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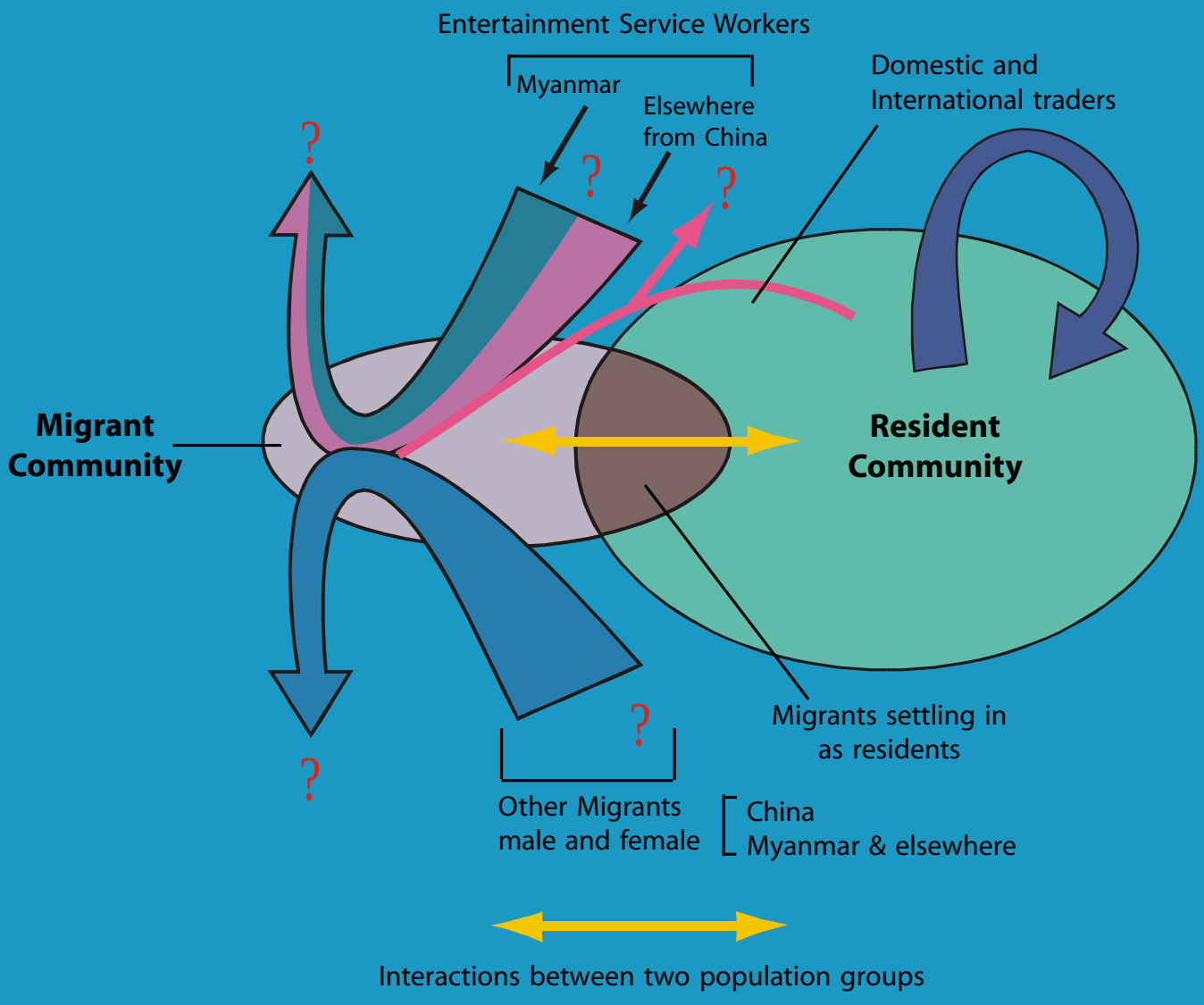
the case of Ruili, Yunnan, China



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Population Movement and HIV/AIDS the case of Ruili, Yunnan, China

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FOREWORD

Ruili is one of the cities in China where HIV was first detected. It demonstrates the complexity of HIV/AIDS epidemics. Ruili, located close to the Myanmar border in South West China, illustrates migration and the underlying development forces which stimulate it. These critical factors must be considered when developing HIV intervention strategies.

Dealing with HIV/AIDS in cities such as Ruili seems straightforward on the surface. Traditional health care approaches to HIV, which target high-risk population groups, e.g. entertainment service workers and injecting drug users and implemented through the formal health care system, seem to apply. However, below the surface, the reality is much more complex. A highly mobile migrant population interacting with the underlying poverty, geographic location and thriving trade system contributes to the complexity of the epidemic. The epidemic is intensified by population movements, where HIV is both brought into and carried out of Ruili and its surrounding areas.

Ruili's case aptly demonstrates the fact that HIV epidemics cannot be dealt with solely at a local level. Instead, Ruili's role in the larger regional HIV system must be considered. Moreover, the Ruili case shows that to ensure effective solutions to HIV epidemics that move beyond short term answers and immediate factors, population movements and the underlying long term development elements must be addressed. In addition, Ruili illustrates that for HIV/AIDS policies to be effective, one must take a multisectoral approach. This would require regional intercountry collaborations because population movements and the associated underlying development causes cut across sectoral lines and international boundaries.

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I. Introduction

To effectively evaluate a project supported by UNDP South East Asia HIV and Development Programme in Ruili, Yunnan Province, South West China, it was necessary to identify major *population movements* which were driven by *development* and which contribute to HIV epidemics. This evaluation was based on review of project documents and interviews with authorities and project staff in Ruili[1].

Most of the work on population movements and HIV/AIDS in South East Asia have been at the macro level[2], e.g. between sending, transit and receiving areas or "hot spots" along major highways. It is therefore of interest to present the results of the Ruili evaluation, which complements these other works, by focusing on a smaller scale and identifying the population flows which intersect in the city.

