household case and control (inclusion/exclusion criterias)
150 case random sampling / 150 control random sampling	150 case random sampling / 150 control random sampling

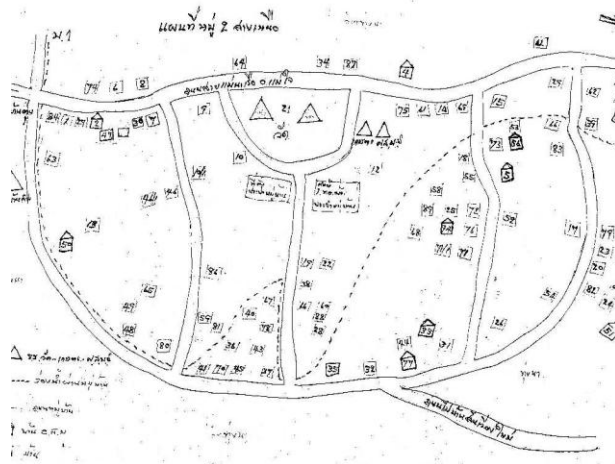## Study Communities

Two districts in Phayao: "Mueng" and "Pong" were chosen as the study location. Mueng district represented a community where there was an active response to HIV/AIDS (active villages), and Pong district as a community with a less active response to HIV/AIDS (less active villages)

Community mapping to identify case and control household

April-June 1999, 7000 households were contacted and asked about their member's health status, member's illness, willing to be interviewed or not. (Physical landscape, household location: ID)

Conceptualising household coping (1999-2000): Short term

Household coping mechanisms include:

- Adjustment of Household available resources, Borrowing, Transfer in/out, Increase market activities

Community and relatives for household coping include:

- Community donate or lend food, material, money; e.g. District AIDS Fund, Established community and home based care, Provision of child care, Provision of labour, Community participation and perceived changes, Transfer money in/out

Support from GO/NGO for household coping includes:

- Child and elderly care, Counselling, Health services utilisation, Schooling and nutrition program, Training to care providers, Job training, Group therapy, meditation practice, Support group of PLHA, Self help group of PLHA, Information support basic care for PLHA

Summary of main economic indicators from the historical simulation

Indicators	Control	Case	Percentage change
Total income per capita	3923*	1218*	-69
Total income of income earner (sick)	19978	3871*	-81
Total income of income earner (non-sick)	1919	3345	74
Total Consumption per capita	3531*	1863*	-47
Total savings per capita	392	-645	-265
Total loans per capital		339	
Total debt per capita		1486	

- *indicates that the figures are from the survey data, while others computed from the simulation*
- *The modelling is based on a simple economics identitiy, Y=C+S*

The modelling is based on a simple Keynesian income function focusing on income consumption and saving

Summary of consumption indicators from the historical simulation

Indicators	Control	Case	% change
Total income per capita	3923*	1218*	-69
Total consumption per capita	3531*	1863*	-47
Total consumption food per capita	1052	594	-43
Total health care for non PLWHA per capita	237	49	-79
Total health care for PLWHA per capita		939	
Total schooling consumption per capita	529	239	-55
Total other consumption per capita	2016	937	-54

Summary of consumption indicators from the alternative simulation

Indicators	Alternative Simulation		
	20% decrease in health care		
	PLWHA	% change (control-case household)	% change (historical-alternative simulation)
Total consumption per capita	1835	-47	-1
Total other supports per capita	620		-8
Total money transfer in per capita	278		-8
Total selling assets per capita	31		-8
Total loans per capita	311		-8
Total debt per capita	1340		-9
Total saving per capita	-617	-257	-4

Summary of consumption indicators from the alternative simulation

Indicators	Alternative Simulation		
	20% increase in health care		
	PLWHA	% change (control-case household)	% change (historical-alternative simulation)
Total consumption per capita	1891	-46	1
Total other supports per capita	670		0.06
Total money transfer in per capita	303		0.06
Total selling assets per capita	34		0.06
Total loans per capita	339		0.06
Total debt per capita	1746		17

Household coping: Follow up studies

- Action taken to minimise distress, provide follow up support
- Follow up studies: approved by renewal IRB (Mahidol University): willing to participate in the studies

  - 1999-2000: 600 households

    324 cases from 300 case households (and 300 control households enrolled- neighbourhood control non AIDS families)

  - 2004: 501 households - linked with HH-ID

    319 cases from 266 case households + 56 previous control households (and 235 control households enrolled)

  - 2006: 312 households - linked with HH-ID

    285 cases from 121 case households + 81 previous control households (and 191 control households enrolled)

  - 2008: 278 households (303 cases) - people are moving out, mobilisation or urban migration, etc.

