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## **PREFACE**

The HIV epidemic is, unfortunately, likely to continue to spread for the foreseeable future. It is now acknowledged that HIV-AIDS is not simply a health problem *per se* but an epidemic that changes the development prospects of diverse countries. In order to arrest the impact of the disease on individuals, households, the productive sector and governments, more integrated and collaborative, pro-active efforts are needed.

UNDP believes that all sectors – all individuals, groups, and institutions – in society have a role to play in creating an effective response to HIV. If sectors or institutions have not yet become active in the response, this may, in large part, be due to the absence of a methodology (or tool) that appropriately address the concerns and daily work of groups in that sector. In this context, the Asia Pacific regional HIV programme of UNDP began discussions with a talented group of individuals and institutions in the region in 1999 to develop a practical tool for use by development project planners and investors as part of their decision making process *prior* to project approval. It was decided that a tool similar to Environmental Impact Assessment was lacking in the response to HIV and AIDS and that its creation would stimulate effective involvement of institutions and groups hitherto only marginally involved. The result has been the initial formulation of such an HIV Impact Assessment (HIA) methodology.

The aim of this first version of HIA is not to outline solutions but rather to stimulate the processes of reflection and discussion essential for change of perspective. With further feedback, research and pilot-testing, currently planned, the HIA tool will increasingly assist analyzing, prior to project approval and implementation, the impact of activities, projects, programmes on the spread of the virus.

The UNDP Asia-Pacific regional HIV and development programme welcomes reproduction of this publication, in whole or in part. We will be grateful for acknowledgement as well as for comments and feedback. Future refinements of the tool will be based on empirical evidence, pilot testing as well as feedback and suggestions from experts/colleagues and friends.

There is a sense of urgency associated with this epidemic, which will, if not halted, reverse years of global development efforts. There is a need to find effective, sustainable and compassionate ways of including everyone in the response. We hope this publication contributes to the quest.

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## I. Introduction

The Regional Bureau for Asia and the Pacific of the United Nations Development Programme (UNDP) initiated efforts with the AIDS Action and Research Group (AARG), Universiti Sains Malaysia (Penang, Malaysia) to develop a tool to analyze the impact of major development projects on the HIV/AIDS epidemic. The goal is to produce an effective tool that is readily adaptable to varying national contexts, which can be used by policy and decision-makers.

This initiative was based on the need to integrate HIV/AIDS issues into development policy, planning and programme implementation. The **HIV Impact Assessment (HIA)** will help project designers to take into account the potential impact that a given development project might have on the spread of HIV. It will also raise awareness of HIV/AIDS and minimize the unintended impact a development project that might have on the transmission of HIV. It is hoped that the HIA will play a role in mitigating the impact of a project on the HIV/AIDS epidemic in much the same manner as the Environmental Impact Assessment (EIA) has had in minimizing the negative effects of projects on the environment. The methodological approach of the HIA draws extensively from relevant socio-economic methodologies including social cost/benefit analysis.

To ensure that the HIA has the widest applicability, expertise in the Asia Pacific region was also sought. AARG and UNDP in Kuala Lumpur identified three partner institutions to help develop the HIA: The International Institute for Population Sciences, Deemed University, Mumbai (India), the University of the South Pacific (Fiji), and the Institute of Population and Social Research, Mahidol University (Thailand).

## II. Background

The HIV virus continues to spread at an alarming rate of approximately 16,000 new infections per day worldwide. By the end of 1999, about 33.6 million people (32.4 million adults and 1.2 million children) have been infected with HIV virus since the beginning of the pandemic in the early 1980s (AIDS Epidemic Update, UNAIDS/WHO, 1999).

UNDP's involvement with the epidemic dates back to 1987 when it began receiving requests from governments to support HIV/AIDS and development programmes. UNDP's approach focuses on the strengthening of existing mechanisms and the coordination of technical cooperation and capacity development at the national and regional level.