The following are some key considerations for this paper:

i) Instead of focusing on analyzing the traditional "high risk groups" (drug users, youth, sex workers, etc.) this paper examines *movements* of people and their possible implications on HIV prevention policies and programmes;

ii) Identifying mobility patterns does not imply blaming mobile people for the HIV epidemic. Because population movement patterns are mostly determined by difference in levels of economic development between sending and receiving areas; and

iii) The goal of this evaluation is to identify policy and programme instruments which can reduce development induced vulnerabilities and increase resilience. It does not propose alternatives to traditional preventative activities for high-risk groups.

II. Background information on Ruili

Ruili is located in a subtropical valley jutting out of western Yunnan into Myanmar. Myanmar surrounds three sides of Ruili making it accessible by roads from either China or Myanmar through several border crossing points[3].

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1 Report on Ruili Holistic Prevention and Care Project: Review of Phase I and Recommendations, Jacques du Guerny, October 2002.

2 See for example, papers by R. Skeldon, *Population Mobility and HIV Vulnerability in South East Asia: An Assessment and Analysis* (Nov 1999), Published by UNDP SEA-HIV, available at: *http://www.hiv-development.org/publications/sea_publications_papers.asp,* and G. Hugo, *Population mobility and HIV/AIDS in Indonesia*, (Nov 2001), available at: *http://www.hiv-development.org/publications/Contract%20Workers.htm,* See also papers on mapping published at the same site: *Assessing Population Mobility and HIV Vulnerability: Guangxi, People's Republic of China http://www.hiv-development.org/publications/Guangxi.htm,* (English version) and *http://www.hiv-development.org/publications/Guangxi_cn.htm* (Chinese version), *The Impacts of Mapping Assessments on Population Movement and HIV Vulnerability in South East Asia http://www.hiv-development.org/publications/mapping.htm* (English version), *http://www.hiv-development.org/publications/impacts-cn.htm,* (Chinese version).

3 Information in this section is largely based on the situational analysis done by Save the Children (UK) China Programme in June 2002 for Phase 2, 2002-2004 Project Proposal submitted to UNDP South East Asia HIV and Development Programme.

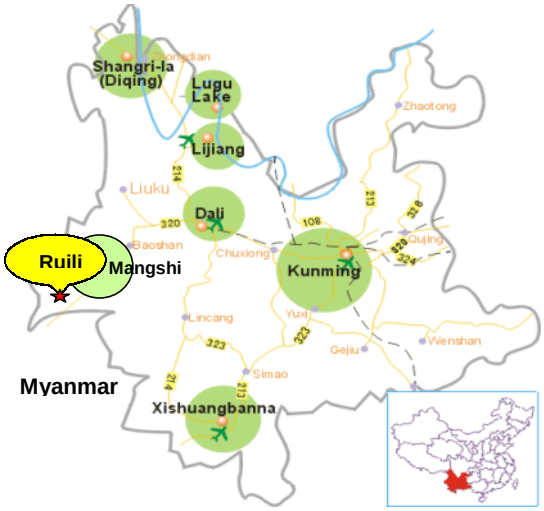
There are more than 20 ethnic groups in Ruili: mainly Dai, Lisu, Jingpo, Han Chinese and migrants from Myanmar. The population of the Ruili county in 2002 was estimated at 130,000 (see Table 1) of which approximately 50,000 were migrants. Among the migrants about 30,000 were undocumented. These undocumented migrants have little access to jobs or health services with potential implications for the HIV epidemic. Despite the growing population in Ruili, the number of migrants seems to remain stable at a level below 50,000. Consequently, the proportion of migrants diminishes overtime. This means the turnover rate of migrants and not just the total number of migrants, is increasingly important. As well, it is important to recognize the role that former migrants, who have now settled as residents, play in the HIV epidemic.

Table 1. Population of Ruili in 2002[4]

Males	Females	Total
62,978 (49%)	66,341 (51%)	129,319

There has been rapid population growth in recent years (over 8 per cent) as a result of a booming economy during the nineties, with growth eventually slowing down during the 1997 economic crisis. Ruili is being transformed from a mostly agriculture based economy (e.g. sugar cane), to one based on the service sector. Agriculture now represents only 22 per cent of the local economy, with 58 per cent being trade and tourism and the remaining 20 per cent being industry[6]. Trade with Myanmar, in goods ranging from jade to drugs, forms a major part of the economy. With the inflow of migrant workers, traders and tourists, the sex trade has grown correspondingly.

Map of Yunnan Province[5]



The authorities are aware of HIV because Ruili had one of the earliest recorded cases of HIV in China. In 2000, 1,000 out of a total of 100,000 people in Ruili were HIV positive[7]. The mobility system could, however, fuel the epidemic. Up to now, HIV has largely been associated with injecting drug use (IDU), which the authorities have taken steps to tackle. However, they now also realize that rapid economic growth, population

4 Source: Ruili Statistics Bureau

5 Source: *http://www.chinainfinity.com/webpages/provinces/yunnan/yn_maps/yunnanmap.htm*

6 Percentages based on information provided by Government officials.

7 Data from Ruili Epidemic Station

movements and sexual relations play an increasing role in the growing epidemic. There is a gradual awareness that development policies can have an impact on the epidemic. For example, the replacement of sugar cane by five other plants (bamboo shoots, coffee, dates, lime, and pomelo) is an attempt at reducing poverty in rural areas. The previous dependence on one cash crop (i.e. sugar cane) could lead to depressed prices and leave farmers impoverished. By diversifying into the other five cash crops, incomes are improved and thus the necessity to seek alternative employment by migrating out to the cities or other provinces is reduced.

III. The importance of Ruili

Ruili's importance in the HIV epidemic stems from an increase in HIV among IDUs and STI clinic clients and population dynamics taking place there. Ruili plays a *double role* in the HIV epidemic: one relates to what happens in Ruili itself, and the other, to the contribution Ruili makes to the larger HIV epidemic both in China and Myanmar. The population of Ruili is growing rapidly and is predominantly young. The booming economy triggers construction, which intensifies population movements spanning from seasonal to more permanent migrants, to domestic or international tourists and traders. According to the Ruili Statistics Bureau, tourism is an important sector which generates nearly 30 million dollars in revenue each year. In China, there are several similarly rapidly growing cities like that of Ruili. The question is: what is their collective contribution to the overall Chinese HIV epidemic? In addition, with Ruili, being a border town, its HIV epidemic may be similar to that of other rapidly growing border towns in China as well as in neighbouring countries.