Scope of Accessibility

- Medical services:

  - VCT & Screening
  - OI prophylaxis and treatment
  - ARV therapy for appropriate patients

- Specific laboratory access (CD4,VL)

  (Thira Woratanarat and Anupong Chitwarakorn, 2005)

- Psychological support: counseling networks and psychotherapy services for infected people and affected family/household

- Socio-economic services: co-operate among various ministries, multisectoral collaboration for support (those who need support)

Household impact and coping mechanism (2004, 2006)

- Household and community level (treatment dynamics and access to support + Universal access to ARTs in 2003, both first and second line):

  - social and economic impacts - disability grant, support group

  - socioeconomic status/poverty impact of HIV/AIDS

  - HIV/AIDS Orphans - missing generation

  - nutrition status - food security, food production, food supplements

  - livelihoods - maintain household income/expenditure patterns, alleviating labour shortage

  - behaviour - effect of ARV

    - Married persons significantly more likely to have commenced treatment (p<0.001)

    - More productivity, could earn more money

Socio-economic determinants of HIV/AIDS in Thailand

Result

Table 1: Demographic characteristics of PLWHA

Characteristic	PLWHA (n=324 cases)	Phayao	p-value
age (mean) = 31.98, age<=31 [51.5%]			
age >= 40 [%]	9.7	20.8	<0.0001
male sex [%]	46.3	57.6	<0.0001
no school education [%]	3.7	8.9	0.005
no or primary school education. [%]	42.9	71.0	<0.0001
unemployed [% of labourer, male]	3.2	1.6	<0.0001
agriculturer /labourer [% of employed]	64.6	71.4	>0.05

-
    The age and sex distribution among PLWHA differs significantly from the general population in the study location.

- The proportion of PLWHA aged 40 and above is 9.7 % among 324 PLWHA, compared to 20.8 % in the general population. The respective proportions for male sex are 46.3% and 57.6%. The percentage of PLWHA with no formal education is 3.7%, compared to 8.9% in the general population. Including primary education, the respective proportions are 42.9% and 71% respectively. Unemployment is higher among PLWHA (3.2 % vs. 1.6%).

- Among those who are employed, the proportion of farmers and labourers is slightly lower than in the general population (64.6% vs. 71.4%) but this is not statistically significant. Significance levels for the statistical tests and results are shown in **Table 1**.

Socio-economic indicators (Thai Bath: THB)

Indicator	PLWHA	Phayao	p -value
	(n=300 households)		
household income	85,740	82,278	0.0084
household members	3.8	4.1	0.0095
per capita income	23,889	20,052	0.0059
household expenditure	4,157	4,435	>0.05
per capita food	679	685	>0.05
poverty [%]	23.4	17.5	<0.001

- Average household incomes (THB 85,740 vs. THB 82,278) and per capita incomes (THB 23,889 vs. THB 20,052) are significantly higher among PLWHA than in the general population in Phayao.

- A small but significant difference exists for the average number of household members (3.8 vs. 4.1).

- The proportion of persons with household per capita incomes below the poverty line is significantly higher in the patient group (23.4% vs. 17.5%).

- Significance levels for the statistical tests and results are shown in above table

Household assets

Possession of household assets [% of households]	PLWHA	Phayao
	(n=300 households)	
car	13.4	12.4
truck	6.7	7.3
motorcycle	59.7	47.5
stove	61.2	61.5
refrigerator	54.8	49.2
rice cooker	71.4	69.1
radio	71.7	70.8
Television	81.3	80.3

- Household assets are presented at similar proportions in households of PLWHA and the general population.

- This observation is made for both "luxury" (e.g., car, television) and "regular" household assets (e.g., rice cooker, stove).