Recognizing the fact that the HIV/AIDS epidemic has its foundation in the structural characteristics of economies, societies and development at large, UNDP has stressed that in order to be effective, policy and programmes on HIV/AIDS must go beyond the public health sector. A multi-dimensional and multi-

sectorial approach must therefore be taken. As a new challenge, the UNDP Asia Pacific regional programme aims to develop an analytical tool for the appraisal of the impact of various development projects, programmes and policies on the HIV/AIDS pandemic.

### **III. Rationale**

HIV/AIDS is a disease that has major consequences not only for the individual, community and society, but also for the economy as a whole. According to Cohen (1992:2)<sup>1</sup>, the relationship between the economy and HIV is a two-way relationship: "HIV affects the economy and the economic system affects the level and distribution of HIV".

Previous studies have attempted to identify the social and economic costs of HIV/AIDS on the economy as a whole, specific sectors as well as households (for example, Barnett & Whiteside, 1999; Bloom and Lyons, 1993; Bloom & Mahal, 1997; Godwin, 1997; Lim, 1993 and Panos Institute, 1992). Generally these studies have assessed the social and economic costs of HIV/AIDS projects *after* the impact has been felt. However, there is a need for policy and decision-makers to anticipate potential quantifiable and non-quantifiable social and economic costs of HIV/AIDS in development planning. Therefore, the uniqueness of this initiative to develop the HIA is that it integrates HIV/AIDS issues into development planning, design and policy *prior* to project implementation. Such an approach to evaluating the impact of HIV/AIDS has largely been ignored in the past.

More specifically, development projects frequently do not recognize the consequences of substantial population movements and their impact on the HIV/AIDS pandemic<sup>2</sup>. For instance, the construction of a dam will displace people from the project area (outmovers) and also attract others (inmovers) from surrounding areas into the project area, both during and after the project. At the same time, there will be people (transients), moving in and out of the project site. This confluence of different groups of people from various locations may create an environment conducive for high risk behavior and aggravate the HIV/AIDS epidemic. Thus, the project may directly and indirectly lead to the spread of the epidemic with quantifiable and non-quantifiable cost implications.

Based on existing knowledge regarding risk behavior, risk environment and interventions related to the spread of HIV/AIDS, the HIA attempts to compute the additional cost attributable to a project that aggravates the HIV/AIDS epidemic. It is an attempt to anticipate risks and identify intervention strategies of HIV/AIDS prevention in development projects.

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<sup>1</sup> Desmond Cohen, the former Director of UNDP's HIV and Development Programme, New York.

<sup>2</sup> According to Cohen (1992:2-3), poverty and poor economic prospects are often key variables in the decision to migrate. There is a strong positive relationship between migrant labor flows and the spread of HIV. "This in part reflects the younger age of migrant populations and the fact that there are both female and male specific migrations. It also reflects the relaxation of social norms and the new and often risk behaviors adopted by migrants."

## **IV. Objectives**

The major objectives of the **HIA** are as follows:

### **(i) General Objectives:**

1. To provide a framework to assess the potential social and economic costs related to HIV/AIDS prior to implementation of development projects.
2. To provide policy and decision-makers with a basis to evaluate and select possible alternatives that would minimize the impact of development projects on the spread of HIV/AIDS.
3. To integrate HIV/AIDS issues into development policy planning.

### **(ii) Specific Objectives:**

1. To create awareness of the social and economic cost of HIV/AIDS resulting from development projects prior to their implementation.
2. To increase awareness of the anticipated risks and help plan preventive intervention strategies.
3. To encourage project sponsors to share the responsibility of prevention and reduction of the spread HIV.

## **V. The HIA Conceptual Model**

### **(i) Population Movement**

It is important to note that development projects that induce population movements have the potential to spread HIV. This arises from two inter-related consequences of a project.