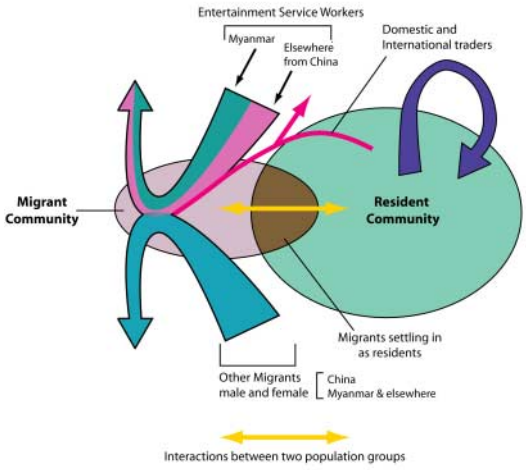
Development activities and the growing service sector shape not only the changing skyline of Ruili or its wealth, but also its HIV epidemic. The development taking place in Ruili creates jobs and other income opportunities, including a growing demand for entertainment services.

This paper focuses on identifying population flows and dynamics which could have implications for the future course of the HIV epidemic in Ruili and beyond, unless something is done to modify these dynamics. In doing so, a complex dimension of reality is revealed, showing situations which exist but often go unnoticed. This is similar to using a telescope which captures wave lengths of light otherwise not perceived by the naked eye. Although one is observing the same star, the picture of the star is modified under a telescope. For the same analogy, by reviewing population flows relevant to HIV, it enriches one's understanding of the epidemic. Such enriched knowledge creates the potential for developing more effective responses.

IV. Population movements and HIV/AIDS: the Ruili model

Diagram one is a schematic representation of Ruili's population flow. It is composed of two intersecting ovals: the right one represents local *residents*, and the left, *migrants*. The intersection between the two ovals represents the gradual settling of former migrants as they become long-term residents. The presence of a large pool of migrants contributes to population growth in Ruili. However, this pool of migrants is continuously shifting as many return home and others become integrated as residents. The overall population growth of the city, however, does not reveal the speed and degree of turnover in its migrant community. From an HIV/AIDS perspective, Ruili has the potential for sexual contacts inside and between communities which are greater than one would expect for its size. As the official HIV surveillance system is incomplete, available HIV data is an

Diagram 1. Ruili model showing population movements



By Lee-Nah Hsu and Jacques du Guerny, May 2002

underestimate of the true epidemic. It should be recognized that with such dynamic population movements, it is often difficult to obtain reliable estimates of the incidence or prevalence of HIV. However, even without such precise information, the identification of population flows can assist in introducing responsive interventions. Projects such as the *holistic community approach to HIV/AIDS in Ruili City* have created HIV awareness among non-residents by providing access to voluntary counselling and testing. Medical officers are also becoming more attuned to what is happening outside of its residential community.

The resident and migrant communities in diagram one provide a static view of interactions between the two populations. The importance to HIV/AIDS is who enters and exits a community as well as how residents and visitors interact. This diagram presents a simplification of population flows by only capturing the key aspects relevant to the epidemic. Each flow identified does not mean that the people in it form a homogeneous group. Sub groups exist. For the sake of simplicity, the diagram only shows the entertainment service workers (ESWs) subgroup. Drug users (IDUs), construction workers, etc. interact with ESWs, rural migrants or residents, as do men who have sex with men (MSM). As the focus of this paper is on population flows and their implications, the discussion will centre on identifying the opportunities for contacts provided by the mixing of populations rather than by the types of contact (e.g. needle sharing, heterosexual sex or MSM).

Several population flows identified in diagram one are briefly discussed below:

Entertainment service workers

Few entertainment service workers (ESWs) in Ruili are from the local community. Many come from Myanmar (the green part of the upper arrow) and other poor, rural areas in Yunnan as well as other provinces of China (the purple part of the upper arrow). There is a considerable amount of wealth in Ruili, and sex work can provide a way for traffickers, pimps and bar, karaoke and brothel owners to gain a share of it, using women. As previously mentioned, Ruili has several ethnic groups. Ethnic minority migrants have lower incomes and may tend to visit ESWs from Myanmar, rather than those from China, as the pricing is lower. Traders from outside and local residents tend to visit Chinese ESWs. When important deals are being negotiated, entertainment including wining, dining and sex are part of the process.

The distinction between ESWs from Myanmar and China is important. There are different durations of stay between these groups with implications for HIV incidence, prevalence

and for health services in Ruili. Chinese ESWs do not stay long in Ruili (or in other towns) as they are a mobile group with a rapid turnover rate of a few months (this is because clients prefer fresh faces among ESWs). These ESWs seldom seek HIV testing or treatment even if they need it. On the other hand, ESWs from Myanmar[8] are often trafficked to Ruili where as illegal foreigners they are vulnerable to exploitation. Some are treated as indentured labour and have their identity papers confiscated. A large share of their income is also subtracted by their owners for food and lodging. Consequently the remaining income is not sufficient to reimburse the costs of their travel to Ruili. This latter group of ESWs tends to remain in Ruili for a longer period of time because it is difficult for them to return to their places of origin. Members of this group, if infected with STIs or HIV, face considerable difficulties in accessing health services. Even if infected, most of them continue to work, usually without using condoms.

Other migrants

Ethnic minorities or Han Chinese from other provinces of China seek jobs in booming sectors of the economy, such as the construction sector or trade. Since many of them are poorly qualified, their wages are low. If male, they tend to visit cheaper ESWs from Myanmar. Female migrants who are not in the sex industry are often vulnerable to pressure or on the job sexual harassment and thus at risk of infection. Although a small number of them end up settling in Ruili, most visit their villages regularly before returning to settle back home indefinitely. If infected with HIV or STIs, they can inadvertently serve as vectors to rural areas where, contrary to some beliefs, sexual contacts are often condoned among youth. Some of the HIV vulnerability factors of these migrant workers are: their numbers, rapid turnover and sexual contacts both in Ruili and in their home villages.

