

An Annotated Bibliography of the Available Information on Migration in the Greater Mekong Sub-region

As a part of developing a strategy to contain artemisinin-
tolerant *Plasmodium falciparum* parasites

*Compiled by Jiyeon Han, edited by Sylvia Meek and Mallika
Kaviratne. Malaria Consortium, 2008*

The logo for the Malaria Consortium, featuring the words "malaria" and "consortium" in white lowercase letters on a dark green rectangular background. The background is divided into three vertical stripes of varying shades of green.

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Acknowledgements

The bibliography was developed with financial support from the Malaria Consortium and a grant from the Centers for Disease Control and Prevention.

Summary

This bibliography has been compiled to summarise sources of information on migration patterns in Thailand and Cambodia, which may be relevant to developing and implementing strategies to minimise the risk of spread of artemisinin derivative resistant *Plasmodium falciparum* malaria by mobile and migrant populations. It explores the extent and causes of migration in the region and what potential interventions have been tried for providing health care services to, and collecting health data from, these populations. Key findings are:

- There is a wealth of information available on migration at the macro- and national level addressing policies of sending and receiving countries to regulate and manage international migration. Extensive surveys and studies have been conducted by many international organizations such as the International Organization for Migration (IOM), World Bank, United States Agency for International Development (USAID), and many other UN organizations.
- Throughout the research, it is found that most migration among the GMS countries is limited to their border areas.
- It is usually adult males who migrate, but sometimes the whole family moves together and works together especially in the occupations of agriculture and construction.
- Unlike regular/documented migrants, most of irregular migrants are not entitled to health care services from the receiving countries and remain extremely vulnerable to various diseases and malnutrition.
- Most of the information available does not offer any detailed/in-depth coverage of irregular migration or internal movements of populations which is the key target of the containment programme.
- There are no substantial quantitative studies of irregular migration such as trafficking of women and children due to their illegal characteristics. Such characteristics of irregular migration makes it very difficult to keep track of their movement and behavioural patterns, making it difficult to set up the effective containing/monitoring programme for the migrant/mobile population.
- Artesunate-mefloquine remains a highly efficacious antimalarial treatment on the Thai-Myanmar border, but there is evidence of a modest increase in resistance. Of particular concern is the slowing of parasitological response to artesunate and the associated increase in gametocyte carriage. Recent results suggest that artesunate-mefloquine combination therapy is beginning to fail in southern Cambodia and that resistance is not confined to the provinces at the Thai-Cambodian border.

1. Introduction

For the first time since the global malaria eradication programme of the 1950s to 1960s there has been extensive and progressive success over the last ten years in reducing the burden of malaria globally. Significantly, this has included major successes in several countries in sub-Saharan Africa, which benefited little in previous campaigns. Progress has been possible through a combination of political will, provision of new effective tools for prevention and treatment on a realistically large scale, improving systems for delivery and access and sustained and increased financial support. In Southeast Asia progress in reducing malaria has also been impressive for the same reasons together with reduction in forests, to which the major vector mosquito species are confined, less political unrest and economic growth.

The key treatment tools are artemisinin-based combination drugs. These are highly effective compared with other drugs for treating uncomplicated and life-threatening malaria. Together with large-scale use of insecticide-treated mosquito nets they are contributing to substantial impact on malaria morbidity and mortality. The use of artemisinin-based drugs only in combination with other drugs as artemisinin-

based combination therapy (ACT) has been widely accepted as essential to limiting the probability of drug resistant mutations spreading. There have been several challenges to implementing this strategy ranging from unpredictable funding, poor forecasting, limited use of public sector health facilities due to their inadequate performance, widespread use of private providers and self-treatment with inappropriate drugs, poor adherence to dosage recommendations and often substandard or even fake drugs. In particular, there has been a rise in the availability and use of artemisinin derivative monotherapies in the market, which substantially increases the risk of increase and spread of any artemisinin resistant parasites that emerge.

There is increasing evidence that artemisinin resistant malaria parasites are now present on the Thai-Cambodian border. Their presence elsewhere has not yet been confirmed. The spread of artemisinin resistance would seriously constrain global efforts to control malaria, as no better drugs are currently available for treatment of *P. falciparum* malaria. The current situation is critical, and calls for an urgent and vigorous response. Following further assessment of the evidence and development of strategies for containment, resources have been mobilised and the response is being mounted. It may be possible to prevent resistance spreading by rapidly eliminating malaria in the malaria endemic area of Western Cambodia and Eastern Thailand. This has never been done before, and will require extraordinary effort and an unprecedented level of coordination among national control programmes, peripheral health services, donors, international agencies, NGOs, academics and others.

It is suspected that a major risk factor for rapid spread of resistance is the presence in the region of a large number of mobile and migrant people, who move both across national borders and internally in search of work. Movements may be short term or long term, they may be individuals (often men) cutting wood in the forest or working on farms and in mines or they may be families moving to temporary farms. The reason that these movements pose a risk is that the movements are often of non immune people from areas of low malaria transmission to the more highly endemic forested areas, where they are highly susceptible to infection and unfamiliar both with local health services and also the necessary prevention and treatment seeking needed for malaria. Many are also reluctant to make their presence known to local authorities.

This bibliography has been compiled to explore sources of information on migration patterns in Thailand and Cambodia in order to identify what is currently known about the extent and causes of migration in the region and what potential interventions have been tried for providing health care services to, and collecting health data from, these populations. It does not aim to be an exhaustive review of the literature but rather an aid to health agencies aiming to tackle the difficult problem of ensuring all cases of malaria in mobile and migrant populations are treated fully with efficacious drugs and use effective prevention methods to minimize transmission of potentially resistant parasites.

The bibliography contributes to the following **goal**: Containment of artemisinin-tolerant *Plasmodium falciparum* parasites by removing selection pressure and reducing and ultimately eliminating *falciparum* malaria

Its **objectives** are:

- To gather available information on migrant and mobile populations in the Greater Mekong Sub-region (GMS) in order to develop an annotated bibliography.
- To point to gaps in our knowledge where more primary investigation may be needed.

Methods

The bibliography focuses primarily on unpublished literature, which was collected from websites and email correspondence with key informants. The search was carried out up to March 2008. Recent changes to migration patterns related to the global economic downturn were not reflected in the literature by early 2008.

2. Terminology and General Background for Understanding Migration

Migration: Migration is the process of movement of person(s) from one place to another. It can take place across an international border, or within a state. "External migration" - also known as "international migration" or "cross-border migration" or "transboundary migration" - refers to the territorial relocation of people between nation-states. On the other hand, "internal migration" refers to movement from one area (province, district or municipality) to another within one country.

Migrants/Migrant Workers: People who migrate voluntarily are known as "migrants", "economic migrants" or "migrant workers". The decision to migrate is taken freely by the individual concerned and it can be a result of both pull and push factors. Pull factors include the perception of better work opportunities outside of home and the presence of family members. Push factors are usually poverty, lack of employment opportunities and natural disasters such as drought or flooding that destroy homes or subsistence crops.

Involuntary/Forced Migration: "Involuntary" or "forced" migration refers to migratory movement in which an element of coercion exists, including threats to life and livelihood, whether arising from natural or human causes. Movements of refugees and internally displaced persons fall into this category. It remains a contention whether people pushed to migrate as a result of extreme poverty or hunger should be categorized as voluntary or forced.

Trafficking: Recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Trafficking of children and women is regarded as a crime of violence and a violation of human rights under the UN Convention against Transnational Organized Crime, the Supplementary Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children (known as the Palermo Protocol).

Ravenstein's "Laws of Migration"

Certain laws of social science have been proposed to describe human migration. The following was a standard list developed from Ravenstein's proposals during the time frame of 1834 to 1913. The laws are as follows:

1. Most migrants travel short distances and with increasing distance the numbers of migrants decrease. This law is based upon the assumptions that the higher travel costs and a lack of knowledge of more distant places acts against large volumes of migration.
2. Migration occurs in stages and with a wave-like motion. Based on his observations in the late nineteenth and early twentieth centuries that migration occurred in steps with people gradually moving up the settlement hierarchy - from rural areas to villages, to towns, to cities and finally the capital city.
3. Migration increases in volume as industries and commerce develop and transport improves, and the major direction of movement is from agricultural areas to centres of industry and commerce.
4. Most migrants are adult. Families rarely migrate out of their country of birth.
5. Women are more migratory than men within their country of birth but men more frequently venture beyond it.
6. Urban dwellers are less likely to move than their rural counterparts.

Patterns of migration in the late twentieth century and early twenty-first century are likely to be less tied to these "laws", as international transport and communications have radically increased in scope and decreased in relative price. They do, however, provide pointers to the types of patterns to look for.

Push and Pull Factors

Push Factors: A push factor is forceful, and a factor which relates to the country from which a person migrates. It is generally some problem which results in people wanting to migrate:

- Not enough jobs
- Few opportunities
- “primitive” conditions
- Political fear
- Poor medical care
- Not being able to practise religion
- Natural disasters

Pull Factors: A pull factor is something concerning the country to which a person migrates. It is generally a benefit that attracts people to a certain place:

- Job opportunities
- Better living conditions
- Political/religious freedom
- Education
- Security
- Family links

3. General information on migration in Greater Mekong Sub-region (GMS)

The Greater Mekong Sub-region (GMS), with a population of 260 million, comprises Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and Yunnan province in China. Despite marked disparities in economic development among its members, the sub-region is extremely dynamic with annual growth rates averaging above 6 percent in recent years. In the past, economic integration of the GMS countries was hindered by political factors, civil unrest, and sometimes open conflict. However, recently there has been growing momentum to seek new ways to cooperate and enhance economic growth. Labour migration is one of the areas where the benefits to formal cooperation are largest, yet the institutional, political, and technical obstacles to such cooperation are daunting.

Migration has been occurring in the GMS for centuries, largely in an informal and unregulated fashion. In recent years, however, cross-border labour migration within the sub-region has increased sharply. The combination of demographic transition and upgrading of the skills of its workforce has left Thailand facing a labour shortage of unskilled labour, which migrants from neighbouring countries have been more than willing to fill. Thailand’s much higher incomes, fast growth, and more favourable social and political climate act as a magnet for people in Cambodia, Lao PDR, and Myanmar trying to escape poverty. Recent research indicates that more than 2 million migrants have moved between GMS countries in the last few years for economic reasons. Thailand alone estimates to have 1.5 to 2 million regular and irregular migrants from the GMS currently living in the country and is also home to about 150,000 refugees.

Uneven patterns of development, slowing population growth in Thailand combined with high fertility rates in its neighbours and growing economic integration will ensure that labour mobility in the GMS continues to grow in the coming decades. Much of this migration, however, will remain irregular unless greater efforts are made to regulate and manage migration flows. The sending countries generally lack the capacity to properly manage the mass export of labour and to protect the rights of their migrant-nationals abroad. Receiving countries also have fairly weak migration policy frameworks, which often have been implemented hastily as an ‘after-the-fact’ response to the arrival of large numbers of migrants. The lack of a legal framework to regulate migration puts migrant workers at a higher risk of abuse, and strengthens the prevalence of smuggling rings, who are also the main actors in human trafficking, be it for sexual exploitation or slave-labour. Absence of an adequate legal and policy framework thus contributes to increasing the costs and risks of migration, and to reducing its benefits. GMS governments in both sending and receiving countries face an urgent need to adopt policies that can help manage the increased flows in an efficient yet humane and equitable way.

3.1 Kaur (2007) *On the Move: International Migration in Southeast Asia since the 1980s*

- Summarises the historical aspects of international migration in the region since the 1980s to 2005 including migration process and its patterns.
- Revisits the role of international organizations to inform and direct themes in research and directions for policy, calling for a more coordinated approach.

3.2 World Bank (2005) – *Labour Migration in the GMS*

Objectives

- 1) To improve knowledge about labour migration in the GMS focusing on the socio-economic impact of migration on sending and receiving countries.
- 2) To raise awareness about these issues and their significance for poverty reduction at the highest levels of policy making.
- 3) To strengthen the capacity of governments and development partners to refine and implement a regional system to facilitate and regulate labour migration.

Summary

- 1) Migration in the GMS is growing rapidly, and affects a large number of people and their families: Thailand alone is home to 1.5 to 2 million migrants from the GMS, of which 1.2 million were registered in the 2004 registration drive. Approximately three-quarters of the registered migrants are from Myanmar, with the rest split more or less equally from Lao PDR and Cambodia.
- 2) The majority of intra-Mekong migration happens through informal channels. Migrants largely rely on family/friend networks, or employ the services of brokers to arrange travel routes and assist in finding jobs. By some estimates, over one-half of migrants enter Thailand holding legal documentation (1-day or 7-day passes) and then overstay, becoming illegal/undocumented workers.
- 3) Migrants are disproportionately young, of working age and male (with the exception of migrants from Lao PDR where women are overly represented). Those from Lao PDR and Myanmar are, on average, less educated and less literate than the average for the populations of origin, signalling a 'reverse' brain drain phenomenon.
- 4) Registered migrants represent in total about 3% of the Thai labour force, but in some migrant-intensive sectors, such as fishing and fish processing, or domestic services, they account for a quarter or more of total sector employment. They represent only a small fraction of total agricultural employment in Thailand, yet agriculture is the sector that employs the most migrants in absolute terms. Southern rubber plantations and Northern rice and fruit farms are the biggest employers of migrants in absolute terms, while fruit farms, flower farms, rice farms, and chicken producers in the Northern region of Thailand are the most intensive users of migrant labour.
- 5) Although data are partial and incomplete, migrants seem to work longer hours and are paid less than comparable Thai workers.
- 6) There is some empirical evidence supporting the positive role migrant workers have played in the economic growth of Thailand.
- 7) One of the main channels through which migration impacts the sending country is through remittances. Some researchers have calculated total remittances from Thailand to the GMS countries of origin (Cambodia, Lao PDR and Myanmar) to be on the order of USD 177 million to USD 315 million per year.
- 8) Thai law provides registered migrants with rights to basic social services and labour laws. The precarious status of migrants, however, provides migrants little recourse if they are denied these basic rights. Studies show that the majority of migrants do not access social services due to the poor quality of services provided to migrants and the fear of deportation.
- 9) Migrant children suffer from a lack of healthcare. All children in Thailand are eligible to receive free vaccinations against tuberculosis, diphtheria, pertussis, tetanus, oral polio virus, and measles.