First, such a project brings into contact different groups of people thereby increasing the risk of contracting and/or transmitting the virus. For example, any large-scale project is likely to attract people in the construction and post-project phases, and at the same time displace others from the project area. This project induced inmovement and outmovement of people can either introduce the epidemic into the project area and beyond, or aggravate the existing epidemic

within and beyond the project area. The case of the Volta River dam in Ghana provides an excellent example of how a large project contributed to the aggravation of the HIV epidemic through labor displacement and migration.<sup>3</sup>

Second, a project may generate an environment conducive to high risk behavior associated with the contraction and/or transmission of HIV. To illustrate, workers involved in the construction phase of a large project may be drawn from beyond the project area. These workers are usually males, separated from their families and with ready cash to spend. This may encourage them to indulge in unsafe commercial and casual sex, which increases the risk of contracting or transmitting the HIV virus. It also puts their spouses and unborn children at risk.

A development project's potential impact on the HIV/AIDS epidemic can be understood by conceptualizing the major population movements induced by the project. As shown in **Figure 1**, a project is likely to create interaction amongst the following five groups of people: stayers, in-movers, out-movers, transients and other communities.

1. **Stayers** are the original residents of the project area who continue to reside in the area throughout the duration of the project and in the post-project period.
2. **In-movers** are people, including workers (outsiders) who move into the project area and those who remain during the post-project period. They also include people who have been drawn to the project area by economic or other factors during and after the project<sup>4</sup>.
3. **Out-movers** are people who are either displaced by the project or who have moved out voluntarily.

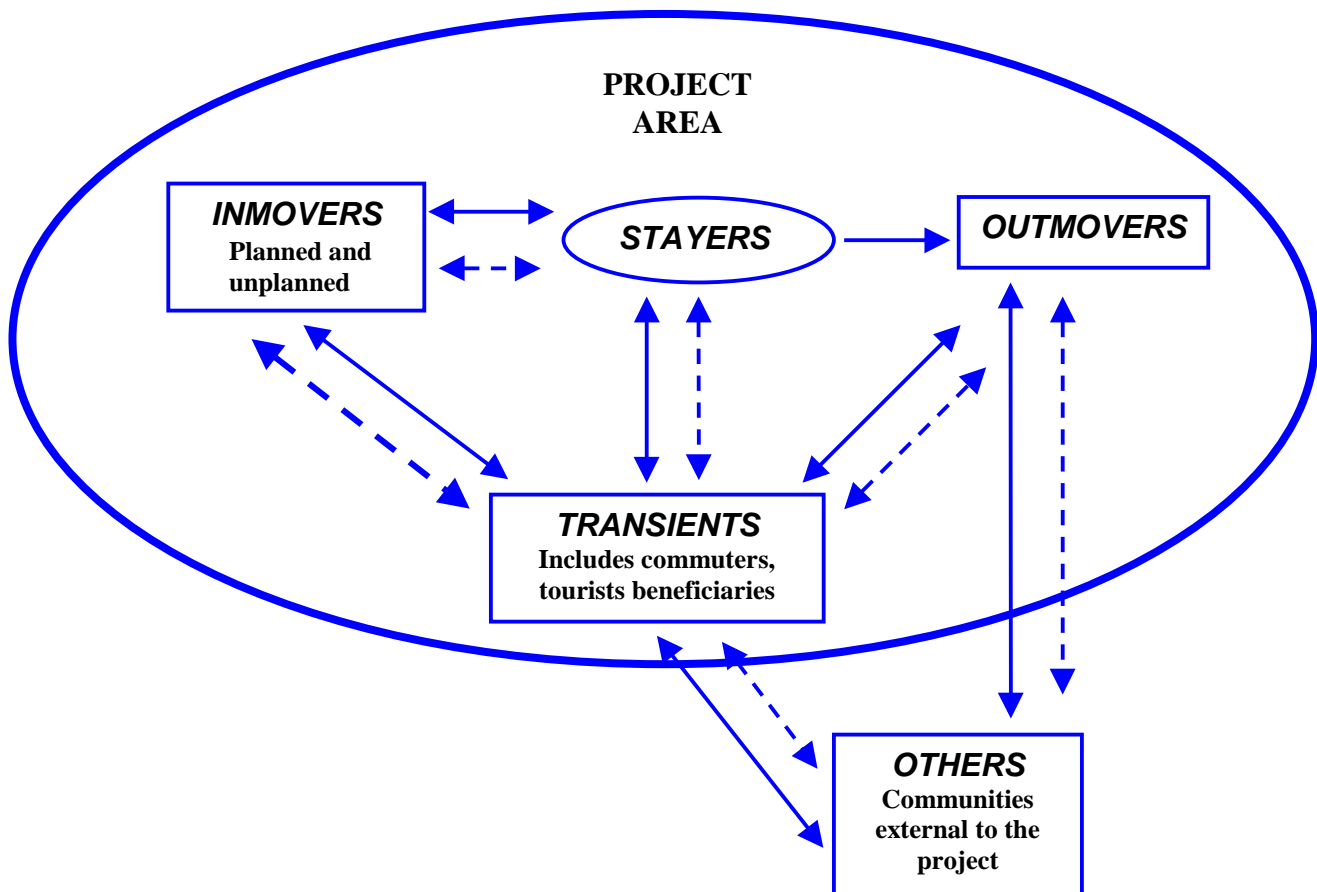
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<sup>3</sup> Initiated in the 1960s, the project flooded an area of 8,500 square kilometers and displaced 80,000 inhabitants, largely drawn from the Krobo ethnic group. Being farmers, the Krobo lost much of their land. Many women who lost their land sought work in hotels and drinking outlets that mushroomed in nearby towns to serve construction workers. Prostitution was only a short step away. When the main construction force left after five years, the women took their trade to Accra, Kumasi and then throughout West Africa. A government HIV survey in 1995 showed that Agomanya, a town just a few kilometers from the Volta river dam, had the highest rates of infection of all the eight surveillance sites studied. HIV infection among pregnant women here was five to ten times more common than in the rest of the country (Summarized from Decosas, 1996).