Domestic and international traders

This group is singled out because they are wealthy and very mobile. The practice of conducting business deals with entertainment exposes them to ESWs. In fact, ESWs actively seek visitors and tourists in places such as hotels and guesthouses. Although these traders' stays in Ruili are usually brief, many of the traders are regular visitors of Ruili and accumulate many sexual partners over time. This group is just as likely as other groups to bring in HIV infections or STIs to Ruili, and to carry out an infection, spreading it elsewhere. However, existing HIV interventions do not capture or target them.

Residents of Ruili

Residents have contact with the migrant communities. For example, some residents also travel outside of Ruili, as traders or officials. Thus, they are also exposed to infection both inside and outside of Ruili. However, one major difference between them and the migrant groups is that they are the population under HIV surveillance and have access to health services.

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[8] ESWs from Myanmar include not only Myanmar Nationals but also South Asians who transit through Myanmar to enter into China.

V. Scenarios of HIV infection

This paper analyzes the scenarios related to contacts with mobile populations. Infections among IDUs and MSM or through hetero-sexual relationships not as part of mobile population are outside of the scope of this paper. Table 2 shows the scenario of HIV status on arrival, departure and the possibility of infection during the stay. Row one, moving horizontally, means that an ESW can arrive HIV negative in Ruili, remain negative during her stay, and leave Ruili for another town still negative. Whereas row two, moving horizontally, means she arrives negative, is infected during her stay and moves on infected.

Table 2. Scenarios of HIV Infection

	Arrival	Stay	Departure	Return
ESWs	-	-	-	
	-	++	++	
	+	+	+	
Other migrants	-	-	-	
	-	++	++	
	+	+	+	
Outside traders	-	-	-	
	-	+?	++	
	+	+	+	
Local residents		-	-	-
		+	+	+
		-	-	+

The significance of one or two "+" is due to the fact that if an ESW remains for only a few months in Ruili and gets infected during her stay, she would appear as HIV negative in a test done during the window period. However, more importantly for the epidemic, she would be particularly infectious. This is because it is now well documented that people are most infectious both immediately after sero-conversion, as well as much later when HIV progresses to AIDS[9]. In such a case, the ESW infected in Ruili would generally be more infectious than the sex worker who arrives already infected from another town. Human rights must be protected whatever group an HIV infected person may belong to. Consequently, these findings should not be used to justify repressive measures against ESWs because, as the table shows, they also apply to the *Other migrants*, the *Outside traders* and the *Local residents* categories.

What is important to note in Ruili is the combination of the high infectivity period after infection and the rapid turnover of ESWs, other migrants and outside traders. The people becoming infected in Ruili present a higher risk of infecting not only to others in Ruili, but also to others outside Ruili as they move on or return home.

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9 Myron S. Cohen, MD, and Joseph J. Eron, MD: Sexual HIV Transmission and Its Prevention, Medscape, HIV/AIDS Clinical Management Modules, June 2001.

Other migrants

Many of these people come from rural areas and, if infected, can carry the virus back to their home villages. They are more numerous cumulatively due to rapid turnover than as a proportion of the total population at any point in time. They play an important role in spreading HIV to rural populations.

Domestic and international traders

Studies on high risk groups tend to target ESWs or IDUs, but overlook traders, civil servants and officials, who are often mobile. People often assume that because this group is small and wealthy, they do not play a significant role in the HIV epidemic. There are no HIV studies on this group in Ruili and the same would probably be true elsewhere. This lack of information has resulted in a "+?" in the table. However, what is known is that many traders are regular clients of ESWs. If they do not use condoms, they can present a risk of infecting Ruili ESWs on arrival. After their departure, they could be a risk to their spouses, mistresses, or ESWs elsewhere. Ruili is a major trading center of precious stones including jade, and drugs. As traders can originate anywhere from Asia, America to Europe, these populations can serve as links between distant local epidemics, thereby contributing to the global pandemic of HIV/AIDS[10].

Permanent residents

Because of the important service economy in Ruili and the role of trade, many residents interact with outside traders on a daily basis. Such interactions may include providing entertainment, including sex. Many residents are themselves involved in trade and travel outside of Ruili on business. They are also at risk of becoming infected, while away from home as well as within Ruili.

Emerging from the discussions, the dynamics in Ruili can be summarized as follows:

- The HIV situation in Ruili is difficult to ascertain because surveillance of mobile people is complex and costly. Consequently, the HIV situation of more than a third of the population is unknown; and
- Policies and programmes based on a surveillance system which focuses mainly on official residents have a limited effectiveness.

Until now, the focus has been on the interactions which can happen because of population flows *inside* Ruili. Considering, for example, the role of outside traders, should there not be concern over the role that Ruili might play in the HIV epidemic in China and elsewhere?

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[10] This could facilitate the emergence of new strains of HIV.

VI. The Ruili model: a partial system

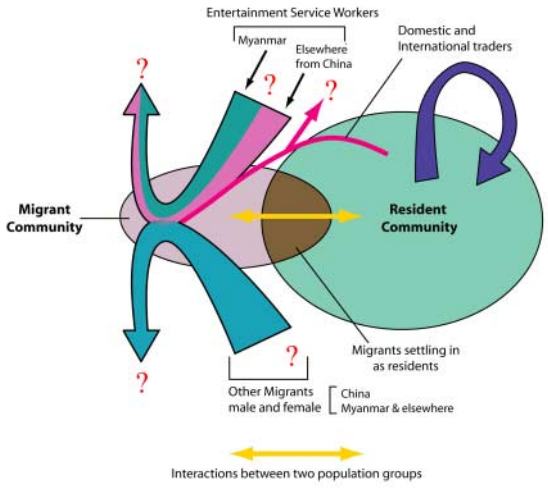
In diagram one, the flows of people were represented by arrows entering and leaving Ruili. The questions are:

- How is the Ruili epidemic linked to other parts of China, Myanmar and other countries? and
- What role does Ruili play in the dynamics of a larger system of HIV diffusion?