3.3 USAID (2001) – Population, Environmental Change, and Security: Migration, Population Change, and the Rural Environment

Summary

- 1) The linkages between rural populations, migration from and to rural areas, and the environment in developing countries.
- 2) Review of recent evidence (mostly from UN sources) on rural population dynamics—on the size of rural populations, past and expected future growth, and implications for rural population density.
- 3) Even where rural populations are declining, rural-rural migration will continue to be a demographic phenomenon with major potential implications for the rural environment. Rural-rural migration is higher than rural-urban movement in 11 of the 14 developing countries with the necessary data.
- 4) Two theoretical issues in addressing the linkages between rural populations, migration and the rural environment.
- 5) Reviews and assessments of the recent empirical research on the effects of population and migration on the environment in destination areas, looking at countries in Latin America, Asia and Africa. Studies in each region find substantial linkages between population size/density or in-migration and environmental degradation, such as deforestation or soil desiccation.
- 6) Policy implication.

3.4 IOM (2005) – International Migration in Thailand

Objectives

- 1) To generate a common knowledge-base for policy recommendations on international migration among member organizations in the Thematic Working Group.
- 2) To provide input to the Thai Government's policy-making process on international migration.
- 3) To identify gaps in knowledge concerning international migration in Thailand.

Summary

- 1) There are about 135,000 official and unofficial residents in nine border camps for displaced persons from Myanmar. Official admittance to the camps has been suspended by the Government since 2001. While the displaced persons in the camps are provided with shelter, food, schooling and health care, they are not permitted officially to leave the camps and thus are barred from employment. Progress in pursuing the durable solutions of repatriation, local integration or resettlement has been slow.
- 2) In a major effort to regularize unauthorized migration, the Ministry of Interior registered 1,280,000 workers from neighbouring countries in July 2004. Subsequently, over 817,000 of them paid to enrol in a health insurance scheme and 814,000 applied for work permits. Among those with work permits, 45 per cent are females. About 600,000 of those with work permits are from Myanmar and 100,000 each are from Cambodia and the Lao People's Democratic Republic. A Cabinet Decision in May 2005 allowed those migrants who had previously registered with the Ministry of Interior to apply for work permits valid up to 30 June 2006.
- 3) It is clear that the movement of migrants into Thailand has become an important business in itself. In principle, migrants with work permits are covered by the same labour regulations and standards as Thai nationals.
- 4) Over 93,000 persons under the age of 15 years registered with the Ministry of Interior in 2004. While children of registered migrants have the right to attend Thai schools, it is thought that only a very small percentage of them are actually receiving any formal or informal education. Many of

the older children are believed to be working without permission and often in exploitative situations.

- 5) Female domestic workers, whether registered or not, are particularly vulnerable to abuse and exploitation because they work in isolation in individual homes. Thai law makes no provision for the rights and labour standards of domestic workers, irrespective of nationality.
- 6) There is no reliable estimate of the number of persons living in Thailand in an irregular immigration status. These include persons overstaying valid entry visas and those who have entered from nearby countries but have not registered with the Ministry of Interior. It is believed that the total in these categories could equal hundreds of thousands.
- 7) According to one survey of migrants in Chiang Mai, Tak and Ranong provinces, about 12 per cent of the migrant workers could be considered to have been trafficked for employment. Over 5 per cent of the respondents in the survey reported that they had been forced into prostitution. Because of the large numbers of migrant workers in Thailand, even low percentages of trafficking victims imply that many tens of thousands of the migrants have been trafficked.
- 8) Many studies have concluded that migrants are especially vulnerable to HIV infection because of their isolation from the local community, separation from their regular partners, their anonymity and their lack of access to health services and information.
- 9) In 2000, the Ministry of Interior estimated that there were about 1 million persons from minority groups and highland populations in the country, but that only half of them had obtained Thai citizenship. This suggests parallels with international migration and highlights warning signals. It is likely that significant numbers of the more than 1.3 million migrants in Thailand will want to remain in the country indefinitely, given the lack of economic opportunities and civil rights in their own countries. Government policies in Thailand do not accord full rights to them, including such basic rights as education, movement and free association. The lack of rights for migrant workers often leads to abuse, exploitation and trafficking.
- 10) More research is required on:
 - The number and characteristics of Thai nationals overseas.
 - The number and characteristics of the unregistered migrant population in Thailand.
 - The situation of children of migrants and migrant children in Thailand without their parents.
 - The volume and types of trafficking to Thailand.
 - The incidence and prevalence of HIV/AIDS among migrants.
 - Effective intervention programmes for migrants in vulnerable situations.

3.5 IOM (2006) – Review of Labour Migration Dynamics in Cambodia

Objectives

- 1) To provide an overview of the current labour migration dynamics in Cambodia.
- 2) To determine where the introduction of new laws, policies and measures can improve effective labour migration management and the protection of migrant workers.

Summary

- 1) Migration in Cambodia is, by and large, concentrated within its borders. Reports from the Ministry of Planning set the percentage of internal migrants at 35% of the total population; most of these internal movements are intra-provincial and very short-range.
- 2) Labour migration is a relatively new topic for the Cambodian Government as well as international organizations, and NGOs working in Cambodia. Previously, the focus of interventions and research related to mobility was concentrated on human trafficking, especially sexual exploitation, and forced migration.
- 3) In 2005, there was an increasing awareness of the relevance of international labour migration from Cambodia to the GMS (mainly Thailand) or other Asian countries by the government, international organizations, and NGOs in Cambodia.

- 4) Cambodia is still in the early stages of labour migration management. Cambodian migrants view migration itself as a short-term coping strategy to overcome unexpected problems and not as a long/medium term process aimed at increasing the socio-economic status of the family. The push factors include chronic poverty, landlessness, lack of employment, lack of access to markets, materialism, debt and natural disasters such as droughts and floods. These migrants often find employment in “3D” (Dirty, Dangerous and Disliked) jobs which only allow them to maintain the status quo rather than improving their standard of living.
- 5) Contents:
 1. Key Stakeholders and their role in Labour migration Management in Cambodia:
 - Ministries and Governmental Bodies Involved in Labour Migration Management: Ministry of Labour and Vocational Training Department of Employment and Manpower; Ministry of Foreign Affairs and International Cooperation; Ministry of Interior; Council of Ministers; National Aids Authority; and Inter-Ministerial Working Group.
 - International Organizations Involved in Labour Migration in Cambodia: International Organization for Migration (IOM); United Nations Development Fund for Women (UNIFEM); United Nations Population Fund (UNFPA); United Nations Inter-Agency Project on Human Trafficking in the Greater Mekong Sub-region (UNIAP); and World Bank (WB)
 - NGOs Involved in Labour Migration in Cambodia: CARAM Cambodia; Legal Support for Women and Children (LSCW); Cambodian Women's Crisis Centre (CWCC); Cambodian Women for Peace and Development (CWPD)
 2. International Labour Migration in Cambodia: As of August 2006, the main destinations for Cambodian migrant workers are: Thailand, South Korea and Malaysia. There is anecdotal evidence of the presence of Cambodian migrant workers in Gulf Countries (Saudi Arabia and Qatar) and other Asian countries (Hong Kong, Taiwan, Japan, etc.), but there is no information available on their number and occupation.
 3. Laws and the Recruitment Process: Most of all recruitment is done through private licensed recruitment agencies who conduct their own recruitment campaigns throughout the country based on needs in either the Republic of Korea or Malaysia, through advertisements in local newspapers, brokers operating in rural areas and word of Mouth.
 4. Protection of Migrant Workers and Return Support: Problems Faced by Migrant Workers
 - Discrimination by supervisors and employers
 - Labour disputes due to language and communication barriers
 - Physical abuse
 - Broken contracts i.e. paid less than agreed
 - Excessive working hours
 - Physical abuse and sexual harassment
 - Poor living conditions
 - Lack of food
 - Confinement (up to 2 years in one case)
 - No health care
 - All workers have their passports confiscated by the employment agency upon arrival in Malaysia.
 - No compensation for workplace accidents
 5. Countries of Destination: The main destinations for Cambodian migrant workers are Thailand, Malaysia and The Republic of Korea, and Cambodia is planning send migrant workers to Hong Kong, Singapore, Japan and Brunei.
 6. International Agreements
 7. Migration to Thailand
 - 7.1. Undocumented Migration to Thailand
 - 7.2. Remittances
 - 7.3. Issues Faced by Cambodian Migrants in Thailand
 - 7.4. Memorandum of Understanding between Cambodia and Thailand on Cooperation in the Employment of Workers
 - 7.5. The Registration Process

8. Migration to Malaysia

- 8.1. Issues Faced by Cambodian Migrants to Malaysia
- 8.2. Malaysian Management of Foreign Migrant Workers

9. Migration to the Republic of Korea

- 9.1. Republic of Korea Management of Labour Migration
- 9.2. Key Points of the Employment Permit System

3.6 Mekong Institute (2006) – Transborder Migration Flows to and From Cambodia

- Largely overlaps with the IOM Report – Review of Labour Migration Dynamics in Cambodia

Summary

1) Irregular Migration:

- The main routes for irregular migrants from Cambodia to Thailand are from the Southern coastal areas of Cambodia particularly Koh Kong to Klong Yai district in Trad and from Poipet to Aranaphet, although all along the border there are many points of entry frequently used.
- The key figure in the management of irregular migration is the middleman (or mekhal), he/she represents the link between the household living in remote areas in rural areas of Cambodia and the destination in Thailand. The middleman plays a fundamental role in determining the success of the migration.
- As in the case of the regular migrants, the employment sectors with the highest number of irregular migrants are: fisheries, construction, agriculture, domestic work, entertainment and sex work; the last three employ female migrants and they are the most difficult groups to ascertain information about due to the hidden nature of these industries. In general it is difficult to have reliable estimates of the numbers of irregular Cambodian migrants in Thailand, due to the fluid nature of the borders, the amount of migrants who are not registered and the constant movement of migrants from Cambodia to Thailand both for short-term and long-term migration

2) Migration from Vietnam to Cambodia:

- Even if the Vietnamese migrants are by far the largest economic migrant group in Cambodia, there are very few data assessing their number, due to lack of research and problems of definition. Some statistics from the Ministry of Finance estimate that the number of undocumented migrants between 1985 and 1998 was roughly 1.1 million, a substantial portion of them Vietnamese.
- The Southern Vietnam-Cambodia route is considered as one of the main axis for human trafficking in the region, with Cambodia acting both as destination and transit country to Thailand, Burma, Macao, Hong Kong, Singapore and elsewhere. Even in this case, the limited information available fails to give a number to those trafficked and the means by which they are trafficked.
- What is known is that most of women and children working in the sex industry are smuggled by agents through border areas such as An Giang, Kien Giang, Tay Ninh and Dong Thap for Vietnam and Svay Rieng, Takeo and Kandal for Cambodia.

3) Migration from China to Cambodia :

- Chinese migrants are a slightly different group of migrants, compared with Vietnamese. First of all, Chinese migrants have legal channels for finding work in Cambodia: they normally work out a contract with a Cambodian employer prior to arrival. Secondly, in most cases Chinese migrants have a higher status compared with other migrants group: they are employed as factory managers, supervisors or other skilled or semi-skilled positions.
- Relevant is the presence of Chinese migrants involved with criminal syndicates and using Cambodia as transit country for smuggling or trafficking Chinese nationals to other destinations e.g. United States.

4) Migration from Cambodia to Vietnam: Migration from Cambodia to Vietnam is limited to specific groups of migrants, mostly women and children moving to Ho Chi Minh City for

begging through the border areas of Svey Rieng. Even in this case it is difficult to estimate the size of this migration flow.

3.7 UNIFEM (2006) – Cambodian Women Migrant Workers: Findings from a Migration Mapping Study

Objectives

- 1) To provide a preliminary overview of the issues and problems related to internal and external migration of Cambodian workers
- 2) To identify existing policy/legislation and institutional resources on migration in the Cambodian context.

Summary

- 1) Cambodian policy and legislation on migration remains at an infancy stage, despite the establishment of several bilateral labour agreements in the region. The awareness of labour rights and consequences of migration is low among Cambodian migrant workers, most of whom had their rights or interests undermined at some stage in the migration process.
- 2) Cambodian women migrant workers are more vulnerable to abuse and exploitation due to gender-based discrimination and their having a lower set of skills and knowledge compared to men.
- 3) There are a handful of organizations working on migration issues in Cambodia but resources available to assist migrant workers remains severely constrained.
- 4) In its recommendations, this study proposes the Cambodian government to adopt formal, official bilateral labour agreements that include provisions for a standard contract between workers and employment agencies/employers, clear mechanisms for monitoring privately operating recruitment agencies, and protection of migrant workers' freedom of movement and association and their rights to health. The government should also look into establishing an independent body to monitor and regulate recruitment agencies in order to hold them accountable for protecting the rights and interests of migrant workers.
- 5) There is a lack of updated, reliable and comprehensive statistics and information on migration in Cambodia. More research and documentation is needed in the volume and modes of irregular migration, the processes and consequences of migration, the relationship between workers and labour agents/brokers/recruiters, the abuses and problems that migrants encounter at their workplace, the costs and benefits of migration for stakeholders, in order to identify appropriate solutions and intervention strategies at the national and grassroots levels.