<sup>4</sup> Post project population in-movement could be planned (as in the case of the relocation of a given population to a new township), or unplanned as in the movement of people in search of new opportunities).

4. **Transients** consist of two groups of people: The first group consist of people who are directly or indirectly involved in the project, including those who move in and out of the project area as well as those who stay only during the duration of the project. This covers certain groups of workers involved directly in the project, and others supplying auxiliary services (like raw material transporters, vendors of temporary services and commercial and non-commercial sex workers). The second group is beneficiaries of the project who do not reside permanently in the project area. For example, tourists visiting a newly developed tourist area or users of a newly completed highway would fall into this second category of transients.
5. **Other Communities** would include communities external to the project that interact with outmovers or transients from the project area.

**Figure 1: Population Movements and Potential HIV Transmission associated with Development Projects.**





**NOTE:**

**←————→**      **Points of contracting and/or transmitting HIV.**

**← - - - - - →**      **Points to prevent or minimize transmission of HIV.**

**Figure 1** illustrates how contact between the five groups (stayers, inmovers, outmovers, transients and other communities) increases the risk of contracting and transmitting the virus. The bold lines show potential points and directions of virus contraction and/or transmission, with the arrow heads suggesting the direction of contracting and/or transmitting. Thus outmovers, being drawn from among the original population in the project area, carry the risk of contracting and/or transmitting HIV out of the project area to other communities (indicated by the bold line with a single arrow head pointing away from the project area). Meanwhile, inmovers not only bring the risk of contracting and/or transmitting to the project area, but also face the risk of contracting and/or transmitting from the project area.