Information to answer these questions was not available in Ruili. Consequently only some conjectures can be made at this stage as shown by the revised diagram one model, presented in diagram two. The differences between the two diagrams are the question marks located at the points of origin of the various flows, their transit points and final points of destination.

Besides its role as the interface between flows of people, Ruili also acts as a pump fuelled by its economic growth, attracting and redistributing people inside China, Myanmar and elsewhere. However, the information to design the larger system, of which Ruili is a component, was not available to map the connections between these people and other provinces, counties, towns or villages. This is not an impossible task, but requires a survey. It is highly probable that Ruili is either a node or a hub in an existing but currently unknown mobility system[11].

Diagram 2. Is Ruili a node or a hub in a larger system?



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To understand the dynamics of the spread of HIV, it is important to map the entire mobility system which includes large parts of China, Myanmar and elsewhere for designing measures to reduce the present and future effectiveness in the spread of HIV by the system of population movement.

Finding out whether Ruili functions in the regional epidemics as a node or a hub is not only of academic interest. Ruili is both a force in HIV infection and an

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[11] See for example a discussion of a hub: *From AIDS Epidemics to an AIDS Pandemic: Is an HIV/AIDS Hub Building in South East Asia?* (August 2000) *http://www.hiv-development.org/publications/Epidemics%20Pandemic.htm* (English version), *http://www.hiv-development.org/publications/Hub_cn.htm* (Chinese version).

efficient pump for population movements. Depending on the configuration of the system which Ruili is a part of, there can be other cities functioning like Ruili as nodes connected to major hubs. Alternatively, Ruili might have already become an epidemic hub. This distinction in scale between a node versus a hub has serious implications for both health and development strategies against HIV/AIDS *in* and *outside of* Ruili. For example, it could influence decisions in the allocation of resources and in tailoring measures to the nature of this location.

One of the difficulties faced by government strategies aimed at controlling HIV/AIDS is that they have a tendency to function according to administrative, sectoral and territorial divisions. The consequence is that each administrative office does not look beyond its narrow jurisdictions and areas of responsibility. As in the case of Ruili, the role of population movements in HIV epidemics falls largely outside of the purview of administrations. This is true also for other cities, whether inside China, in other South East Asian countries, or elsewhere in other regions of the world.

Lessons from the Ruili model

Due to various constraints, present government institutions do not deal with the full scope of the epidemic nor the dynamics fuelled by population movements. For the same reasons, it is difficult to organize coordinated, multisector responses which cut across institutional, administrative and geographic divisions. Consequently, the responses to the HIV epidemic tend to be superficial, in the real spatial meaning of the word and not as a judgement, as they react to symptoms and do not tackle relevant factors in population movements. To have effective responses, one needs to take into account population movements and also reconsider the development activities which underpin these movements. Therefore, population movements and related development factors represent two additional levels of concern beyond the health policies and programmes normally used to deal with the HIV epidemics.

VII. Issues to consider

The issues raised until now have been directly related to the findings in Ruili. These issues are already difficult to tackle, so why look further for others? The reason is when one takes a bird's eye view of the situation, more issues emerge which are worth flagging due to their implications for policies and programmes and particularly for the epidemics.

One needs to recognize the complexity of HIV epidemics and devise strategies which respond to this complexity rather than attempting short cuts and technical fixes. As the Ruili case demonstrates, HIV epidemics operate simultaneously at different levels and across space. This is why many dimensions of the epidemic escape often limited or superficial observations. Addressing only the easily visible aspects of the epidemic is

bound to result in limited impact and sustainability. For example, information, education and communication (IEC) are useful only as a reinforcing instrument built into both a health *and* a development strategy, but not as a substantive strategy *per se*.

The HIV epidemics form continually evolving systems shaped in part by natural events (e.g. a drought), but mostly by human interventions: destructive ones such as wars or corruption, and constructive ones such as road building. The challenge is in the way that human societies function and develop. When economic differences are considerable between groups, when institutions do not control, mitigate and sanction abuses of power, when opportunities are few for children and the poor, sex becomes a currency and a commodity for trade between groups. Sex is a recognized dimension of the HIV epidemic addressed by most HIV programmes, yet in most cases, the programmes need to be supplemented by mobility considerations, through which different epidemics converge and diverge.

Strategies to respond to HIV epidemics which address mobility systems are still in their infancy, given the challenge of the task at hand. Most efforts focus on providing IEC to migrants: this is useful, but insufficient because the vulnerabilities linked to mobility systems often make it difficult or impossible for migrants and their contacts, in sending, transit and receiving areas, to translate this knowledge into practice. What most HIV responses lack is addressing the conditions under which population movements take place: sex cannot be isolated from other issues which are important to migrants such as housing, access to jobs, skills or income. The migrant is only one element of the mobility system, others include: the family left behind in the sending villages, the interface with the transport sector (including trafficking and transit points), the interface with intermediaries (in finding jobs), employers in the receiving communities, and the interface with the home community on return. These all provide opportunities for sex. This is why identifying the major traits of the mobility system linking Ruili to other towns and communities is important. Taking actions in Ruili alone is not sufficient for controlling the spread of HIV in Ruili, elsewhere in China, in Myanmar and other countries.

Mobility systems are shaped by development forces and disparities between areas and groups. Addressing these forces, to reduce vulnerabilities and build resilience have been reflected in a number of papers published on *www.hiv-development.org* and thus are not elaborated here[12].