- All items (motorcycle, refrigerator) were found slightly more frequently in PLWHAs' households than in the general population

Age distribution of socio-economic indicators

Age - group	age distribution [% of total]		socio-economic indicators by age-group						poverty distribution [% of total]		
			primary education [%]	percapita income [Baht]	per capita expendit-ure [Baht]	poverty prevalence [%]					
	Phayao	PLWHA				all	male	female	crude data	age adjusted	Phayao
20-25	18.8	12.3	66.9	34,056	17,292	12.6	14.5	9.4	4.0	21.2	7.5
26-30	21.4	32.5	72.9	36,518	17,940	15.4	16.7	11.1	11.1	24.9	24.6
31-35	20.4	27.4	90.3	28,265	16,620	18.0	16.5	22.4	15.8	19.1	24.0
36-40	18.6	19.4	93.0	26,971	11,964	17.8	11.4	30.6	14.3	12.1	18.5
>40	20.8	8.2	95.5	21,702	11,676	35.0	30.3	42.8	54.8	22.8	25.1
Total for age / sex adjusted data			73.7%	30,502	16,098	18.9		Total	100	100	100
Phayao			75.87	21,618	15,215	16.3					

To assess whether the high prevalence of poverty among PLHA (age>40) is different from that observed in the general population, we analysed the age distribution of PLHA with incomes below the poverty line. Fifty five percent of all poor PLHA are 40 years or older in the crude data set. This proportion decreases substantially to 22.8% if the data are age- and sex adjusted. In the general population, 25.1% of all poverty occurs among people older than forty, indicating that the prevalence of poverty in this age group is similar in both PLHA group and general population.

Incomes and expenditures, educational achievements, as well as the prevalence of poverty among PLHA are dependent on age and sex. The lowest levels of education, lowest income, and highest prevalence of poverty occur in PLHA of age 40 or older (30.3% for male, 42.8% for female).   Except for the age group 20-30, poverty occurs more frequently among male than female.

- Age- and sex standardization of patient data results in a decrease of the average poverty level from 23.4% to 17.9% (vs. 17.5% in the general population). Standardized data also show slightly higher per capita expenditures in the PLWHA (THB 16,098 p.a. vs. THB 15,215 p.a.), while the relation is the reverse for unadjusted data (Table 3).

Standardizations substantially decreases the proportion of PLWHA with no or primary education (from 42.9% to 73.7%, vs. 75.9% in the general population).

- From our study, we are unable to determine whether our finding is based on more recent developments or represents a chronic disease distribution within the Thai population. The age-group 20-39 years, which is strongly affected by the HIV epidemic in study population, is also the age group that has the highest average income among PLWHA households (Table 2). This observation may indicate a spread to more specific groups under the impact of the HIV epidemic.

- While the prevalence of poverty in PLWHA (age>40) is very high, this finding is again a reflection of the situation in the general population of the study location (Table 5). We can therefore not identify poverty as a risk factor to explain the higher incidence HIV/AIDS among this group in our sample.

- It should be noted that our results could not be interpreted as a refutation of claims about the importance of socio-economic factors for susceptibility to HIV/AIDS. It is possible that most of or all of the unreported cases have low incomes that higher deter them from attending government services. In addition, treatment services in Thailand are still centralized at district hospitals, so that travel expenses are required for many PLWHA to visit these hospitals. Although these expenses are considered to be "minimal", people with incomes below poverty line may nevertheless be unaffordable for most cases whose expenditure is most likely to be stressed directly on their basic necessities like food consumption (Table 3).

### Household impact and coping mechanism (2006, 2008)

- Impact Mitigation: Community strengthening to support long term and continuous care
    - environmental and institutional factors: Physical/geographical
    - increase investment from local authority in impact mitigation
    - community coping responses: traditional grassroots or indigenous organizations, formal community-based organizations (external support from NGOs or other agencies)
    - migration and complex emergencies - drug resistance

- health services and policy (including access to health care, quality of care, and health sector reform)
- development policy- Healthy Public Policies, Social Safety Net