**Interactions between inmovers, stayers and transients have the potential to increase the risk of contracting and/or transmitting of the virus among one another. Transients and outmovers, however, have a further potential to contract and/or transmit the virus to other communities external to the project.**

**(ii) Risk Environment and Risk Behavior**

The socio cultural and economic as well as demographic changes associated with population mobility into and out of a project area will determine the risk environment related to HIV/AIDS in the communities associated by the project. Within this context, attitudes, values, knowledge and practices affecting safer sex, injecting drug use (IDU) and other types of substance abuse, sexual health and the management of blood and blood products will determine the extent of risk in terms of susceptibility<sup>5</sup> and vulnerability<sup>6</sup> which have long and short term impact for the HIV/AIDS epidemic associated with the development project. Assessing the HIV/AIDS impact of these changes takes into account the increase

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<sup>5</sup> Susceptibility refers to factors that can determine the rate at which the pandemic is propagated and maybe considered in part as describing the riskiness of the environment. Such factors may be physical (in the case of development of a new road), environmental (as in a drought which results in unusual population movements), cultural (a particular sexual practice of belief), economic (increased unequal distribution of income), or social (the operation of labor and associated housing markets in urban areas) [Barnett and Whiteside, 1999: 57].

<sup>6</sup> Vulnerability may overlap with susceptibility and describes those features of social or economic entity which make it more or less likely that excess morbidity and mortality associated with the disease will have deleterious impacts upon that unit. An important component of this concept is that of the medium and long-term impact of death and illness on social and economic life (Barnett and Whiteside, 1999:57).

risk environment and potential high risk behavior associated with the spread of the epidemic in the project area and beyond.

### **(a) Risk Environment**

Risk environment is an environment in which the chances of disease transmission are increased as a result of social, economic and cultural factors (Barnett and Whiteside, 1999:57)<sup>7</sup>. Some risk environment factors may include the following:

- i. Project employees interacting on a regular basis with sex workers (SWs).
- ii. Wage earners with affordable and disposable income for alcohol, drug use and SWs.
- iii. Opportunities for SWs to establish activities at project site.
- iv. The cultural practices of drunkenness and drug usage associated with sexual activity.
- v. Lack of awareness and knowledge regarding sexually transmitted diseases (STDs) and unsafe sex.
- vi. The prevalence of machismo culture and peer pressure to engage in unsafe sex and drug use.
- vii. Sexual relationships of people from different areas with unknown sexual histories (casual sex, multiple sex partners, etc...).
- viii. Feelings of loneliness and sexual deprivation due to absence of regular partners.
- ix. Poverty that reduces the ability of SWs to negotiate condom usage with their clients.
- x. Regular law enforcement that drives commercial sex industry and drug subculture underground.

### **(b) Risk Behavior**

Individual responses and adaptation to high risk environment arising from a development project may lead to high risk behavior conducive to HIV/AIDS transmission and infection. Risk behavior can be classified under unsafe sexual activities, unprotected commercial sex, IDU and other substance abuse, management and mishandling of blood and blood products. The following are some examples of risk behavior:

- i. Unsafe sexual activity (homo/hetero/bisexual) through commercial and casual sex.
- ii. SWs receptive to unsafe sex for more money.

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<sup>7</sup> For example, sexual intercourse is intrinsically not a risky behavior, however when a deadly disease appears and the social and economic environment is such as to facilitate rapid and/or frequent partner change, then that environment may be described as risk environment.

- iii. Increased unsafe sex activities with multiple partners.
- iv. Increased incidence of unsafe IDU and other substance abuse.
- v. Increased sexual abuse and violence against women.
- xi. Fear and lack of knowledge about STDs and reluctance to seek treatment.
- xii. Fear of deportation and termination of employment due to STDs and HIV/AIDS infection and refusal to go for HIV testing and treatment.
- xiii. Practice of unsafe sex and IDU due to denial and belief that contraction of HIV/AIDS is fated.