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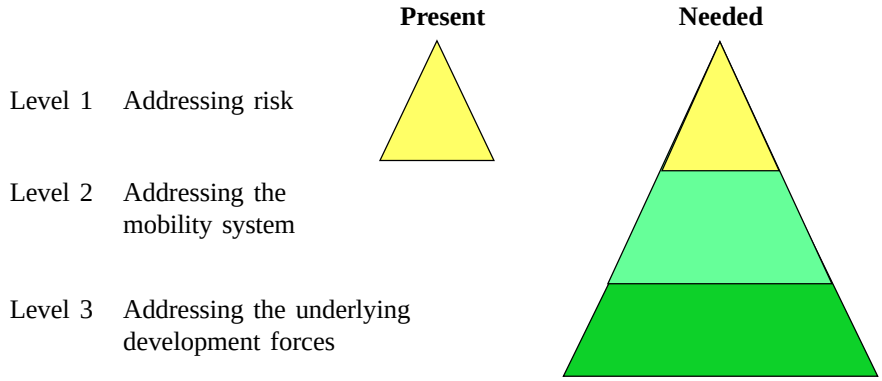
[12] See for example: *Communities Facing the HIV/AIDS Challenge : From Crisis to Opportunities, From Community Vulnerability to Community Resilience* (July 2002) *http://www.hiv-development.org/publications/Crisis.htm* (English version), *http://www.hiv-development.org/publications/Crisis_cn.htm* (Chinese version); *A Development Strategy to Empower Rural Farmers and Prevent HIV*, (January 2002) *http://www.hiv-development.org/publications/HESA.htm* (English version), *http://www.hiv-development.org/publications/HESA_cn.htm* (Chinese version).

If actions at the superficial level are not enough to stop the epidemic, are there alternative responses which do not require the underlying mobility and development levels to be addressed i.e. levels two and three in diagram three? Probably not. What is needed is rethinking the structure of HIV strategies as shown in diagram three. This requires both thinking and debate on one hand, and working out feasible strategies for the levels two and three, on the other, because uncharted territory is being entered.

In practice, one needs to identify the mobility system in as simple a manner as possible, see diagram four. The information necessary to construct a diagram which reflects the complete situation is unavailable. Ruili can be thought of as being connected to nodes and hubs inside and outside of Myanmar and China. Once the important hubs and nodes have been identified, the AIDS authorities in these key locations need to collaborate in order to connect their local strategies to their national ones, thus reinforcing each other by addressing level two, the mobility system, shown in diagram three.

Diagram 3. Present versus necessary structures of HIV strategies



AIDS authorities also must find ways of addressing development forces (level three) which influence the mobility system. As mentioned before this has been discussed in other papers, such as bringing in the transport and agriculture sectors to reduce vulnerabilities and increase resilience to HIV[13].

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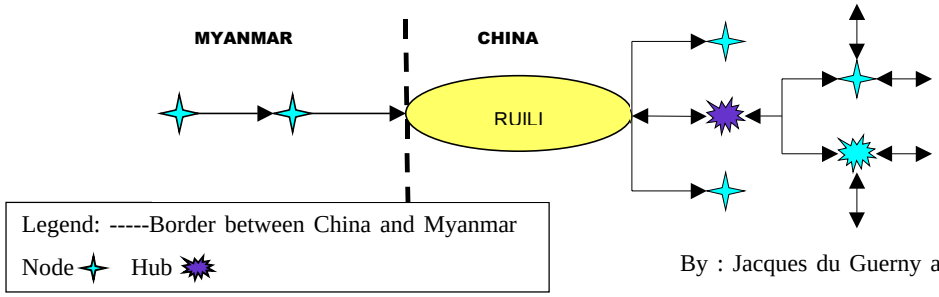
[13] See for example: *Meeting the HIV/AIDS Challenge to Food Security : the role of labour saving technologies* (December 2002) http://www.hiv-development.org/publications/meeting-challenge.htm (English version), *http://www.hiv-development.org/publications/meeting-challenge_cn.htm* (Chinese version); also consult the FAO website: http://www.fao.org/sd/eims_search/webpage_result.asp? *agrovoc=9000077 &category= 24&lang=en;* In addition see *Land Transport and HIV Vulnerability: a Development Challenge* (April 2001) *http://www.development.org/publications/development-challenge.htm*_(English version), *http://www.hiv-development.org/publications/development-challenge%20Ch.htm*_(Chinese version); *Building an Alliance with the Transport Sector in HIV Vulnerability Reduction* (March 2001) *http://www.hiv-development.org/ pulications/Building.htm* (English version), *http://www.hiv-development.org/publications/building% 20Ch.htm* (Chinese version).

It is important to be pragmatic and not to take on more than one can chew. Authorities in Ruili would need to expand HIV/AIDS strategies starting where it is most feasible in a step by step process, as suggested in table three. The objective is not to intervene in every cell of the matrix, but to expand the existing interventions beyond the first one as the capacity to do so is built.

Diagram 4. Illustration of Ruili connections



VIII. Conclusions

At first glance, Ruili appears to be a rather straightforward case of an HIV epidemic driven by drugs and entertainment services. However, when population movements are identified and considered, the HIV epidemic reveals an increasing complexity beyond the capability of the health sector acting alone. Effective HIV/AIDS programmes in Ruili must account for the role of population movements and underlying development factors that shape the epidemics and influence their future course.

Table 3. Addressing levels of complexity in the HIV epidemic

	Level 1 Health	**Level 2 Mobility system**	**Level 3 Development**
Ruili	Cover all key population groups, both residents and non residents.	Establish contacts with migrants.	Coordinate and plan with development sectors.
Outside Ruili	Coordinate with sending and receiving communities.	Identify key nodes and hubs of the system.	Build community resilience.

Appropriate responses are not obvious due to the lack of precedents, thus strategies must be innovative. In any case, responses require that Ruili AIDS authorities build partnerships in and outside of Ruili. There are already a number of early warning signals which indicate that the epidemics could spread further inside Ruili, through the city and beyond.

- *Dealing with complexity over* **space**. The AIDS authorities in Ruili must coordinate their interventions with those outside of Ruili, by focusing on major links to other nodes or hubs in China, Myanmar and perhaps other countries.