3.8 UNESCO (2004) *International Journal on Multicultural Societies - Managing Migration and Diversity in the Asia Pacific Region and Europe: "Crossing Frontiers: Race, Migration and Borders in Southeast Asia"*

Summary

Transnational labour migration has been a dominant feature of Southeast Asian labour history since the 1870s, affecting those who moved, and impacting on host communities. Moreover, until about the 1940s, borders were porous and migration was largely unrestricted, consistent with colonial migration goals and the region's demographics. Since the 1970s, however, labour migration in the region has become more diversified, and consists predominantly of intra-Southeast Asian flows. Migration goals have also changed and coincide with state policies that emphasise the nationality, race, geographical origins, gender, skills and occupation of migrants. Free migration has thus given way to institutionalised and restricted migration policies that include stringent border controls and internal enforcement measures. Crucially, a sharp increase in labour mobility has coincided with the development of a migration industry and the emergence of officially-sanctioned recruitment agencies and entrepreneurs providing all sorts of services to migrant workers in exchange for fees.

3.9 IOM (2008) Migration in Cambodia: Internal vs. External Flows

Summary

- 1) **Background:** Population movements inside and between countries have been exponentially increasing in the last 20 years, especially in countries with surplus work force, low economic development and young population. The growth of migration movements is caused not only by the decisions of the individuals, but by globalisation and the new organization of labour that has seen many manufacturing activities move to third world countries. It has to be considered also the exponential improvement in information technology, accompanied by increased opportunities to travel at affordable costs as variables influencing the decision to migrate or to decentralize the production of goods abroad.
- 2) **Migration in Cambodia:** Migration in Cambodia is, by and large, concentrated within its borders. Reports from the Ministry of Planning set the percentage of internal migrants at 35% of the total population (NIS, 2004), most of these internal movements are intra-provincial and very short-range. Migration is a relatively new topic for the government, international organizations, and NGOs working in Cambodia. Previously, the focus of interventions and research related to mobility was concentrated on human trafficking, especially sexual exploitation, and forced migration (diasporas, resettlement of refugees, displacement, etc.). The internal flows moving from rural areas to rural destination are still largely uninvestigated, even if they represent the great majority of internal migrants.
- 3) **Internal Migration:** According to NIS 2004, 35% of the Cambodian population are migrants, an increase of four points over the Census of 1998 (31%), with males representing 35.15% and females 34.05%. The percentage of persons not born in the place of enumeration is 28.6%, very close to the corresponding percentage of 26.8% in 1998. Although the male migration rate is slightly higher than that for females, the number of female migrants actually outweighs that of males due to the smaller proportion of males in the population. Rural migrants represent only 31.37% of the rural population but, considering that Cambodia is still a predominantly rural country, they largely outnumber the urban migrants (3.42 millions vs. 1.08). Young people (aged 15-25 years) from a disproportionately large section of migrants² at 30%, although they only represent 18% of the population.
- 4) **External migration:** The main destinations for Cambodian migrant workers are: Thailand, South Korea and Malaysia. There is anecdotal evidence of the presence of Cambodian migrant workers in Gulf Countries (Saudi Arabia and Qatar) and other Asian countries (Hong Kong, Taiwan, Japan, etc.), but there is no information available on their number and occupation.
- 5) **Migration to Thailand:** In the last few years, Thailand has become the main hub for labor migrants from all over the GMS region. While Thailand has decreasing birth rates and a strong economy Cambodia continues to have one of the fastest growing populations in the GMS and few employment opportunities for a growing workforce. Consequently, Thailand has become the prime destination for irregular Cambodian labor Migrants. As of October 2005, there were 182,007 registered Cambodian labor migrants in Thailand (123,998 Male and 57,581 Female), representing approximately 13% of legal migrant workers in Thailand. Both for registered and undocumented migrants, the employment sectors with the highest number of Cambodian migrants are: fisheries, construction and agriculture.

4. Existing Labour Policies to manage migration in the region

4.1 World Bank (2005) – Labour Migration in GMS

Summary

- 1) Policy Developments: In March and April 2004, the Thai Cabinet passed two resolutions aiming at setting up a comprehensive system of migration management that would integrate the efforts of all relevant government agencies along seven points: (1) organizing a formal system for potential migrants to apply from their countries of origin to work legally in Thailand; (2) ensuring that employers enforce national labour standards for both Thai and foreign workers; (3) intercepting people crossing national borders illegally; (4) arresting all involved in facilitating illegal migrations; (5) repatriating illegal migrants to their countries of origin; (6) publicizing the organization of the labour migration system to both workers, employers, and government officials; and (7) following up and assessing the effectiveness and relevance of the system.
- 2) In effect, this agenda is currently being refined as it is implemented following the bilateral Memorandums of Understanding that Thailand signed with Cambodia, Lao PDR, and Myanmar to regulate how citizens of each country can work in the other. These agreements laid the groundwork for a two-phase approach to regulate labour migration:
 - The first phase was to legalize irregular workers in Thailand. This involved a large registration drive in 2004, followed by an effort by officials from Lao PDR and Cambodia to deliver Certificates of Identity (CIs) to confirm the citizenship of registered migrants claiming Lao or Khmer nationality. During implementation of the system in 2004-2005, a major obstacle was the unwillingness/inability of the Myanmar government to deliver CIs to its nationals. This obstacle was recently removed with the signing of an agreement between Myanmar and Thailand to process migrants at border posts.
 - The second phase (underway) aims to develop a system in which private recruitment companies recognized by each government will help match labour demand and supply in respect of the immigration and labour laws of both countries and international labour conventions.
- 3) Under the proposed system, a legal migrant worker would obtain a contract valid for up to two years with a specific employer, renewable once. The worker would agree to pay income taxes and to contribute 15 percent of his or her wages to a “repatriation fund” – designed to provide an incentive not to stay in the receiving country. After a maximum of four years in the country of destination, the worker would then have to return home and wait three years to apply for a new permit.
- 4) Daily cross-border commuters and seasonal workers living in provinces across the borders are already allowed to receive passes to work in Thailand, without a formal contract (they are mainly farm labourers, domestic helpers, and petty traders). This allowance will continue, supposedly with strengthened vigilance against the use of the fake passes that some irregular migrants utilize to enter Thailand.
- 5) In the country of destination, workers would have the same rights as nationals to be protected from abusive working conditions and wages, and to access social services.
- 6) While the main elements of this policy framework are sound, one can nevertheless foresee some limitations to its implementation in regularizing and registering illegal migrants. Some are due to perceptions that can be changed (lack of awareness, and cost), but others will likely take long to be removed (limited capacity and lack of political will).

4.2 ILO (2004) – Thailand: Improving the Management of Foreign Workers

Summary

- 1) Thailand's immigration laws do not allow the importation of unskilled foreign workers, but there are an estimated 700,000 to 800,000 mostly unskilled foreign workers in the country. To manage unskilled foreign workers, Thailand has on several occasions allowed employers in selected provinces and sectors to register their unauthorized foreign workers. Registration means that, in exchange for posting a bond or paying a deposit, work permit fee and health fee, the Government issued six-month or one-year renewable work permits. In 2003, some 300,000 foreign workers were registered, and the Government announced that it would step up its enforcement efforts to remove an estimated 500,000 to 600,000 unauthorized foreign workers.
- 2) Thai migrant worker policy can be described as a series of employer-initiated registrations of unauthorized foreign workers that defers the planned removal of migrants, that is, the "anticipated end of the registration process" is the removal of migrants from Thailand, and a situation where the employer is no longer employing such migrants.
- 3) Thai employers, industries, and areas most dependent on migrants have employed out-of-area workers for 10 or more years, and are likely to employ migrants for another decade. During the 1990s, these out-of-area workers changed from internal migrants, often from the relatively poor north eastern Thai provinces, to foreign migrants. There was also a growing dependence on migrants in Thai provinces bordering Myanmar, as industries such as garment factories relocated there, or as labour intensive fruit and vegetable agriculture expanded in border regions to draw on Burmese migrants to produce goods and commodities for export.
- 4) Registration in the 1990s was accompanied by higher percentages of migrants in traditional migrant sectors, such as fisheries and fish processing, and the spread of migrants to additional sectors, including construction in Bangkok. Thai employers understand that registering foreign workers gives the migrants a temporary legal status and protects employers from fines for hiring unauthorized workers; many migrants also reported that, after registration, they felt freer of police harassment. Most employers and migrants seem satisfied with the registration process.
- 5) The case studies suggest that employer dependence on migrants is likely to persist in the medium- to long-term, since there is little evidence of alternatives such as mechanization or a restructuring of "migrant work" to attract Thais. Indeed, the experience after the 1997-98 crisis, as well as discussions with employers, suggests that dependence on migrants increased when unemployment was low, as in 1996-97, and when unemployment was high, as in 1998-2000. There is a sense of permanence among migrants, as reflected in the presence of Thai-born children in migrant families that are employed year-round in livestock, fish processing, or construction, more migrants learning Thai, and the development of a sophisticated migration infrastructure to bring migrants illegally from Myanmar to Thailand for 5,000-7,000 Thai Baht (US\$ 116-163) per migrant.

4.3 IOM (2004) – Thailand: Improving the Management of Foreign Workers: Case Studies on Five Industrial Sectors

Objectives:

To provide an overview of labour market condition and prospect in Thailand as well as in-depth information on the extent and condition of employment of migrant workers in several industries of Thailand that employs the great majority of migrants (agriculture, construction, garment and textile, marine fisheries, including fishing and seafood processing, and house maid industry).

Summary

- 1) Labour Market conditions in Thailand:
 - High demand for migrant workers with many undertaking "3D" (Dirty, Dangerous and Disliked) jobs.
 - With more than a million redundancies from the industrial sector, unemployment and underemployment was widespread.
- 2) Wages and Working Conditions of Migrant Workers:
 - Housemaids and agriculturalist – lowest wages and not covered by regulated working conditions including minimum wages.

- Workers in all sectors are vulnerable to exploitation and conditions of work are generally poor.
 - Migrant workers are reported to be from rural areas, often burdened by debts and high taxes.
- 3) Profile of Foreign Migrants:
- Many of them come to Thailand in family groups, or the families follow the family member already present in Thailand. They may work in family groups when working on farms and in construction.
 - Young people, children and adolescents are found in many occupations, with the youngest often found in begging, or selling on the streets.
 - Migrants do often have access to health services, but medical treatment may only be used when they are in dire need and the services may be inadequate.
- 4) Social Integration of Migrants to Host Communities:
- Discrimination or stigma toward migrants is reported, and in addition, some Thais saw migrants as a threat to job security.
- 5) Employer's Perspective on Foreign Migrants:
- Cutting costs is uppermost in the minds of most employers, thus they may pay below the minimum wage, but also they cut costs in the provision of basic accommodation which is not acceptable to many Thais.
 - There appear to be no effective strategies in place, by the private sector or government, to reduce the dependence on migrant workers. The agricultural sector and factories, including both garment/textile and much of the fish processing, report that they are unable to afford the high investment necessary for shifting to labour-saving machinery.
- 6) Migrant Registration and Existing Disincentives:
- Cost of registration fees may be prohibitive to businesses.
 - The fact that workers are sometimes unable to see any immediate benefit from registration may be a greater obstacle.
 - Many employers and migrants did not fully understand their rights and obligations, which suggests that the government should be making greater efforts to communicate this information to migrant workers.
 - The dwindling numbers of registered workers leaves increasing numbers of irregular migrants who will have to be deported.

4.4 UNIFEM (2005) – Good Practices to Protect Women Migrant Workers

- Strengthening the Links: Good Practices for Protecting Foreign Domestic Workers in Countries of Employment by Mr. Philip S. Robertson, Consultant, UNIFEM.. pp.9-27
- The Case of Migrant Workers in Thailand by Ministry of Labour and Ministry of Social Development & Human Security, Royal Thai Government. pp. 44-50

Objectives

- 1) To enhance understanding of the profile and protection needs of women migrant workers in countries of employment, especially domestic workers
- 2) To share information on existing good practices developed by countries of employment to protect women migrant workers and facilitate the wider adoption of good practice initiatives and mechanisms

Outcomes

- 1) Enhanced understanding of the needs of women migrant workers and potential good practice mechanisms among countries of employment
- 2) Enhanced appreciation of the need to continue to monitor women migrant workers' needs, especially domestic workers, and to develop and implement appropriate policies and other mechanisms to protect them
- 3) Adoption of Meeting Statement recognizing good practices that have potential for use at the country and regional levels

4.5 World Bank (2006) – Managing Risk and Vulnerability in Cambodia: An Assessment and Strategy for Social Protection

There are some elements in this report that can be useful for a containment programme.

Labour Migration to Thailand in Poi Pet Commune

Many Cambodian workers cross the border illegally into Thailand in search of short and longer-term jobs. Workers interviewed in the border town of Poipet spoke of opportunities in fishing, construction, agriculture, and even street begging, estimating that they can earn between two and three times what they could in Cambodia for the same work. Daily wages amount to about 200 Thai baht (about US\$5) per day. Migration is most common in the dry season, starting in November. Banteay Meanchey province has over 20 entry points for migrant workers going into Thailand. Agents, who are mostly Thai, mediate between border police on both sides of the border. Fees to the agents were reportedly 3,000 baht (approximately US\$75) per job and 1,500 baht (US\$38) for a return visit. The agents also provide wire transfer services for workers to send remittances home at a charge of at least 10%.

A large number of workers without work permits are caught and sent back to Cambodia.

In 2003, over 32,000 workers were sent back, and the numbers were reportedly increasing in 2004. While the majority of day laborers are men, women and children do cross the border, mostly to beg. In the first quarter of 2004, 4,000 women with small children were arrested and sent back to Cambodia. Aside from expulsion, illegal workers sometimes face other punishments. A worker interviewed in Poipet described his experience being arrested from his job as a chicken farm worker in Thailand, when he was jailed for a week with his arms and legs chained and no sanitation. Nonetheless, the worker claimed he would cross back into Thailand for work in the near future due to the lack of opportunities in Cambodia.