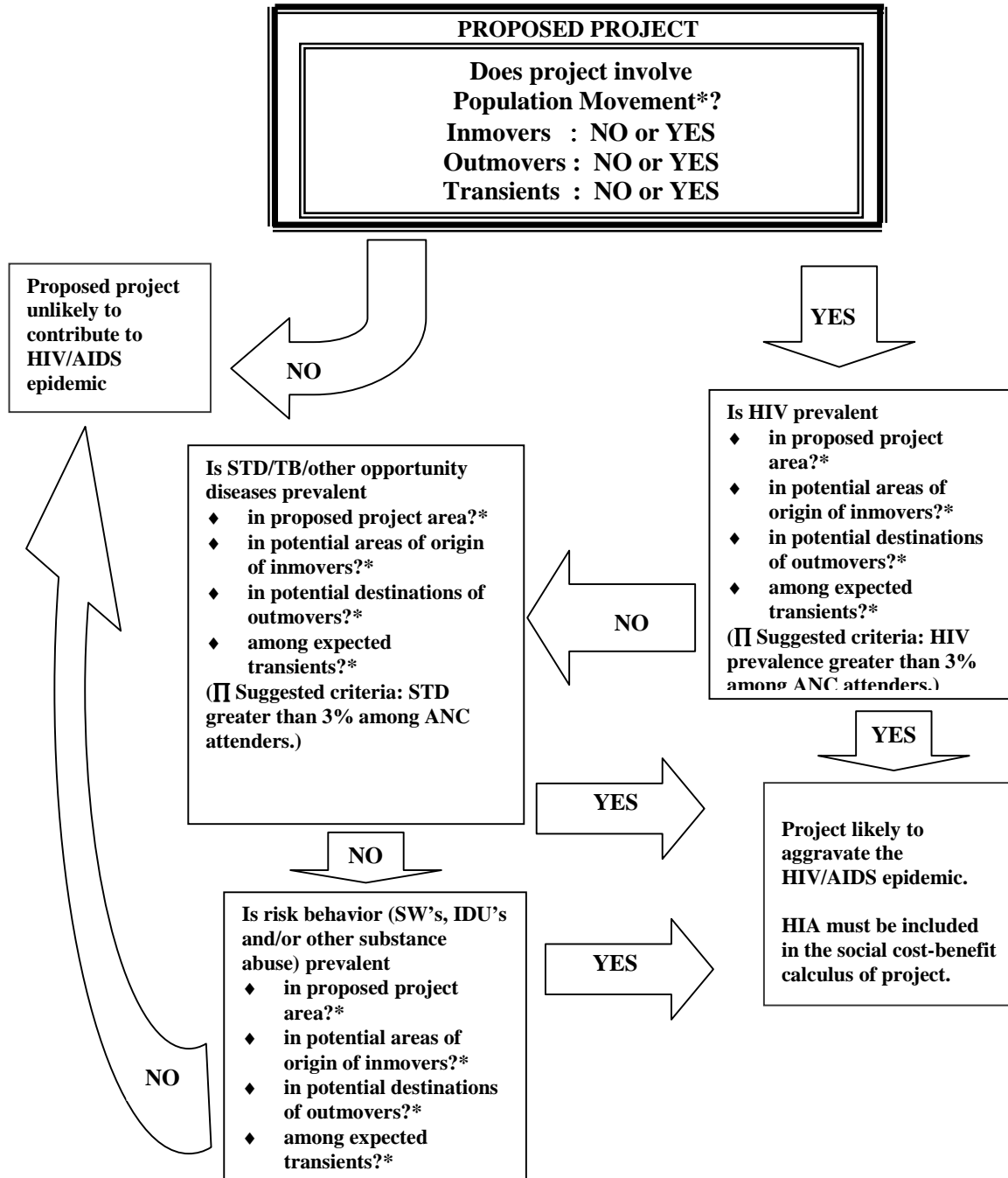
High risk behavior of the individual has a ripple impact on the family, community and society. These include:

- Exposure of sexual partners to HIV/AIDS infections.
- Transmission from infected mother to their children during pregnancy, delivery and through breastfeeding.
- The exposure of others (those outside the project area) to infected sex workers who leave project site.
- Transmission of HIV through SWs within and outside the project area.
- Transmission of HIV through IDU within and outside the project area.

## VI. Assessing the Need of HIA

The conceptual model and its main variables (population movement, risk behavior and risk environment) that determine the impact of development projects on the HIV/AIDS epidemic form the basis for assessing the need of a HIA. The HIA Flow Chart seen in **Figure 2** systematically assesses the need for a HIA in development projects.