- *Dealing with complexity over* **time**. As the population and economy of Ruili continue to grow, strategies need to respond to changes which have impact on the course of the epidemic. This requires planning beyond short term strategies and anticipation of possible future scenarios of the epidemic with long term responses.
- *Dealing with the* **structural** *complexity of the HIV epidemic*. Behaviour changes within a health strategy need to be complemented by strategies aiming at the underlying structures and dynamics that influence behaviour, the mobility system and development factors. For example, difficulties encountered by rural communities in the traditional agriculture sector would trigger mobility when development elsewhere attracts migrants.
- *Dealing with the* **institutional** *complexity*. The present health and surveillance systems have difficulties in approaching the HIV/AIDS epidemic in its totality and complexity. Building appropriate responses requires cooperation among institutions from different sectors as well as overcoming institutional constraints and barriers in order to achieve such goals.

Dealing with these spatial, temporal, structural and institutional complexities is certainly an unwelcome challenge. However the costs of ignoring this challenge are considerable, as they would certainly outweigh the cost of facing the challenge. Responding to and facing the challenge requires introducing human development into development strategies, which at present tend to focus primarily on economic growth rather than social and human development.

United Nations Development Programme

South East Asia
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Publications List

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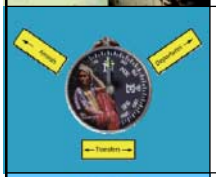
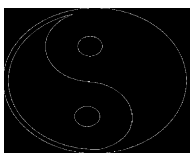
	From Early Warning to Development Sector Responses against HIV/AIDS Epidemics http://www.hiv-development.org/publications/EWDSR.htm *Language: English, Chinese*	974-91330-6-4 May 2003
	Multisectoral Responses to Mobile Populations' HIV Vulnerability: examples from People's Republic of China, Thailand and Viet Nam http://www.hiv-development.org/publications/Multisectoral.htm	974-91165-8-5 February 2003
	Meeting the HIV/AIDS Challenge to Food Security: the role of labour saving technologies in farm-households http://www.hiv-development.org/publications/meeting-challenge.htm *Language: English, Chinese*	974-680-220-8 December 2002
	Brunei, Indonesia, Malaysia, Philippines, Singapore cluster country consultation on migrant workers' HIV vulnerability reduction: Pre-departure, post-arrival and returnee reintegration http://www.hiv-development.org/publications/BIMPS-Report.htm *Language: English, Chinese*	974-680-221-6 September 2002
	Indigenous South East Asian Herbal Remedies: Symptomatic relief for People Living with HIV/AIDS http://www.hiv-development.org/publications/Herbs.htm	974-680-212-7 August 2002
	Communities Facing the HIV/AIDS Challenge: From Crisis to Opportunities, From Community Vulnerability to Community Resilience Authors: Lee-Nah Hsu, Jacques du Guerny, and Marissa Marco http://www.hiv-development.org/publications/Crisis.htm *Language: English, Chinese*	974-680-217-8 July 2002
	Introducing Governance into HIV/AIDS Programmes: People's Republic of China, Lao PDR, and Viet Nam Authors: Jacques du Guerny, Lee-Nah Hsu, et al. http://www.hiv-development.org/publications/introducing-Governance.htm *Language: English, Chinese, Vietnamese*	974-680-195-3 June 2002
	Towards Borderless Strategies Against HIV/AIDS Authors: Jacques du Guerny and Lee-Nah Hsu http://www.hiv-development.org/publications/Borderless-Strategies.htm *Language: English, Chinese, Vietnamese*	974-680-211-9 May 2002