5. Information on trafficking of women and children in the region

Among irregular/undocumented migrant/mobile population consist large numbers of women and children trafficked to Thailand and Vietnam from border sharing countries such as Cambodia, Lao PDR, and Myanmar. Therefore, it is crucial to look into existing studies on trafficking of women and children in the region as a part of containing multi-drug resistant malaria among border crossing areas.

5.1 ILO (2005) – Analysis Report of the Baseline Survey for the TICW Project Phase II in Yunnan Province: Part of a series of studies on human trafficking and labour migration in the GMS

Summary

- 1) Yunnan is a border province with many ethnic minorities and a comparatively undeveloped social economy. Since the 1980s, it has been an area known to have a large problem with the trafficking of children and women.
- 2) The Mekong Sub-regional Project to Combat Trafficking in Children and Women for Labour Exploitation (TICW Project) implemented by the International Labour Organization (ILO) is supporting the Chinese Government to complement its legal protection efforts toward children and women. The TICW Project was designed to address the problem of trafficking under the wider framework of labour migration. The project covers five countries: Cambodia, Lao People's Democratic Republic, Thailand, Viet Nam and China (Yunnan Province only).
- 3) Due to the lack of information about the scale, mode, reason and reliable data of labour migration, including irregular and periodic migration, there has been no good understanding of the illegal or non-formal employment situation. As a first step in Phase II of the TICW Project, a baseline survey was designed to help fill the knowledge gaps. This report provides the survey results of the labour migration situation and its links to trafficking in Yunnan province.
- 4) All households surveyed belonged either to the Han ethnic majority group or to one of the seven different ethnic minority groups of Dai, Hani, Lahu, Miao, Wa, Yi and Yao. In addition to the survey, project staff interviewed trafficking victims and their families and other sources and analysed data from the project's target counties. This report presents the analysis of the survey and other research findings, including a brief discussion of changes and discrimination in policies regarding migrant and rural labourers and the laws, regulations and policies for combating trafficking in children and women.
- 5) Among non-migrant family members, the survey findings include: reasons for leaving school, working hours and monthly income. Among migrants living away and those who had returned at the time of the survey, the findings include: education levels, skills training, reasons for migrating, age when first left, who helped in finding the first job, family members' attitudes toward migration, occupations, working hours and monthly income, incidence of unfair treatment, working environment conditions, frequency of family communication and reasons for possibly migrating again.
- 6) The results include responses to questions on methods for preventing or minimizing trafficking risk and rights infringement, major economic indicators of the project counties/districts, major per capita indicators, population, education attainment and employment information of the project countries.

5.2 IOM (2002) – A Study on the Situation of Cambodian Victims of Trafficking in Vietnam and Returned Victims of Trafficking from Vietnam to Cambodia: IOM Return and Reintegration of Trafficked and Other Vulnerable Women and Children Between Selected Countries in the Mekong Region

Summary

1) Dynamics of Trafficking in Cambodia:

- Cambodia is regarded as a major sending, receiving and transit country for irregular migration, smuggling and trafficking in the Mekong region. Recently, researchers have tried to focus on understanding the dynamics and common routes of movement for Cambodian migrants. Two major routes have thus far been identified: from northwestern and southwestern Cambodia to Thailand and from southeastern Cambodia to Vietnam.
- Whilst the country is rebuilding itself over 85% of the population works in the agriculture sector in rural areas with few opportunities for employment in other sectors, especially in the provinces and outside of Phnom Penh. Traditionally, as in many rural societies, Cambodian families are large in number. Children are often viewed as a source of labour necessary for assisting parents in meeting their families' basic needs. In addition, there is a lack of educational opportunities in rural areas and schooling may interfere with agriculture work.
- There is considerable economic disparity amongst rural Cambodians. It is believed that this situation, coupled with unequal economic development throughout the Mekong region, may push villagers into either emigrating themselves, and their families, or sending their children to work in a more developed country where greater economic opportunities are perceived to exist.
- Cambodians from the southeastern provinces, predominantly Svay Rieng province, are aware of the possibilities of better employment opportunities and income from working in Vietnam.
- Since 1997, a developing phenomenon of Cambodian women and children wandering and begging on the streets of Ho Chi Minh City, Vietnam has been observed. Accordingly the question of whether these children were trafficked for the purposes of exploitation through begging in Ho Chi Minh City was raised.

2) Sending, Receiving and Border Crossing Areas:

- Svay Rieng province, Cambodia: Svay Rieng has been recognized as the most significant sending province of children from Cambodia to Vietnam. It is the southern most province in the eastern part of Cambodia which borders Long An and Tay Ninh provinces in Vietnam. Svay Rieng has seven districts, although only two districts, Kompong Ro and Chantria, being located near the Long An border were the focus of this study, given that almost all respondent women and children came from these areas.
- Svay Rieng, is one of several provinces in the Tonle Sap Basin, that are characterized by high population densities and high levels of poverty when compared with other regions in Cambodia. Svay Rieng's economy is based on agriculture, the main source of income being derived from rice production. The province also tends to suffer erratic and extreme weather conditions. Heavy rainfall and flooding often limits the capabilities of farmers to maintain steady crop production.
- Low quality of natural resources resulting in low land productivity, together with other factors such as severe weather patterns affect farmers' ability to sufficiently earn an income from agriculture. The income of most Svay Rieng citizens is below the poverty level threshold. With few other employment opportunities in Svay Rieng, most of its inhabitants cannot sufficiently improve their current situation whilst living in subsistence conditions.

3) Border Crossings Areas:

- It is common for residents from Svay Rieng province in Cambodia and the districts next to the borders of Tay Ninh and Long An provinces in Vietnam to cross the border for employment purposes. Cambodian adult males often go to Vietnam for menial jobs or agricultural work, while Vietnamese adult males are seen in Cambodia performing small trading activities or peddling ice cream, housewares and petroleum. Official regulations were passed between the authorities of Tay Ninh and Svay Rieng enabling the migration of these residents at both borders.
- For official movement between border provinces of Tay Ninh, in Vietnam and Svay Rieng, in Cambodia, two official border crossing gates exist: Moc Bai gate and Bavet gate. Moc Bai gate, on the Vietnamese side of the border, and Bavet gate, the equivalent on the Cambodian side, are the main international gates used by most overland travelers from southern Vietnam to Cambodia. The road from Moc Bai gate passes through the provinces of Svay Rieng, Prey Veng and Kandal before reaching Phnom Penh. Cambodians and Vietnamese from districts near Moc Bai cross to look for work with an official pass.
- There is no official border crossing gate in Long An province, Vietnam, but many Cambodians from Th'Not commune (Kompong Ro district, Svay Rieng province) are seen at Moc Hoa market in Long An province purchasing items such as agricultural fertilizers and material for weaving mats. Some also come to Moc Hoa for emergency medical treatment. There seems to be a loose arrangement conducive to Cambodians and Vietnamese crossing this border area. Border control, especially at Moc Hoa in Long An province, appears not to be particularly threatening to Cambodians.
- Aside from the official crossings, it is relatively easy for Cambodians to cross the border at unofficial points. Children especially tend to avoid the official border crossings. The porous nature of the border of approximately 253 kilometres between Svay Rieng province and Vietnam, and the lack of resources and facilities for effective border control limit the ability of the Vietnamese authorities to prevent Cambodians from crossing to Vietnam through fields, rice paddies or hills. Border police are only capable of patrolling small areas of land surrounding the official border crossing gates, leaving many kilometres of border without surveillance.

5.3 IOM (2002) – Review and Assessment of the Situation of the Returned Cambodian Children and Women Trafficked to Thailand and of the Assistance and Reintegration Mechanisms in Cambodia

Objectives:

- 1) Determine the proportion of re-trafficking and successful re-integration.
- 2) Identify risk factors for re-trafficking.
- 3) Assess the situation of the families of re-integrated victims of trafficking with their neighbours who are equally poor but do not permit trafficking in the family.
- 4) Describe the types of work in Thailand.
- 5) Identify the factors that contribute to or impede reintegration of trafficked victims into their families and communities.
- 6) Assess the level of access to rehabilitation and re-integration assistance provided to victims of trafficking upon their return and re-integration into their families and communities.
- 7) Identify further assistance required by returned victims of trafficking.
- 8) Draw up recommendations that will enhance successful re-integration of victims of trafficking.

Research Areas

- 1) Characteristics of the trafficked respondents:
The common characteristics found among the respondent children in relation to age, and ordinal position, and characteristics common to their families were juxtaposed by the

researchers to construct the profile of the 1997-2001 trafficked child. The constructed profile is as follows:

S/he is from 9 to 11 years old, the second or third child among 6 or 7 children. His/Her family lives in Poipet, in a one-room house with minimal protection against the elements. The parents say they cannot afford to send the children to school. The parents have neither education nor special skills. The father does not have a regular source of income and when drunk (which is almost every night), he becomes verbally and physically abusive. Everyone is expected to help earn a living. The child and siblings do their share by: carrying loads across the border for other people; by doing odd jobs in the Thai market; and/or, by smuggling in clothes for people. The child earns 30 to 40 baht per day. Money earned by the family is barely enough for the family's daily food. In times of critical needs, like illnesses, and accidents, the only recourse for his/her parents is to borrow money from usurious money-lenders.

- 2) Situation of the victims' families
- 3) Perceptions held by both villagers and the respondent families, of the trafficker or the meeckcol (also referred to as 'Mecachal') – useful approach for containment programme
- 4) Crossing the Border
- 5) Inside Thailand
- 6) The Return
- 7) Post-Return Assistance and Services

6. Information on health policy and programme on the border area for migrants

6.1 IOM – Health and Migration in Southeast Asia

Summary

- 1) Due to their marginalization, mobile groups often face obstacles to accessing prevention and care services. They tend to delay seeking medical treatment, which increases the burden on healthcare infrastructures and can result in permanent morbidity or death. Significant health issues among mobile populations in the region are tuberculosis, sexually transmitted infections (including HIV), diarrhoea, malaria and vaccine-preventable illnesses.
- 2) IOM's health initiatives are developed collaboratively, and are based on a multi-disciplinary approach. They enhance policies and programmes and address the underlying developmental, legal, economic and social factors that make many mobile groups particularly vulnerable to adverse health conditions, including HIV. IOM Bangkok's programme aims to build capacities to bridge the gap between countries of origin and destination; facilitate implementation of bilateral and multilateral agreements; undertake research / assessments; strengthen information systems; improve migrants' access to health care; and develop integration and prevention strategies to decrease stigmatization and discrimination.
- 3) The IOM Bangkok Migration Health Unit helps other IOM missions in the region, and works to mainstream health into programmes of other IOM service areas. Currently underway in Tak and Chiang Rai provinces, the project raises health awareness, supports delivery of preventative and curative services, and creates a replicable model for enhancing health services for migrants.
- 4) In Chiang Rai, migrants are assisting health authorities and partners to provide care to AIDS-affected migrants, including provision of anti-retroviral therapy. Donors are USAID, the EC and IOM. The timeframe is 2003-2007.
- 5) Provision of Health and Social Services in Immigration Detention Centres in Thailand: From 2001-2004, IOM conducted a series of trainings and other health activities at Suan Plu Immigration Detention Centre in Bangkok. This included HIV and tuberculosis (TB) prevention through life-skills training for immigration police officers and detainees; vocational training for detainees; and TB screening and treatment.
- 6) Trust and relationships need to be built in a detention situation, so that health issues such as TB and HIV can be openly discussed. Drama, self-esteem building and relaxation techniques have been employed, including negotiation of safe sex through role-play that transcends cultural barriers.

6.2 *Emerging Themes in Epidemiology (2006) – The Basic Principles of Migration Health: Population mobility and gaps in disease prevalence*

Summary

- 1) Currently, migrants and other mobile individuals, such as migrant workers and asylum seekers, are an expanding global population of growing social, demographic and political importance. Disparities often exist between a migrant population's place of origin and its destination, particularly with relation to health determinants. The effects of those disparities can be observed at both individual and population levels. Migration across health and disease disparities influences the epidemiology of certain diseases globally and in nations receiving migrants. While specific disease-based outcomes may vary between migrant group and location, general epidemiological principles may be applied to any situation where numbers of individuals move between differences in disease prevalence. This paper reviews the epidemiological relationships resulting from health disparities bridged by migration and describes the growing role of migration and

population mobility in global disease epidemiology. The implications for national and international health policy and program planning are presented.

- 2) Note: Table 4: Health policy issues resulting from international population mobility
 - National point-of-arrival activities – for example, immigration medical screening programs for specific targeted disease at the airport – will become less effective, more costly, and increasingly irrelevant.
 - International intervention programs for specific diseases at the migrants' country of origin may be more effective than national intervention programs dealing with low incidence diseases
 - Mobility will become a more important determination factor influencing many health outcomes, along with age, sex, genetics, biology, behaviour and educational and wealth attainment
 - Mobile population health policy frameworks will increasingly require integration and harmonisation at all jurisdictional levels with international economic, trade and security approaches

6.3 USAID (2001) – Migrants' Rights to Health

Summary

This paper addresses some of the issues involved in relation to the rights of migrants to health and argues for a number of changes to improve migrants' health(particularly in regard to HIV/AIDS, other sexually transmitted infections and reproductive health), at global, national and local levels including:

- 1) Measures to ensure that sending, transit and receiving countries have joint/tripartite health access programmes in place to address all possible time and place points on the moving continuum for citizens/migrant workers, including pre-departure, the migration itself, the initial period of adaptation, successful adaptation, return migration, and reintegration into the original community.
- 2) Health care services for travellers and migrant populations that move beyond emergency care, and address physical, mental and social well-being, particularly in relation to HIV/AIDS and other STI, and reproductive health.
- 3) Greater attention to prevention in health service policy and delivery for migrant/mobile populations, including widespread development and implementation of community level interventions.
- 4) For migrants and for mobile populations within countries, measures to ensure good access to health-related prevention and care for all members of such populations.