**Figure 2: HIA Flow Chart**



- \* If **YES** to any of the listed alternatives in the box, follow the **YES** path.
- II Suggested criteria based on Whiteside (1999:213).

## **VII. Baseline Information for HIA**

The HIV/AIDS risk environment and risk behavior associated with a development project can be gauged based on information from two main sources. First, the characteristics of the project area<sup>8</sup>, and second, the characteristics of the project itself.

### **(i) Project Area Characteristics**

The HIV/AIDS related characteristics of the project area may lead to a high risk environment that increases susceptibility and vulnerability of the population to HIV/AIDS.

Some key information of a project area would include:

- The number of unemployed young and single women.
- Availability and accessibility of commercial sex outlets.
- Availability and accessibility of health care facilities for sex workers (SWs).
- Availability and accessibility of injecting drugs and other mood-altering substances.
- Availability and accessibility of syringes.
- Promotion, availability and accessibility of condoms.
- HIV sero-prevalence rate (SPR) within the community.
- Geographical location of the project area (proximity to town, easy access to transportation, etc...).
- Availability and accessibility of alcohol, entertainment facilities, e.g. bars, taverns, pubs, nightclubs, discotheques, etc.
- Poverty level of population in the project area.
- Safety of handling and management of blood and blood products.
- Degree of religiosity of population in the project area.
- Degree of law enforcement.
- Availability and accessibility of any HIV/AIDS prevention programmes.
- Availability and accessibility to health services (hospital, clinics, etc...).

### **(ii) Project Specific Characteristics**

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<sup>8</sup> Defined as a geographical area that is delineated and identified on the plan of a proposed development project. This area is also referred to as the project community area.

**Project specific characteristics will assist in determining the risk environment and risk behavior. The following are some examples of the type of information that might be required.**

- Place of origin of anticipated labor for the project (data acquired for HIV related characteristics and SPR).
- HIV/AIDS related characteristics and sero-prevalence rates (SPRs) of anticipated labor for the project.
- Preference in hiring youth workers (18-30 years).
- Pattern of wage/salary payment (weekly, daily).
- Availability and accessibility of alcohol in project site.
- Type of housing provided for project workers.
- Availability and accessibility of SWs on the project site.
- Availability and accessibility of leisure/recreational facilities on project site.
- Availability of health care facilities on project site.

## **VIII. Procedures in Conducting the HIA**

There are 6 steps involved in conducting the HIA. They are based on information regarding the potential population movement, HIV/AIDS prevalence rate, high risk environment, high risk behavior and preventive intervention strategies. In addition the HIA will also identify the non-quantifiable and quantifiable social and economic cost of a proposed development project on the HIV epidemic.

Procedures/steps in conducting the HIA includes:

### **Step 1.**

Collecting, analyzing and disseminating data on background information of the proposed development project (see **Table 1**).

[Note: If resources are available, a more detailed baseline information survey based on project area and project specific characteristics can be administered.]

### **Step 2.**

Identifying population movement (see **Figure 1**) due to the proposed development project. If there is no population movement involving in-movers, out-movers, and transients then there is no need for a HIA to be conducted.

[Note: Proceed to Step 3 if there are any forms of population movement.]

### **Step 3.**

Assessing the need and desirability of a HIA based on the HIA Flow Chart (see **Figure 2**). This step is based on analyzing data regarding the prevalence of HIV, STDs, TB, Hepatitis, other opportunistic diseases and risk behavior in proposed project area, potential areas of origin of in-movers, potential destination of out-movers and among transients.

**Step 4.**

Determining the risk environment and risk behavior based on data at individual, community and national level associated with the project. This is to identify the comprehensive scenario of the potential impact (quantifiable and non-quantifiable) of the proposed project on the HIV epidemic.