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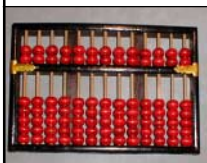
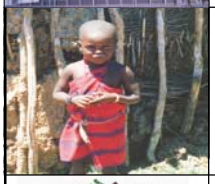
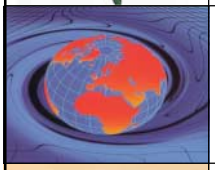
	The Potential Costs and Benefits of Responding to the Mobility Aspect of the HIV Epidemic in South East Asia: A conceptual framework* http://www.hiv-development.org/publications/economics.htm *Language: English, Chinese, Vietnamese*	974-680-206-2 April 2002
	Mobile Populations and HIV Vulnerability: Selected Responses in South East Asia http://www.hiv-development.org/publications/Responses.htm *Language: English, Chinese, Khmer, Lao, Thai, Vietnamese*	974-680-250-4 March 2002
	Agriculture and HIV/AIDS* Author: Jacques du Guerny http://www.hiv-development.org/publications/Agriculture.htm *Language: English, Chinese, Khmer, Lao, Thai, Vietnamese*	974-680-204-6 February 2002
	A Development Strategy to Empower Rural Farmers and Prevent HIV* Authors: Jacques du Guerny, Lee-Nah Hsu and Sin Chhitna http://www.hiv-development.org/publications/HESA.htm *Language: English, Chinese, Khmer, Burmese, Lao, Thai, Vietnamese*	974-680-200-3 January 2002
	Mobile Populations and HIV Vulnerability: Inventory of Organizations* http://www.hiv-development.org/publications/Inventory.htm	974-680-198-8 December 2001
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	HIV Policy Formulation and Strategic Planning: For the Communication, Transportation, Post, Construction and Tourism sectors, Lao People's Democratic Republic http://www.hiv-development.org/publications/land-transport-Lao.htm *Language: English, Lao*	974-680-184-8 October 2001
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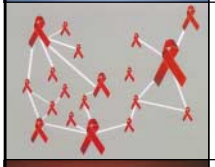	The Impacts of Mapping Assessments on Population Movement and HIV Vulnerability in South East Asia* http://www.hiv-development.org/publications/mapping.htm *Language: English, Chinese*	974-680-193-7 September 2001
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	People's Development: A Community Governance Tool* Author: Seri Phongphit http://www.hiv-development.org/publications/People-Development.htm *Language: English, Chinese, Vietnamese*	974-680-187-2 July 2001
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	Mae Chan Workshop on Integrated Community Mobilization towards Effective Multi-Sectoral HIV/AIDS Prevention and Care* Author: Victoria Hollertz http://www.hiv-development.org/publications/Mae-Chan-Workshop.htm	974-680-182-1 May 2001
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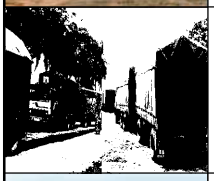	Building an Alliance with Transport Sector in HIV Vulnerability Reduction Author: Lee-Nah Hsu http://www.hiv-development.org/publications/Building.htm *Language: English, Chinese, Lao, Vietnamese*	974-680-180-5 March 2001
	New Challenges and Opportunities? Communication for HIV and Development Authors: Jacques du Guerny and Lee-Nah Hsu http://www.hiv-development.org/publications/Challenges.htm	974-680-179-1 February 2001
	Our Families, Our Friends: An Action Guide – Mobilize Your Community for HIV/AIDS Prevention and Care http://www.hiv-development.org/publications/ActionGuide.htm *Language: English, Burmese, Chinese, Khmer, Lao, Vietnamese*	974-87865-7-9 January 2001
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	HIV Vulnerability Mapping: High Way One, Viet Nam* http://www.hiv-development.org/publications/Vietnam-highwayOne.htm *Language: English,Vietnamese*	974-680176-7 October 2000
	Indonesian Overseas Contract Workers' HIV Knowledge: A Gap in Information* http://www.hiv-development.org/publications/Contract%20Workers.htm	974-680173-2 September 2000
	From AIDS Epidemics to an AIDS Pandemic: Is an HIV/AIDS Hub Building in South East Asia?* Authors: Jacques du Guerny, James R. Chamberlain, Lee-Nah Hsu http://www.hiv-development.org/publications/Epidemics%20Pandemic.htm *Language: English, Chinese, Khmer, Thai, Vietnamese*	974-680172-4 August 2000
	Early Warning Rapid Response System: HIV Vulnerability Caused by Mobility Related to Development* http://www.hiv-development.org/publications/ewrs.htm *Language: English, Chinese, Khmer, Thai, Vietnamese*	974-680169-4 July 2000
	ASEAN Workshop on Population Movement and HIV Vulnerability* http://www.hiv-development.org/publications/ASEAN_workshop.htm	974-876378-1 June 2000
	Reduction of HIV Vulnerability within the Land Transport Sector: Towards a Public Policy Framework for Addressing HIV/AIDS in the Transport Sector* http://www.hiv-development.org/publications/land-transport.htm *Language: English, Khmer*	974-685008-3 May 2000
	Population Mobility in Asia: Implications for HIV/AIDS Action Programme* http://www.hiv-development.org/publications/mobility-action-programmes.htm	974-858353-8 April 2000
	HIV Vulnerability and Population Mobility in the Northern Provinces of the Lao People's Democratic Republic* Author: James R. Chamberlain http://www.hiv-development.org/publications/Vulnerability-Lao.htm	974-859138-7 March 2000
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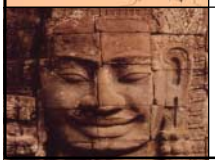	Cambodia HIV Vulnerability Mapping: Highway One and Five* http://www.hiv-development.org/publications/cambodia_mapping.htm	974-680167-8 January 2000

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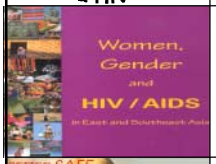
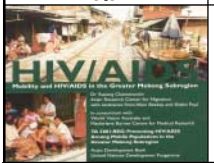
Other Publications

COVER	TITLE	ISBN DATE
	UNESCAP/UNDP-SEAHIV/UNAIDS/SMA HIV/AIDS: Be Safe Not Sorry MOBILISING A RESPONSE TO HIV/AIDS IN THE MARITIME INDUSTRY	July 2002
	ADB/UNDP-SEAHIV/WVI/Burnet Institute: Toolkit for HIV prevention among mobile populations in the Greater Mekong Sub-region http://www.hiv-development.org/publications/Tool-Kit.htm *Language: English, Burmese, Khmer, Lao, Vietnamese*	1-875140-52-2 2002
	Independent External Review of UN Regional Taskforce on Mobile Population and HIV Vulnerability http://www.hiv-development.org/task/sea_task_force.asp	December 2001
	Strategy on Mobility and HIV Vulnerability Reduction in the Greater Mekong Subregion 2002-2004 http://www.hiv-development.org/publications/Strategy.htm *Language: English, Burmese, Chinese, Khmer, Lao, Thai, Vietnamese*	September 2001
	UNDP-FAO Mobilization and Empowerment of Rural Communities along the Asian Highway (Route 5) in Cambodia to Reduce HIV Vulnerability. Review Mission of Project Author: Jacques du Guerny http://www.hiv-development.org/publications/review-route5.htm	March 2001
	UNIFEM/UNAIDS/UNDP-SEAHIV Information Kit on Women, Gender and HIV/AIDS in East and South East Asia	January – March 2001
	Better Safe Than Sorry: Preventing HIV/AIDS among mobile populations in the Greater Mekong Subregion *3 different CDs in Laotian, Vietnamese, Chinese*	2001
	Fact Sheet on Mobilizing Maritime Industry for HIV prevention: UNDP, UNESCAP, UNAIDS and CIDA	March 2001
	ADB/UNDP/WVI/ARCM: Mobility and HIV/AIDS in the Greater Mekong Subregion	1-875140-48-4 December 2000
	ADB/UNDP/WVI: Preventing HIV/AIDS Among Mobile Populations in the Greater Mekong Subregion: Fact Sheet	October 2000

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	Regional Summit on Pre Departure Post Arrival and Reintegration Programmes for Migrant Workers	983-40375-1-1 September 2000
	ADB/UNDP/WVI: Preventing HIV/AIDS Among Mobile Populations in GMS: Inception Report	—
	UNDP-FAO Mobilization and Empowerment of Rural Communities along the Asian Highway (Route 5) in Cambodia to reduce HIV Vulnerability. Progress Report	—
	UNDP-FAO: Mobilization and Empowerment of Rural Communities along the Asian Highway (Route 5) in Cambodia to reduce HIV Vulnerability. Fact Sheet *Language: Khmer*	—
	CIPY Heritage: Educational Video CD Drama on AIDS *Original in Khmer with English subtitle*	November 1999

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