CARAM (Coordination of Action Research on AIDS and Migration) is a regional network of NGOs from South and Southeast Asia engaged in a major action research programme on Mobility and HIV/AIDS. CARAM-Asia and its partner organizations try to ensure that migrants within the region are accessed at both point of origin and destination. Members of CARAM-Asia have noted that multiple-country and multiple-level mobility interventions and studies are rare.

6.4 WHO SEARO (2004) – Country Emergency Situation Profile: Thailand

Priority Needs: Health care access for migrants, emergency preparedness for floods.

Main Recommendations: Increase outreach activities for migrants, continue emergency preparedness activities for possible flooding.

Summary

- 1) An estimated 1.2 million migrants have settled in Thailand as a result of internal conflict within neighbouring countries and economic opportunities and available service in Thailand. Most are from Myanmar, and more than half are believed to live in the ten provinces of Thailand bordering Myanmar. These provinces are also the home for more than 117,000 officially displaced persons

living in nine border camps and 93,565 registered migrant workers. While the health needs of the camp residents are addressed by NGOs and while registered migrant workers have access to government health services, the large number of unregistered migrants experience financial, security, cultural, language and geographic barriers in obtaining health services. The mobility of the population, combined with access barriers, contributes to increased morbidity and mortality, particularly in malaria, tuberculosis, HIV/AIDS and vaccine-preventable diseases.

- 2) The Ministry of Labour began a new registration of migrants in June 2004. Workers will receive registration cards and a temporary one-year visa, while the demand for workers is assessed.
- 3) Ten provinces along Thai-Myanmar Border : Chiang Mai, Chiang Rai, Chumphon, Kanchanaburi, Mae Hong Son, Phetchaburi, Prachuap Khiri Khan, Ranong, Ratchaburi, Tak.
- 4) Population data for the ten provinces bordering Myanmar: All refugee camps are located within these provinces, and these provinces have a concentrated population of migrants.
- 5) Disease surveillance data on border camps is available at <http://groups.yahoo.com/group/Bordercamps>
- 6) Health System in Thailand: The Structure of Health Service Systems in Thailand and Structure of The Ministry of Public Health.
- 7) Coordination Mechanisms (in the Thai/Myanmar Border):
 - Committee for Coordination of Services to Displaced Persons in Thailand (CCSDPT)
 - UN Border Health Coordination Meeting Organized by WHO and UNICEF.
 - Provincial Health Coordination Meeting
 - Border Health Coordination Meeting
 - Malaria Task Force Meeting
 - Health Data Coordination Meeting
 - IOM Meetings

7. Studies on containing malaria multi-drug resistance in the region

7.1 *Incardona S. et al. (2007) – Large-scale Malaria Survey in Cambodia: Novel Insights on Species Distribution and Risk Factors. Malaria Journal*

Summary

- 1) **Background:** In Cambodia, estimates of the malaria burden rely on a public health information system that does not record cases occurring among remote populations, malaria cases treated in the private sector or asymptomatic carriers. A global estimate of the current malaria situation and associated risk factors is, therefore, still lacking.
- 2) **Methods:** A large cross-sectional survey was carried out in three areas of multi-drug resistant malaria in Cambodia, enrolling 11,652 individuals. Fever and splenomegaly were recorded. Malaria prevalence, parasite densities and spatial distribution of infection were determined to identify parasitological profiles and the associated risk factors useful for improving malaria control programmes in the country.
- 3) **Results:** Malaria prevalence was 3.0%, 7.0% and 12.3% in Sampovloun, Koh Kong and Preah Vihear areas respectively. Prevalences and Plasmodium species were heterogeneously distributed, with higher *Plasmodium vivax* rates in areas of low transmission. Malaria-attributable fevers accounted only for 10–33% of malaria cases, and 23–33% of parasite carriers were febrile. Multivariate multilevel regression analysis identified adults and males, mostly involved in forest activities, as high risk groups in Sampovloun, with additional risks for children in forest-fringe villages in the other areas along with an increased risk with distance from health facilities.
- 4) **Conclusion:** These observations point to a more complex malaria situation than suspected from official reports. A large asymptomatic reservoir was observed. In remote areas, malaria prevalence was high. This indicates that additional health facilities should be implemented in areas at higher risk, such as remote rural and forested parts of the country, which are not adequately served by health services. Precise malaria risk mapping all over the country is needed to assess the extensive geographical heterogeneity of malaria endemicity and risk populations, so that current malaria control measures can be reinforced accordingly.

7.2 *Denis MB et al. (2006) Surveillance of the efficacy of artesunate and mefloquine combination for the treatment of uncomplicated falciparum malaria in Cambodia. Trop Med Int Health*

Summary

- 1) **Background:** Artesunate and mefloquine combination treatment has been used since 2000 in Cambodia as the first-line drug for the treatment of uncomplicated falciparum malaria. In order to assess its efficacy and safety, the national malaria control programme conducted 14 therapeutic efficacy studies with the drug combination between 2001 and 2004 at nine sites.
- 2) **Methods:** In 2001 and 2002, co-blister packs of artesunate and mefloquine were used, whereas in 2003 and 2004, drugs were given individually from a bulk pack at a total dose of 12 mg/kg of artesunate and 25 mg/kg of mefloquine over 3 days. A total of 1025 patients were enrolled over the 4 years and 977 were follow-up during the period of 28 days.
- 3) **Results:** The PCR-corrected cure rates ranged from 85.7% to 100% with an overall cure rate of 95.8% (920/960). The studies in 2002 showed also that co-blister packs used on the basis of age and not on the basis of weight could lead to underdosed regimens but without any detectable effect on the treatment outcome. The follow-up period was extended from 28 to 42 days in three sites in 2004. A total of 219 among 255 were follow-up until day 42.
- 4) **Conclusion:** The cure rate decreased but not significantly from 90.1% (73/81) with 28 days follow-up to 79.3% (46/58) with 42 days follow-up in Pailin, whereas the cure rate remained

at 100% in the two other sites. Side effects were common, especially dizziness, but were mild and transient and patients recovered without any medical intervention.

7.3 Carrara, VI et al., (2009) Changes in the treatment responses to artesunate-mefloquine on the northwestern border of Thailand during 13 years of continuous deployment. PLOS ONE

Summary

- 1) **Background:** Artemisinin combination treatments (ACT) are recommended as first line treatment for falciparum malaria throughout the malaria affected world. We reviewed the efficacy of a 3-day regimen of mefloquine and artesunate regimen (MAS(3)), over a 13 year period of continuous deployment as first-line treatment in camps for displaced persons and in clinics for migrant population along the Thai-Myanmar border.
- 2) **Methods and Findings:** 3,264 patients were enrolled in prospective treatment trials between 1995 and 2007 and treated with MAS(3). The proportion of patients with parasitaemia persisting on day-2 increased significantly from 4.5% before 2001 to 21.9% since 2002 ($p < 0.001$). Delayed parasite clearance was associated with increased risk of developing gametocytaemia (AOR = 2.29; 95% CI, 2.00-2.69, $p = 0.002$). Gametocytaemia on admission and carriage also increased over the years ($p = 0.001$, test for trend, for both). MAS(3) efficacy has declined slightly but significantly (Hazards ratio 1.13; 95% CI, 1.07-1.19, $p < 0.001$), although efficacy in 2007 remained well within acceptable limits: 96.5% (95% CI, 91.0-98.7). The in vitro susceptibility of *P. falciparum* to artesunate increased significantly until 2002, but thereafter declined to levels close to those of 13 years ago (geometric mean in 2007: 4.2 nM/l; 95% CI, 3.2-5.5). The proportion of infections caused by parasites with increased pfmdr1 copy number rose from 30% (12/40) in 1996 to 53% (24/45) in 2006 ($p = 0.012$, test for trend). 3,264 patients were enrolled in prospective treatment trials between 1995 and 2007 and treated with MAS(3). The proportion of patients with parasitaemia persisting on day-2 increased significantly from 4.5% before 2001 to 21.9% since 2002 ($p < 0.001$). Delayed parasite clearance was associated with increased risk of developing gametocytaemia (AOR = 2.29; 95% CI, 2.00-2.69, $p = 0.002$). Gametocytaemia on admission and carriage also increased over the years ($p = 0.001$, test for trend, for both). MAS(3) efficacy has declined slightly but significantly (Hazards ratio 1.13; 95% CI, 1.07-1.19, $p < 0.001$), although efficacy in 2007 remained well within acceptable limits: 96.5% (95% CI, 91.0-98.7). The in vitro susceptibility of *P. falciparum* to artesunate increased significantly until 2002, but thereafter declined to levels close to those of 13 years ago (geometric mean in 2007: 4.2 nM/l; 95% CI, 3.2-5.5). The proportion of infections caused by parasites with increased pfmdr1 copy number rose from 30% (12/40) in 1996 to 53% (24/45) in 2006 ($p = 0.012$, test for trend).
- 3) **Conclusion:** Artesunate-mefloquine remains a highly efficacious antimalarial treatment in this area despite 13 years of widespread intense deployment, but there is evidence of a modest increase in resistance. Of particular concern is the slowing of parasitological response to artesunate and the associated increase in gametocyte carriage.

7.4 Rogers WO et al. (2009) - Failure of artesunate-mefloquine combination therapy for uncomplicated Plasmodium falciparum malaria in southern Cambodia. Malaria Journal

Summary

- 1) **Background:** Resistance to anti-malarial drugs hampers control efforts and increases the risk of morbidity and mortality from malaria. The efficacy of standard therapies for uncomplicated *Plasmodium falciparum* and *Plasmodium vivax* malaria was assessed in Chumkiri, Kampot Province, Cambodia.
- 2) **Methods:** One hundred fifty-one subjects with uncomplicated falciparum malaria received directly observed therapy with 12 mg/kg artesunate (over three days) and 25 mg/kg mefloquine, up to a maximum dose of 600 mg artesunate/1,000 mg mefloquine. One hundred

nine subjects with uncomplicated vivax malaria received a total of 25 mg/kg chloroquine, up to a maximum dose of 1,500 mg, over three days. Subjects were followed for 42 days or until recurrent parasitaemia was observed. For *P. falciparum* infected subjects, PCR genotyping of *msp1*, *msp2*, and *glurp* was used to distinguish treatment failures from new infections. Treatment failure rates at days 28 and 42 were analyzed using both per protocol and Kaplan-Meier survival analysis. Real Time PCR was used to measure the copy number of the *pfmdr1* gene and standard 48-hour isotopic hypoxanthine incorporation assays were used to measure IC50 for anti-malarial drugs.

- 3) **Results:** Among *P. falciparum* infected subjects, 47.0% were still parasitaemic on day 2 and 11.3% on day 3. The PCR corrected treatment failure rates determined by survival analysis at 28 and 42 days were 13.1% and 18.8%, respectively. Treatment failure was associated with increased *pfmdr1* copy number, higher initial parasitaemia, higher mefloquine IC50, and longer time to parasite clearance. One *P. falciparum* isolate, from a treatment failure, had markedly elevated IC50 for both mefloquine (130 nM) and artesunate (6.7 nM). Among *P. vivax* infected subjects, 42.1% suffered recurrent *P. vivax* parasitaemia. None acquired new *P. falciparum* infection.
- 4) **Conclusion:** The results suggest that artesunate-mefloquine combination therapy is beginning to fail in southern Cambodia and that resistance is not confined to the provinces at the Thai-Cambodian border. It is unclear whether the treatment failures are due solely to mefloquine resistance or to artesunate resistance as well. The findings of delayed clearance times and elevated artesunate IC50 suggest that artesunate resistance may be emerging on a background of mefloquine resistance.