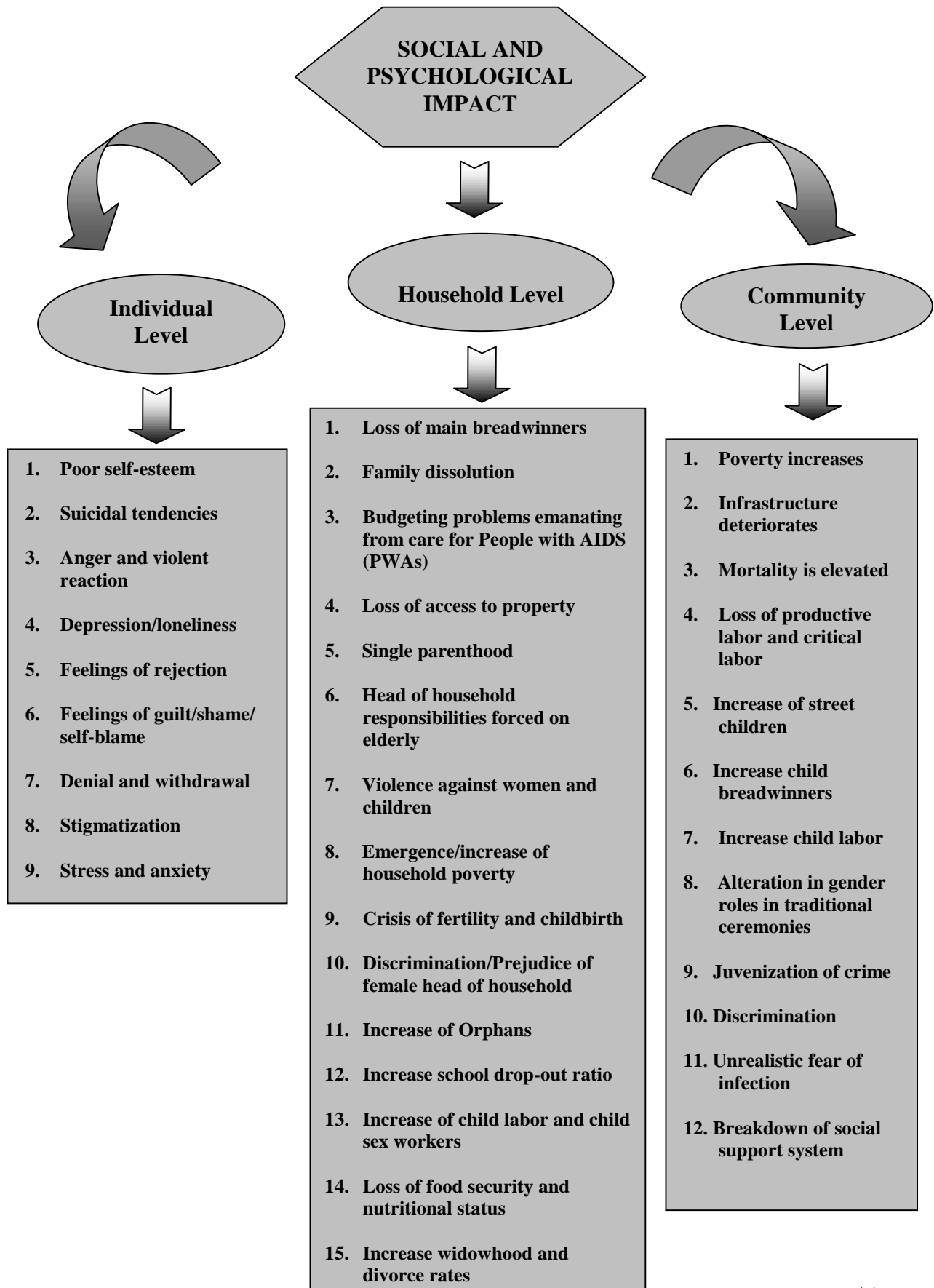
**Step 5.**

Costing the impact of HIV/AIDS based on based on quantifiable and non-quantifiable variables (economic, medical, social and psychological).

**Step 6.**

Evaluating possible preventive intervention strategies to mitigate the potential impact on HIV/AIDS epidemic.

**Figure 3: Social and Psychological Impact**





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