The HIV/AIDS Continuum of Care

Community coping responses
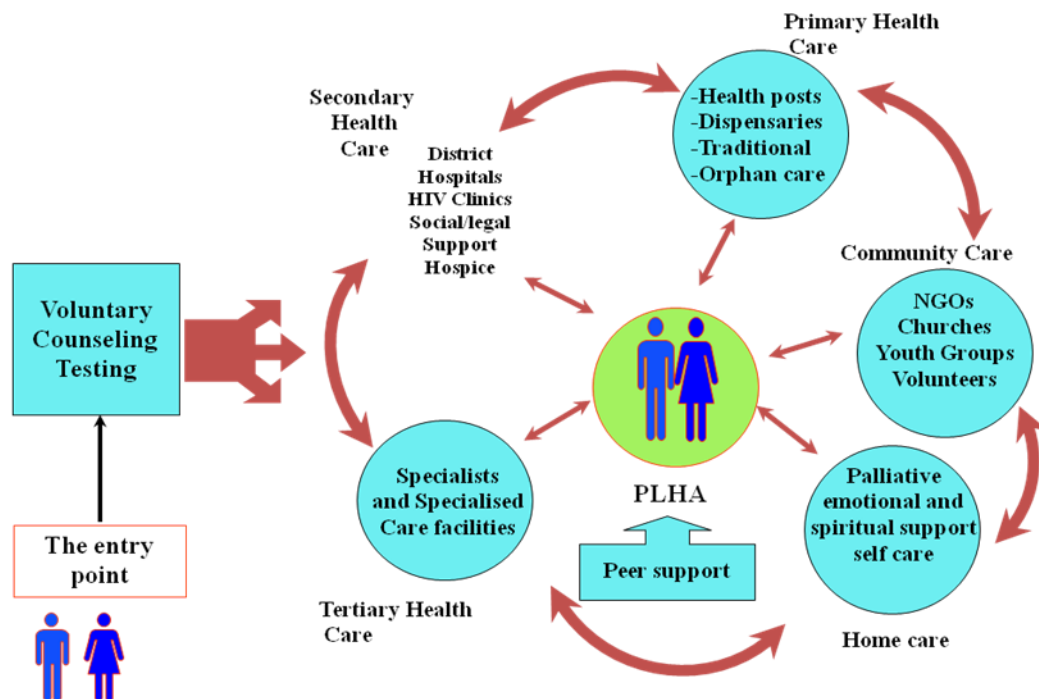
Mainstream HIV/AIDS to Impact Mitigation

Policy Nexus: What evidence is needed to help policy-makers make informed decisions? What challenges do policy-makers face in using research on economic impacts of HIV/AIDS to inform their policymaking process? What policies is this impact mitigation best able to inform?

Initiative mainstream HIV/AIDS to impact mitigation

- nourishing families
- incentives for the vulnerable to re-invest in productive farming
- food security, nutrition, gender, methods, targeting, M&E and impact assessments
- nutritive value - genetic/ post-harvest fortification, for example, aflatoxin reduction
- scaling out improved varieties with market traits, and
- Strengthen partnerships.

Potential focus areas for strategic mainstreaming at the household level in impact mitigation

- Strengthen partnerships: partnership between the communities, governments, donor agencies, international NGOs, local NGOs, private sector and others in mitigating the impacts of HIV/AIDS.
- The relationship between households and social networks: including both how these networks affects the impact of and responses to the epidemic and how they, in turn, are affected.
- Greater focus on the informal economy and possible support mechanisms: looking at the links between HIV/AIDS and households' ability to generate income, etc.

Possible key questions are:

- How do the social networks that exist affect vulnerability to HIV/AIDS (specific emphasis on economic vulnerability/ poverty)?
- How do social networks mitigate impact and affect responses to the pandemic?
- How does HIV/AIDS at an individual/household level impact on social networks (e.g. issues of extended family support; foster parents; social support mechanisms, effects on types of income sources and migration)?
- On the basis of a greater understanding of social networks, how can one (re)define an 'affected household' to try to achieve a more accurate assessment of impact?

Overarching issues

- Quality and representativeness of data
- Produce information appropriate for policy development (not "policy evidence base")
- Extend focus beyond the rural economy
- Interdisciplinary, multidisciplinary approach
- Methodological innovation (nature of attrition bias, statistical power, econometrics: two-step model, IV techniques, results may be specific to context/setting)

- Be prepared for the unexpected
- Better dissemination of information