7.5 USAID (2006) - Understanding Malaria Prevention and Control in Rural Cambodia: A Formative Research Study

Summary

- 1) **Background:** Cambodia has the worst malaria mortality and morbidity rates in Southeast Asia and one of the highest rates of malaria drug resistance in the world. Factors such as poor health infrastructure, drug resistance, and delayed care-seeking contribute to the ongoing threat of malaria in Cambodia. Health centre understaffing as well as chronic drug stock-outs limit effective treatment delivery. Private vendors who provide drugs, especially in remote and difficult to access areas are by and large unregulated and untrained. Such vendors may be increasing the potential for further drug resistance as they frequently provide ineffective and/or partial drug courses. Delayed care-seeking at the health centre and under utilization of insecticide treatment and mosquito nets are also issues which need further attention. The American Red Cross (ARC), in partnership with the Cambodian Red Cross (CRC), is implementing an Integrated Child Health (ICH) Project funded by United States Agency for International Development (USAID). The goal of the ICH Project is to reduce child morbidity and mortality in a sustainable fashion in Angkor Chum Operational District of Siem Reap Province, Cambodia. To support the project's goal, a research study was carried out by ARC in partnership with CRC, the National Malaria Centre, the Siem Reap Provincial Health Department, and the Angkor Chum Operational District with support from the Belgian Technical Cooperation (BTC), Reproductive and Child Health Alliance (RACHA), and Population Services International (PSI).
- 2) **Study goal and design:** The study's primary goal is to align stakeholders in the development and implementation of a comprehensive, evidence-based strategy to overcome the challenges to effective malaria prevention and treatment in Angkor Chum Operational District. Three research modules focusing on (1) malaria prevention, (2) early identification and referral, and (3) treatment were designed and developed for this study. Secondary quantitative analysis of relevant data from the population-based KPC survey undertaken in March 2005 was also completed to corroborate several qualitative findings.
- 3) **Findings:**

- Data from the March 2005 KPC survey revealed striking differences between the administrative districts of Angkor Chum and Varin concerning transmission knowledge among caretakers. While 86% of caretakers from Angkor Chum district identified “mosquito bites” as the cause of malaria, only 64.9% of Varin district caretakers cited that same response. False beliefs related to malaria transmission, although limited, do exist, including ingestion of bad/dirty/unboiled water, cutting grass around the home, and avoidance of contact with people who have malaria.
- According to KPC survey data, 67.9% of households in Angkor Chum have a mosquito net compared to 58.4% of households in Varin. Responses given during the focus group discussions suggest that most people view mosquito nets as important and beneficial. The chief motivating factor for mosquito net use was the prevention of mosquito bites; the single de-motivating factor reported was the unpleasant smell of a new net. Focus group participants commonly expressed concern that: (1) they did not have an understanding of insecticide treatment, (2) they did not have sufficient mosquito nets to protect the entire family, and (3) mosquito nets tear or rip easily.
- Statistical analysis failed to detect a correlation between households reporting fever with a mosquito net in the home. It would be expected that households with a mosquito would have less fever; this was not the case. As this data was collected in March (non-transmission season), it is plausible that at least some fever recorded was not malaria. Other plausible explanations for the seeming ineffectiveness of mosquito net use in reducing fever prevalence include: (1) removal of children from under the mosquito net after dusk, (2) lack of insecticide use, and (3) holes or tears in the net.
- Focus groups (both genders) reported giving priority use of the mosquito net to small children. The primary reason for this is that people recognize that young children are more vulnerable to malaria. However, there was no mention in any group about increased malaria risk or priority net use for pregnant women. The practice of removing small children from under the mosquito net after dusk, to avoid leaving the child alone while they visit with family and neighbours, seems to be common.
- Among focus group discussions with people who currently do not use a mosquito net, there was a strong interest to have one, but reported that cost was the barrier.
- In the KPC survey, among caregivers reporting their youngest child having fever in the previous two-week period, 46 percent cited that they sought advice or treatment outside the home. If the child's symptoms persist or get worse, the mother will most frequently consult a shopkeeper and purchase drugs following their recommendation. If the child's symptoms persist or get worse following self-treatment (after two days), they will then take their child to the health centre or hospital.
- Focus group discussions revealed that following recognition of malaria signs and symptoms, a mother typically employs traditional medicines to make a tea. The tea is most commonly used externally (e.g. not ingested) to reduce body temperature. This homecare is used for the first one to two days of symptom onset.
- Malarine is not widely available and the price is increased by up to six times the recommended selling price. Most focus group participants are able to identify the product stated they had seen it on television advertisements. Other drugs bought from village shopkeepers for malaria symptoms are mostly non-effective. Care-seeking with shopkeepers was reported to delay recommended treatment by two days.

7.6 Kitvatanachai, S. et al. (2003) A Survey on Malaria in Mobile Cambodians in Aranyaprathet, Aa Kaeo province, Thailand. Southeast Asian Trop. Med. Public Health

Summary

- 1) **Method:** A cross-sectional survey of the malaria prevalence among mobile Cambodians in Aranyaprathet, at the Thai-Cambodia border, was conducted in November 2000. A total of 666 asymptomatic, mobile Cambodians who worked as traders and laborers were studied.

- 2) **Results:** The overall prevalence rate was 2.4%, with 93.75% of the infections being due to *Plasmodium vivax* and 6.25% due to *Plasmodium falciparum*. Almost all cases had low level of parasitemia (1+) and no sexual stages were found. Factors associated with malaria infection included being male, being in the 10-59 year age group, having a lower level of education and frequent trans-border crossing. Both groups of migrant workers (traders and laborers) had an equal chance of infection.

7.7 USAID (2004) - Addressing Multi-drug Malaria Resistance in Asia

Summary

- 1) **Population movement:** Mobile populations and expansion of areas under human habitation, especially encroachment upon forested land, have contributed to the spread of drug-resistant malaria from western Cambodia, where it emerged in the late 1980s, to other locations in Southeast Asia including eastern Burma and the border areas of Thailand. While the recent cessation of fighting in western Cambodia has decreased the number of refugees in eastern Thailand, the same conditions are likely to draw increased numbers of economic migrants into western Cambodia in search of gems and forest products, putting them at risk for MDR malaria. At the same time, the current political and economic situation in Burma continues to force refugees and migrants into western Thailand in search of asylum and job opportunities. In recent years, increasing levels of drug-resistant malaria have been observed in several other countries in Southeast Asia where similar conditions (e.g. widespread and inappropriate drug use, poor drug quality, economic migration) also exist.
- 2) **USAID Approach and Partners:** In 1999, USAID began providing support to strengthen national and regional capacity to monitor and respond to drug-resistant malaria in Southeast Asia. At the country level, USAID is working with national malaria programs, the World Health Organization (WHO), the Kenan Institute of Asia, and other partners in both Cambodia and Thailand. (U.S. Government regulations currently prohibit direct support being provided in Burma.) Specific activities include: improving the diagnosis of *P. falciparum*, including the use of dipsticks, so that the newer and more-costly drugs are used judiciously; providing effective combination therapies to vulnerable populations; expanding the use of insecticide-impregnated mosquito nets to limit transmission of malaria and the need for antimalarial drugs; and monitoring drug resistance, drug-use practices, and drug quality. In the future, interventions to limit the emergence and spread of drug resistance will be applied and monitored for effectiveness.
- 3) At the regional level, USAID is also supporting the WHO Southeast Asia and Western Pacific Regional Offices in New Delhi and Manila, respectively, the Centres for Disease Control and Prevention in Atlanta, the Rational Pharmaceutical Management Project, the U.S. Pharmacopoeia Drug Quality and Information Project, and the Asian Collaborative Training Network for Malaria (ACTMalaria) as part of the Mekong Roll Back Malaria Initiative. USAID has also initiated efforts to monitor drug -resistant malaria in South Asia (through the Environmental Health Project) and other parts of Southeast Asia (through WHO) to determine if the problem is severe enough to justify intervention.

7.8 WHO (2007) – Containment of Malaria Multi-Drug Resistance on the Cambodia-Thailand Border Report of an Informal Consultation

Summary

- 1) **The importance of vector control (VC)** measures was also discussed, not only in terms of prevention but also recognizing the importance of VC in decreasing the size of the parasite population and perhaps circulation of resistant parasites in the population. In Cambodia, ITNs remain effective but the National Centre of Malaria Control faces challenges in re-impregnating and distributing nets to populations living in remote parts of the country /border areas. This problem has been compounded by delays in procurement, particularly for long-

lasting insecticidal nets. It was mentioned that in the forest environment, mosquitoes bite between 6pm and 10pm which needs to be addressed by alternative personal protection materials to ITNs. Therefore, beside classic ITNs for beds, nets for hammocks are highly recommended. However, behavioural studies of forest workers are needed to adapt this personal protection and to improve the coverage. The emergence of counterfeit insecticide was also noted.

- 2) **Access:** Recommendations were made to support mobile teams and construction of roads to access migrants and other hard-to-reach populations. Support was also requested for health education and messages to increase awareness of prevention and treatment options among migrants on both sides of the border.
- 3) **Cross-border strategies:** Participants from the national malaria programmes of Thailand and Cambodia discussed harmonizing their malaria control strategies to share information on drug resistance and follow-up on patients who regularly cross the border. It was suggested that districts on the Cambodia-Thailand border jointly conduct studies on drug resistance.

7.9 Koella, JC and Antia, R. (2003) *Epidemiological Models for the spread of Anti-Malarial Resistance, Malaria Journal*

Background: The spread of drug resistance is making malaria control increasingly difficult. Mathematical models for the transmission dynamics of drug sensitive and resistant strains can be a useful tool to help to understand the factors that influence the spread of drug resistance, and they can therefore help in the design of rational strategies for the control of drug resistance.

- 1) **Methods:** We present an epidemiological framework to investigate the spread of anti-malarial resistance. Several mathematical models, based on the familiar Macdonald-Ross model of malaria transmission, enable us to examine the processes and parameters that are critical in determining the spread of resistance.
- 2) **Results:** In our simplest model, resistance does not spread if the fraction of infected individuals treated is less than a threshold value; if drug treatment exceeds this threshold, resistance will eventually become fixed in the population. The threshold value is determined only by the rates of infection and the infectious periods of resistant and sensitive parasites in untreated and treated hosts, whereas the intensity of transmission has no influence on the threshold value. In more complex models, where hosts can be infected by multiple parasite strains or where treatment varies spatially, resistance is generally not fixed, but rather some level of sensitivity is often maintained in the population.
- 3) **Conclusion:** The models developed in this paper are a first step in understanding the epidemiology of anti-malarial resistance and evaluating strategies to reduce the spread of resistance. However, specific recommendations for the management of resistance need to wait until we have more data on the critical parameters underlying the spread of resistance: drug use, spatial variability of treatment and parasite migration among areas, and perhaps most importantly, cost of resistance.

7.10 Ariey, F. et al. (2006) *Invasion of Africa by a Single Pfprt Allele of South East Asian Type. Malaria Journal.*

Summary

- 1) **Background:** Because of its dramatic public health impact, *Plasmodium falciparum* resistance to chloroquine (CQ) has been documented early on. Chloroquine-resistance (CQR) emerged in the late 1950's independently in South East Asia and South America and progressively spread over all malaria areas. CQR was reported in East Africa in the 1970's, and has since invaded the African continent. Many questions remain about the actual selection and spreading process of CQR parasites, and about the evolution of the ancestral mutant gene(s) during spreading.

- 2) **Methods:** Eleven clinical isolates of *P. falciparum* from Cambodia and 238 from Africa (Senegal, Ivory Coast, Bukina Faso, Mali, Guinea, Togo, Benin, Niger, Congo, Madagascar, Comoros Islands, Tanzania, Kenya, Mozambique, Cameroun, Gabon) were collected during active case detection surveys carried out between 1996 and 2001. Parasite DNA was extracted from frozen blood aliquots and amplification of the gene *pfprt* exon 2 (codon 72–76), exon 4 and intron 4 (codon 220 and microsatellite marker) were performed. All fragments were sequenced.
- 3) **Results:** 124 isolates with a sensitive (c76/c220:CVMNK/A) haplotype and 125 isolates with a resistant c76/c220:CVIET/S haplotype were found. The microsatellite showed 17 different types in the isolates carrying the c76/c220:CVMNK/A haplotype while all 125 isolates with a CVIET/S haplotype but two had a single microsatellite type, namely (TAAA)₃(TA)₁₅, whatever the location or time of collection.
- 4) **Conclusion:** Those results are consistent with the migration of a single ancestral *pfprt* CQR allele from Asia to Africa. This is related to the importance of PFCRT in the fitness of *P. falciparum* point out this protein as a potential target for developments of new antimalarial drugs.

7.11 Lim P et. al. (2009) *Pfmdr1* copy number and artemisinin derivatives combination therapy failure in falciparum malaria in Cambodia. *Malaria Journal*

Summary

- 1) **Background:** The combination of artesunate and mefloquine was introduced as the national first-line treatment for Plasmodium falciparum malaria in Cambodia in 2000. However, recent clinical trials performed at the Thai-Cambodian border have pointed to the declining efficacy of both artesunate-mefloquine and artemether-lumefantrine. Since *pfmdr1* modulates susceptibility to mefloquine and artemisinin derivatives, the aim of this study was to assess the link between *pfmdr1* copy number, in vitro susceptibility to individual drugs and treatment failure to combination therapy.
- 2) **Methods:** Blood samples were collected from *P. falciparum*-infected patients enrolled in two in vivo efficacy studies in north-western Cambodia: 135 patients were treated with artemether-lumefantrine (AL group) in Sampovloun in 2002 and 2003, and 140 patients with artesunate-mefloquine (AM group) in Sampovloun and Veal Veng in 2003 and 2004. At enrollment, the in vitro IC₅₀ was tested and the strains were genotyped for *pfmdr1* copy number by real-time PCR.
- 3) **Results:** The *pfmdr1* copy number was analysed for 115 isolates in the AM group, and for 109 isolates in the AL group. Parasites with increased *pfmdr1* copy number had significantly reduced in vitro susceptibility to mefloquine, lumefantrine and artesunate. There was no association between *pfmdr1* polymorphisms and in vitro susceptibilities. In the patients treated with AM, the mean *pfmdr1* copy number was lower in subjects with adequate clinical and parasitological response compared to those who experienced late treatment failure (n = 112, p < 0.001). This was not observed in the patients treated with AL (n = 96, p = 0.364). The presence of three or more copies of *pfmdr1* were associated with recrudescence in artesunate-mefloquine treated patients (hazard ratio (HR) = 7.80 [95%CI: 2.09-29.10], N = 115), p = 0.002) but not with recrudescence in artemether-lumefantrine treated patients (HR = 1.03 [95%CI: 0.24-4.44], N = 109, p = 0.969).
- 4) **Conclusion:** This study shows that *pfmdr1* copy number is a molecular marker of AM treatment failure in falciparum malaria on the Thai-Cambodian border. However, while it is associated with increased IC₅₀ for lumefantrine, *pfmdr1* copy number is not associated with AL treatment failure in the area, suggesting involvement of other molecular mechanisms in AL treatment failures in Cambodia.

8. Existing policy and strategy to manage other infectious diseases

8.1 Centre for Public Health and Human Rights (Johns Hopkins Bloomberg School of Public Health) (2006) – Responding to AIDS, TB, Malaria and Emerging Infectious Diseases in Burma: Dilemmas of Policy and Practice

Objectives

- 1) To synthesize what is known about HIV/AIDS, Malaria, TB and other disease threats including Avian influenza (H5N1 virus) in Burma; assess the regional health and security concerns associated with these epidemics.
- 2) To suggest policy options for responding to these threats in the context of tightening restrictions imposed by the junta.

Summary

- 1) **Background:** In 2004 the Global Fund to Fight AIDS, Tuberculosis and Malaria awarded program grants to Burma (Myanmar) totalling 98.4 million USD over 5 years. The Fund did so recognizing the severity of Burma's HIV/AIDS epidemic, very high TB rates; and noting that malaria was the leading cause of morbidity and mortality in Burma. Given longstanding concerns over the governance of the ruling junta, the State Peace and Development Council (SPDC), the Fund imposed additional safeguards on their Burma grants, and requested and received written guarantees from the junta that they would respect the safeguards and accept the Fund's performance-based grant system.
- 2) **Termination of Grants:** On August 18th, 2005, the Fund announced termination of the grant agreements, stating that "Given new restrictions recently imposed by the government which contravene earlier written assurances it has provided the Global Fund, the Global Fund has now concluded that the grants cannot be implemented in a way that ensures effective program implementation." Other terminations and withdrawals followed, including MSF France whose in-country representative stated in December, 2005 "The last year has been very difficult to implement our program because of restrictions imposed on our international staff regarding access to villagers." The restrictions occurred in a new political context. The SPDC moved the Burmese capital to Pyinmana in November, 2005. The International Committee of the Red Cross announced on Feb. 27th, 2006, that the junta had refused to allow the humanitarian agency to conduct its widely respected prison visits. Further restrictions on donor, NGO and international engagement in Burma were then issued by the SPDC in February, 2006. Burmese language versions of these regulations are more restrictive than English language ones released to the donor community.
- 3) **Limited Public Funding for Health:** Burma under the SPDC has markedly low levels of public funding for health and education, both of which have declined as proportions of GDP during the AIDS era. Budgets and years for selected diseases include the 2004 National AIDS Control Program budget of 22,000 USD; the 2004 filaria disease control budget of 6,000 USD, despite two million cases reported to the WHO per year in Burma; and a TB control budget of 312,000 USD in 2005. These are among the lowest levels of government investment in health worldwide. The limits on funding and the weakened laboratory infrastructure mean that all reported figures for disease rates and burdens should be viewed with caution. Where data can be verified or where other kinds of data are available, the officially reported burdens tend to be marked under-estimates of actual rates.
- 4) **HIV/AIDS:** By 2000 Burma clearly had a generalized epidemic of HIV infection, with an estimated 1/29 adults living with HIV, and some 48,000 deaths that year, according to the WHO. The official AIDS reporting system detected some 800 deaths over the same period. The national surveillance findings are difficult to interpret, inconsistent, and limited in scale and scope. They do suggest that HIV surveillance is too limited to accurately capture HIV/AIDS trends nationwide; that urban areas are over-represented; and that the laboratory data are likely unreliable.
- 5) **TB:** Burma today ranks as one of 22 countries that account for 80% of the world's new cases, with about 97,000 new cases diagnosed each year. Overall, about 40% of Burma's population is estimated to be infected with TB and WHO estimates that 6.8% of TB patients in Burma

have HIV. Among patients with living HIV infection 60-80% also have TB, making this the most common AIDS associated infection. Burma has the highest mortality rate amongst TB patients co-infected with HIV in Southeast Asia, at 2.8 per 100,000 population. The SPDC TB program raises serious concern. TB drugs are widely available without control on the black market, and many are taken with inadequate supervision. The diagnostic test currently used for TB notification is sputum exam; in many cases, particularly with HIV coinfection, TB is missed using only this test, and culture is needed. This is not possible in most of Burma due to laboratory infrastructure restraints. These failures have had a predictable result: rising rates of drug resistance. In 2005, 33.9% of TB isolates were resistant to any one of the four standard first-line drugs, with the rate of multi-drug resistant TB more than doubling to 4.2%; among patients who had received treatment in the past, this figure rose to 18.4%. This means Burma's official multi-drug resistant TB rates are more than double those of her neighbours.

- 6) **Malaria:** Burma reported over 700,000 cases of malaria in 2004, of which almost 80% is the most dangerous type, *P. falciparum*, and Burma consistently records the most malaria related deaths (almost 2,500) of any country in the region, including India, with her vastly larger population. As with TB, drug control program failures appear to have led to rising rates of anti-malarial drug resistance. Up to 70% of anti-malarial pills sold in Burma contain substandard amounts of active ingredient, exposing malaria parasites to substandard levels of active ingredients, thereby increasing the risk of resistance and threatening future effectiveness. The most effective drug for resistant malaria is artesunate: counterfeit artesunate, containing little or no active compound, is now widely available in Burma and over a fifth of drugs sampled in one recent analysis were fake. Also, only 20-41% of an urban population living along the Thai-Burma border was reportedly covered by insecticide treated nets, well below the goal of 60% coverage set at the Abuja Summit for 2005. The MSF France program in eastern border areas was not given permission to distribute the nets despite working in highly endemic areas. Data from Thai—Burma border programs makes clear that malaria morbidity and mortality are markedly higher in most of the eastern Burma conflict zones than for the rest of the country—and it is these areas with the least SPDC health program access. Hence the national malaria data, as troubling as they are, are clearly markedly underestimating the actual disease burden in the country.
- 7) **Other Diseases and Health Threats: Avian influenza (H5N1), Filariasis, Cholera:** The same conditions that drive the high prevalence of these three diseases also give rise to other emerging health threats, most notably Avian influenza. In a rare admission, Burma's Country Health Profile submitted to the WHO states that: "The principal endemic diseases in Myanmar are cholera, plague, dengue haemorrhagic fever, watery diarrhoea, dysentery, viral hepatitis, typhoid, and meningococcal meningitis. Cholera, plague, and dengue haemorrhagic fever reach epidemic proportions in certain years, often occurring in cycles." These are largely diseases that are preventable with adequate monitoring, treatment, and control programs. Avian influenza, the H5N1 virus, was first reported in Burma on March 8th, 2006, reported on a poultry (chicken) farm near Mandalay. While SPDC reported the outbreak to WHO and called for international assistance with its control, they refused to alert the citizens of Burma until March 17th, after the outbreak had widened to include quail farms and to Sagaing Division in upper Burma. A March 14th report noted that "Six days after junta officials first began to investigate the deaths of 112 chickens in Mandalay and three days after the Ministry of Livestock and Fisheries itself confirmed the presence of the deadly H5N1 strain of the virus, Burma's state-run press was silent on the issue. Lengthy delay in notifying the public is poor public health practice and a discouraging prognostic indicator for further responses.
- 8) **SPDC Policies and Humanitarian Assistance:** Public sector investment in education and healthcare combined in Burma is less than \$1 per person per year - one of the lowest levels of public investment in the world. The limits on funding for health programs have driven calls for increased donor aid—but donor aid has increasingly restricted in 2005-2006. In February 2006, the SPDC Ministry of National Planning and Economic Development put forward new Guidelines for UN Agencies, International Organizations and NGOs/INGOs on Cooperation Programme in Myanmar. These formalize and reaffirm both those restrictions which led to the GF pullout and the SPDC's interests in state control, Ministry level approval of programs,

coordination, of Memoranda of Understanding, of project implementation, opening and registration of field offices, appointment of staff, internal travel, management and equipment purchases, and coordination at the State, Division, and Township levels. These levels of oversight indicate an increased level of junta engagement and control of international humanitarian activities.

- 9) **Transnational Issues and Security Concerns:** Burma's HIV epidemic is associated with highest prevalence zones in both India (the border states of Manipur and Nagaland) and China (Yunnan Province). Data on malaria and filariasis from Thailand show that for these diseases, Thailand's remaining endemic zones are largely on her Burma border and occur mostly in Burmese migrants. However, for the first time in decades, clinical filariasis re-emerged in urban Thailand in 2004, diagnosed in two migrants from Burma. For both malaria and TB, multi-drug resistance generated by Burma's weak programs for drug control are increasing drug resistance in Thailand and India and threatening to undermine the only effective regimens for drug resistant *Plasmodium falciparum* in South and Southeast Asia. Taken together these health threats for known diseases also underscore Burma's risks for her neighbours of new and emerging infectious diseases. Resurgent drug resistant malaria and TB have the potential to threaten enormous populations. HIV spread related to Burmese heroin exports has already done so and affects India, China, Thailand, Vietnam, and, most recently Bangladesh.
- 10) **Policy and Program Options:** Engagement with health threats through the junta is becoming increasingly difficult, largely due to increasing SPDC control and program restrictions post-Pyinmana. Cross-border interventions are feasible and can be effective in some settings. Where cross border approaches are not feasible, donors and international organizations will likely have to attempt to work inside Burma in an increasingly limited space. Regional partners will likely have to put greater pressure on the SPDC to allow humanitarian assistance and health collaborations if they seek to control their own epidemics of AIDS, malaria, TB, and other disease threats. The initial phases of the Avian flu response include hopeful indications (reported the Mandalay outbreak and requesting assistance) and discouraging ones (delay in sharing information with the people of Burma). Donors and the international community will likely need to explore all possible avenues, including bypassing state controlled media, to share health information with the people of Burma.

8.2 UNDP (2004) – No Safety Signs Here Research Study on Migration and HIV Vulnerability from Seven South and North East Asian Countries

Summary

- 1) This report examines the unique factors or circumstances pertaining to HIV and migration in select countries of South and North East Asia that need to be taken into account while planning a response to the epidemic. It highlights an increasing level of mobility in all the seven countries, both within and across national borders. Although some of this mobility is 'formal', much of it is informal or 'irregular'. Further, the findings reinforce the fact that the type of population mobility and the context and conditions in which it occurs - whether under duress or distress, or in unprepared conditions - affects the vulnerability of migrants and their families to HIV.
- 2) The first chapter is an introduction to the issue of migration and HIV in the region and establishes the need for this study in view of the large-scale, often unsafe and unprepared movement of men and women within and across national boundaries in search of better livelihood options.
- 3) Chapters two to eight are country-wise reports compiled in a common format and are presented in alphabetical order, with no other significance attached to their placement. The chapters depict the current HIV/AIDS situation, migration trends and patterns, the socio-economic and political contexts of internal and cross-border mobility, living and working conditions of migrant workers and related health risks, services and resources available and suggestions for future research that need to be undertaken in each of these countries. These chapters also include a summary table of

migrant sub-populations that are most vulnerable to HIV/AIDS, the responses so far, and recommendations for future action.

4) **Key Findings and Recommendations**

- Although all seven countries have started to acknowledge that the HIV/AIDS epidemic poses a serious challenge, there are huge differences in the extent of commitment of each country and the resources available to tackle the epidemic. Additionally, concerns and vulnerabilities of migrants do not figure as a major focus in the HIV/AIDS programmes of these countries. For instance, even though internal mobility is increasing in Mongolia, there is no countrywide pre-migration training programme. Commitment at the highest level is needed to ensure that migration becomes a safer process for both men and women, thereby reducing their vulnerability to trafficking and HIV.
- The absence of studies, data and information that explore issues concerning vulnerabilities of specific sub-groups within migrant workers has contributed further to the lack of comprehensive responses directed at migrant workers and their communities. Research and micro studies need to be initiated to gather more detailed information on the migration process covering a migrant's journey through source, transit and destination areas. Mapping of 'hot spots', where there is a volatile mix of highly mobile people (traders, visitors) or temporary workers (industrial, miners, sailors and so on) and sex workers, is required.
- The study found inter-country migrants to be, by and large, more vulnerable than in-country migrants because of a host of reasons. Their vulnerability stems from language barriers, a feeling of alienation, distance and long periods of absence from home - in places that usually have a drastically different socio-cultural environment (which reinforces their sense of isolation) – limited access to information and services, limited rights to organise and negotiate for better services and fear of deportation upon testing positive for HIV. The situation is worse for undocumented or irregular migrants who have no valid status in the host country. Three-quarters of migrant workers in South Korea are undocumented. They are usually denied legally enforceable rights, and access to health and other services. They are likely to work for lower wages and in more difficult working conditions than regular migrants. HIV is not a priority concern for them. Often, they have limited or no access to testing facilities, but even where these are available they are afraid to seek testing owing to the limited choices they have. It was also observed that labour-receiving countries assume no responsibility, once a worker is found to be HIV-positive. The situation of North Korean migrants in China, Chinese and other irregular Asian migrants in South Korea and Bangladesh migrants in India establish the distinctive vulnerabilities of inter-country migrants, particularly the undocumented ones. Inter-country dialogues and coordinated actions between source and destination countries involving both governments and civil society organizations are critical to address their concerns.
- Even where they are available, services provided by government or civil society organizations are not especially geared towards migrant workers. Responses designed to address the vulnerabilities of migrant workers must focus on services that are provided in appropriate languages through a range of outlets, in settings that are accessible to migrant workers. Health information, especially on HIV/AIDS, must be supplemented with additional information and services that address migrant workers' broader concerns and priorities, and thereby facilitate safe migration. In source areas, services and information must, in addition to the above, cover families and communities of migrant workers. Responses must focus especially on two groups: one, sub-populations that are most vulnerable to HIV, such as men who have sex with men (MSM), sex workers and young, single migrants; and two, 'bridge populations', which include partners of overseas contract workers, clients of sex workers and transport workers/traders and their partners/families. Moreover, since migrants, particularly undocumented and informal migrants, are often difficult to track due to the clandestine nature of mobility, the focus of some programmes should be on the workplaces and communities they live in.
- Many countries such as Bangladesh and Sri Lanka provide pre-departure training for outgoing migrants. Similarly, some countries, including South Korea, offer post-arrival orientation

programmes for incoming overseas migrant workers. The study found that these trainings either did not address HIV/AIDS - or did so only minimally. Efforts are, therefore, required to mainstream HIV into existing pre-departure and post-arrival training programmes. Additionally, it must be noted that people migrating through non-formal channels miss out on these trainings. The study recommends facilitation of pre-departure and post-arrival "preparedness" programmes in those geographic locations that are mapped as hot spots - that is, from where a large number of men and women are known to migrate or places in destination countries where most irregular migrants are known to stay. Detailed studies must be undertaken to identify these locations. Specific workplace interventions are also required in settings that employ large scale informal migrant labourers - for instance, manufacturing units in South Korea or free trade zones in Sri Lanka, which employ/house large numbers of informal/ irregular migrants.

- As women and young populations are now migrating in large numbers, there should special emphasis on their concerns in all programmes. For instance, South Korean, Russian, Filipino and Korean Chinese women were found to be more vulnerable to HIV because of the higher probability that they were engaged in the sex industry. This, coupled with their low-socio economic status, makes it imperative to mainstream their concerns in all HIV prevention programmes.
- Although some initiatives exist at a national level to address issues of in-country migrants, there is a dearth of regional responses. Holistic dealing of migrant issues requires coordinated action throughout their journeys in source, transit and destination countries. This can be done only through concerted regional responses that bring together a range of stakeholders and service providers among a cluster of countries. It is critical to form a regional body or a mechanism to coordinate such responses; additionally, a regional strategy must be developed to reduce the vulnerability of cross-border migrants to HIV/AIDS. The Greater Mekong Scheme region is one such initiative that can provide valuable lessons in this direction.
- Overall, the study found a very small number of models of good practice. Where they do exist, they are limited in their scope and impact. The experiences of some of the more effective programmes can serve as models to manage projects. The Yunnan experience, for example, shows how a collaborative effort between government, civil society, community and international organizations can be successful. It also illustrates innovative ways of working among one-day visitors and overnight border-crossers through the public security and the customs departments. Additional resources, both financial and technical, are urgently needed to upscale small, successful initiatives or put in place innovative and replicable models. The costs of care and treatment and the debilitating effect of HIV/AIDS have already been demonstrated in Africa. Unless Asian governments and international organizations respond quickly, the effect of the epidemic in the region could be devastating. The study makes a case for an urgent and comprehensive response to contain the spread of the epidemic and mitigate its effects on individuals, communities and nations based on a rights-sensitive approach towards migrant workers.

8.3 USAID (2004) – Cambodia HIV/AIDS Strategic Plan 2002-2005

Summary

- 1) Cambodia has the highest measured national prevalence of HIV in Asia. The national 2002 HIV Sentinel Surveillance survey indicates an estimated HIV prevalence rate of 2.6 percent among general population adults aged 15-49 years. The HIV/AIDS epidemic can be categorized as one that is concentrated and in the early stages of becoming generalized due primarily to heterosexual transmission. In response, the USAID/Washington designated Cambodia as a Rapid Scale-Up country for HIV/AIDS in 2002, a designation accompanied by increased financial and technical resources.
- 2) Since 1998, data suggests that HIV transmission in Cambodia has been declining. Reductions in risk-taking behaviour among key target sub-populations have contributed to these declines, as has

the increase in AIDS-related deaths. The national and international response to the AIDS epidemic has been pro-active and aggressive. Commitment at the highest levels of the government, a strong political will and evidence-based interventions have played a large role in the reduction of HIV transmissions among brothel-based female sex workers and uniformed personnel—two of Cambodia’s most vulnerable populations.

- 3) Numerous challenges persist. Recent data suggest a general shift in HIV transmission from female sex workers and their male clients to transmission between husbands and their wives. This epidemiologic transition has resulted in the transmission of HIV to a greater number of infants. While the majority of people infected with HIV currently live in urban areas and in border provinces, especially those provinces bordering Thailand, this concentrated geographic pattern is expected to change in coming years due to a high degree of population mobility. Newly impacted populations and increasing demands for quality care services are among the issues donors and the government must address. Greater emphasis needs to be placed on improving the quality of, and access to, home-, community- and institutional-based care for people living with HIV/AIDS. All of these demands are placing an increasing burden on a relatively new and fragile health system.
- 4) In addressing the complexity of the epidemic, USAID/Cambodia is involved across the continuum from prevention to care and support to policy advocacy. In particular, the program aims to:
 - Concentrate geographically to provide a comprehensive package of prevention and care services in the most affected provinces.
 - Work nationwide on selected high-impact interventions such as condoms for social marketing, training for uniformed personnel, and capacity building for health facility staff.
 - Support programs that link prevention to care and support as a way to slow the spread of HIV into the general population, especially among women and infants, and care for the increasing number of HIV-infected Cambodians.
 - Promote effective models of home and community care for those infected and affected by the epidemic in order to bring care closer to home and to lessen the burden on the formal health system.
 - Continue to conduct research on best practices to effectively reach key populations and encourage behaviour change.
 - Expand Cambodia’s premier “second generation” surveillance system to monitor epidemiological and behavioural trends of the epidemic, followed by the use of the data to develop appropriate programs.
 - Involve all segments of Cambodian society that can best deliver the message of self-protection and non-discrimination, including Buddhist monks and nuns, village leaders, elected officials, and pop culture celebrities.
- 5) The Cambodia HIV/AIDS strategy operates under the Public Health Interim Strategy 2002-2005: Increased Use of High Impact HIV/AIDS and Family Health Services and Appropriate Health Seeking Behaviours (pending approval for extension until 2006). The HIV/AIDS component is the most significant portion of the overall Population Health and Nutrition (PHN) portfolio for Cambodia, consisting of \$13.8 out of \$22.1 million of the annual PHN budget. The implementation modality for the Mission’s PHN program includes working through eleven Cooperating Agencies, some of which provide sub-awards to over fifty local and international non-governmental organizations.
- 6) As a Rapid Scale-Up country, Cambodia is required to demonstrate results within the timeframe of the strategy. As a result, monitoring and evaluation are key components of the strategy.

9. Studies on Industrial distribution regarding forest activity in the region

9.1 USAID (2004) – *Community Forest Management Support Project for Southeast Asia: Final Project Report by Community Forestry International (CFI)*

Summary

- 1) **Project Description:** The first phase of the *Community Forest Management Support Project (CFMSP-I)* was an ambitious effort to catalyze and facilitate national and regional dialogues regarding community forestry policies and programs, while supporting, documenting, and analyzing field level initiatives to implement emerging CF policies. The programme's overarching goal was to enable the involvement of communities in the management of public forest lands by supporting the development of more effective national community forest management policies and implementation programs. The project sought to build strategic partnerships between professionals and government and non-government institutions informing national community forestry strategies in Cambodia, Indonesia, the Philippines, Thailand, and Vietnam. The project was implemented by Community Forestry International in conjunction with the Asia Forest Network (AFN) with financing from EAPEI and the European Commission's tropical forestry programme. The project supported innovative field projects where CFI/AFN country partner institutions were designing and facilitating dialogue processes between local government and communities to formally transfer management rights and responsibilities to resident peoples.
- 2) **Summary of Progress:** The project built strategic partnerships between professionals, government, and non-government institutions. The project catalyzed national and regional discussions regarding historic forest sector transitions in Asia and supported the development of new national laws and policies that are enabling the greater engagement of communities in forest protection and management. The project also encouraged greater support from development agencies to forest departments and NGOs that are working on social development and environmental concerns. Finally, the project built greater capacity and clarity among field workers engaged in implementing CF projects in Southeast Asia, including identifying some of the best emerging practices for diagnosing CF issues, mapping CF areas, planning, and formulating CF agreements.

9.2 USAID (2006) – *Forest Conflict in Asia: How Big is the Problem?*

Objectives

- 1) To provide a sense of the scale of forest conflict in Asia to allow governments of countries in the region, donor organizations, and nongovernment organizations (NGOs) to gauge the relative importance of this issue from the viewpoints of governance, human rights, economic development, poverty reduction, and natural resource management.

Summary

- 1) The key assumptions underlying the approach:
 - There is a high level of correlation between deforestation and the frequency of forest conflict.
 - People living in or around a forest undergoing degradation and deforestation are likely to be adversely affected in terms of their present livelihoods and diminished long-term access to land and water.
 - The negative impacts of deforestation are almost certain to cause some level of conflict between forest dwellers and "outsiders" who may be loggers, plantation companies, security forces, or government officials.
 - Deforestation impacts on forest people extend beyond deforested areas to adjacent populations who are, to some degree, dependent on forests that are some distance from their homes.

- 2) Using a GIS, this report analyzed forest change and population data for the entire island of Sumatra, all provinces of Kalimantan (the Indonesian portion of the island of Borneo), the islands that comprise Maluku province, and all of Irian Jaya (the Indonesian portion of the island of New Guinea, currently called Papua). This area includes the 14 Indonesian provinces that contained the bulk of the remaining natural forest cover in the country as of 1990.
- 3) The analysis drew 1-, 2-, and 3-km buffers around the deforested areas and overlaid this area with the population density data, using the GIS to determine the number of people living in each of the buffers. This analysis indicated that the number of people affected by deforestation/conflict ranges from 13.8% (12.3 million people), when a 1-km buffer is used, up to 40% (19.6 million people) of the population in the selected provinces when a 3-km buffer is drawn around each forested area. The figures for individual provinces range from 22% to 60% for a 3-km buffer.
- 4) The vast majority of Cambodians live in rural areas, earning their livelihoods through agriculture and depending on natural resources for daily needs and as an economic safety net. Indigenous communities living in the forested uplands are almost totally dependent on forest resources and forestland. Resource tenure is still insecure despite initial steps by the Royal Government of Cambodia (RGC) to provide legal guarantees. The current situation of legal uncertainty has encouraged land grabbing by the elites in Cambodian society as well as encroachment on forestland by the landless. Forest and wildlife resources are being lost steadily through illegal harvesting at a range of scales. These trends are causing conflict between the communities that rely on forestland and forest resources for their livelihoods and the outsiders that are seizing them or using them illegally.
- 5) Four approaches to estimate the number of Cambodians that experience forest conflict based on forest dependency, physical proximity to timber concessions and protected areas, or proximity to all forests were designed. These approaches provide a range of estimates of the number of people affected by forest conflict in Cambodia from a low of 550,000 people (if only people who derive the majority of their livelihoods from forests are counted), to over 1.7 million people (when people at lower levels of forest dependency are included or residence in or near forests is the basis for the calculation). Three of the approaches yielded very similar results using different sources of information, indicating that these estimates are probably in the correct order of magnitude. The highest estimate represents approximately 12% of the population of Cambodia (1.7 million people), and the lowest estimate approximately 4% (550,000 people).

9.3 World Bank (2005) – Cambodia: Review of Strategic Forest Management Plans Prepared by Concession Companies Operation in Cambodia: Part II Final Report

Objectives

- 1) To resume and complete the Part I of this Independent External Review of the Strategic Forest Management Plans (SFMP) and related Environmental and Social Impact Assessments (ESIA) of six forest concession companies operating in Cambodia. These companies had been proposed by the Forest Administration's (FA) Technical Review Team (TRT) in June 2004 to be allowed by the Government to proceed to the next stage of concession management planning, i.e. to prepare 5-year compartment level plans and, eventually to resume logging operations under the principles of sustainable forest management (SFM). In case of final approval of their strategic and operational level plans, the logging moratorium is expected to be lifted for these companies for resumption of their operations.
- 2) Present focus is on:
 - analysing the plans (SFMP & ESIA) for Cambodia Cherndar Plywood (CCP), Colexim Enterprise, Timas Resources and TPP Cambodia Timber Products, particularly with regard to compliance with existing guidelines and adequacy to serve as basic strategic documents to implement SFM in their concession areas,
 - reviewing the plans also in the light of the present state of the forest resources and changes, these have been subjected to during the 4-year-long planning period, and eventually

- offering some recommendations

9.4 World Bank (2007) – Cambodia: Rural Sector Note and Business Plan

Summary

- 1) Through the Poverty Reduction Strategy Operation (PRSO) the Bank and other partners will provide budget support based on progress in meeting a number of agreed prior actions related to the four Country Assistance Strategy pillars. Under the first PRSO (2007) these are focused on performance with distribution of land titles, improving the legal framework for indigenous communal titling, land distribution and transparency in managing economic land concessions. It is expected that as progress is made towards agreed strategies for forestry, biodiversity conservation and decentralization, that these will also be incorporated into the program for future PRSOs.
- 2) In terms of on-going rural development projects, the Bank financing is focused in the areas of natural resources management – again, mainly land and protected areas – and decentralization. Consistent with the broader strategic approach to rural development support, these projects are increasingly focused on building local community and decentralized government capacity.
- 3) The Rural Investment and Local Governance Project (RILGP) worked with Government's former Seila Task Force and the new National Committee for Management of Decentralization and Deconcentration Reforms to strengthen local governance, by enhancing the inclusiveness, transparency and accountability of local government structures and decentralized development processes, and improve local service delivery by funding the C/S Fund for public goods identified as priorities through the decentralized planning process. A grant from the Japan Social Development Fund (JSDF) supports building the capacity of communities, NGOs and Government to work together in expanding community forestry management in Cambodia.
- 4) As a result of this support the Bank hopes to contribute to:
 - The issuance of one million land titles by 2008
 - Support from RILGP has helped to make the C/S Fund one of the most efficient and transparent components of the national budget. Since 2004, C/S Fund cash releases have been on schedule and aligned with approved budget credits
 - Completion of 2,500 priority rural infrastructure sub-project, valued at over \$20 million, in over 1,000 communes in 14 provinces by 2007
 - Incidence of unplanned agricultural expansion, wildlife poaching, and illegal logging reduced in Virachey National Park
 - 400 community forestry management programs established based on training of 4,000 community members
- 5) Over the remaining two years of our current country strategy, new projects are planned to support emergency preparedness and response for avian influenza, piloting of land distribution to the poor and new phases of support for extending titling and other land administration services to more beneficiaries (LMAP 2) and continued support to commune councils to build capacity and deliver infrastructure and other locally demanded investments (RILGP Additional Financing), as well as to strengthen and support the new district-level structures expected to be created and assigned key service delivery functions as part of the upcoming Organic Law on Decentralization and Deconcentration (RILGP-II).

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