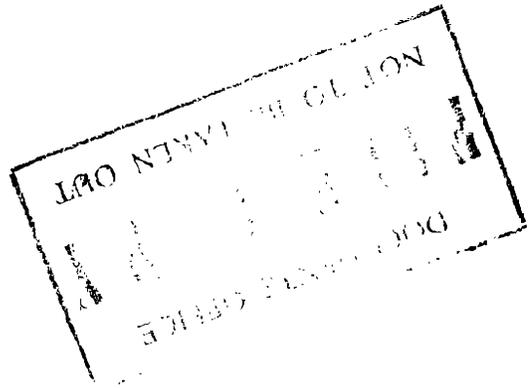


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# **The Need for Harmonised Data and Advocacy Materials on HIV/AIDS in Africa with Special Reference to the PEDA Advocacy Model\***

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## **ACRONYMS**

ACC	Administrative Coordination Committee
AIDS	Acquired Immuno-Deficiency Syndrome
ECA	Economic Commission for Africa
FSSDD	Food Security and Sustainable Development Division
HIV	Human Immuno-Deficiency Virus
UN	United Nations

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## A. INTRODUCTION

1. Demographic estimates and projections for Macro and Sectoral Socio-economic development planning, in Africa require accurate and reliable information. The harnessing of such information requires regular examination and modification to take into account the important emerging demographic, socio-economic, health and related development issues in the region. For example, the emergency of HIV/AIDS in the region has created major concerns especially with regard to its demographic, socio-economic, health and, overall, developmental implications on the fragile economies and insecure communities of the region. Therefore, the demand for accurate and more up-to-date data to facilitate formulation, implementation, monitoring and evaluation of interdisciplinary development programmes (taking care of the emerging issues) is quite high. Closely related to this, is the need to develop appropriate tools for advocacy at the highest level possible to deal with the emerging issues. This paper briefly touches on these two requirements in the context of HIV/AIDS.

## B. HIV/AIDS AND ITS DEVELOPMENT IMPLICATIONS

2. Indeed, out of the 33.6 million people estimated to have HIV/AIDS in the world in 1999, 23.3 million were from Sub-Saharan Africa. Morbidity and mortality have increased and are changing the demographic structures of households and affecting the socio-economic well-being of households, communities, and entire nations. The epidemic has affected access to education and health services, fulfilment of basic needs such as food and housing, and the right to privacy and human dignity. Its impact on life expectancy is expected to erase 17 years of potential gains in sub-Saharan Africa (SSA) by the year 2010-2015 so that instead of reaching 64 years, life expectancy will be recorded at 47 years.<sup>1</sup>
3. It is for this very reason that the ECA and its partners decided to organise this African Development Forum (ADF) aimed at addressing the ramifications of HIV/AIDS on Africa's development (ADF 2000) with the overall theme "AIDS: The Greatest Headship Challenge". The forum is expected to be a major launching pad for a new level of commitment and action against HIV/AIDS as a major threat to the development of the continent
4. To analyse the impact of the pandemic on the development process of Africa, examine the resource implications for a concerted effort both by African governments and their international partners, and monitor and evaluate follow-up activities, will require harmonized population estimates and projections as well as related indicators which clearly take into account the impact of HIV/AIDS. This suggests the need for well prepared estimates, projections and related indicators as part of the vital inputs into the entire process. In addition, advocacy tools and materials such as the Population Environment, Development and Agriculture (PEDA) model which are being developed and prepared by ECA to sensitise Africa's leaders, policy makers and planners on the need for appropriate policy mechanisms to tackle the pandemic without seriously jeopardizing the well-being of the population, require similar information. It is for this reason that this paper discusses the role of the ECA in data harmonisation, as well the PEDA model as one of the Commissions contribution to the advocacy process.

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<sup>1</sup> See the World Bank. Intensifying Action Against HIV/AIDS in Africa: Responding to a Development Crisis. Africa Region 1999.

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## **C. MAJOR ISSUES AND PROBLEMS ON DATA, ESTIMATES AND PROJECTIONS**

### **i. Limitations of Data**

5. Available data on HIV/AIDS come from cross-sectional surveys, sentinel surveillance and population based surveys, and suffer from a number of limitations. These limitations include those related to reporting, coverage and representativeness. For example: (i) cross-sectional surveys vary in methodology and have limitations regarding the random implication, population selectivity, geographical coverage and periodicity; (ii) sentinel surveillance data have limitations of geographical coverage, inclusion of rural sites and representation of risk groups in the population covered; (iii) population-based surveys are of high cost, rarely available and not good for monitoring high status groups although they could have potentially better geographical coverage than sentinel surveillance; and (iv) HIV incidence is rarely measured, highly sensitive to change, requires large samples and can be difficult to interpret.<sup>2</sup> These limitations suggest that our effort to incorporate HIV/AIDS parameters in population estimates and projections are not yet perfect.

### **ii. Limited Resources for Data Collection**

6. It is a matter of great concern that when more resources should be devoted to data collection and analysis to accommodate new data and information needs and facilitate regular monitoring and evaluation, there is general fatigue in the international community and in countries in making resources increasingly available, let alone maintaining the same level of resources, for these purposes. Adequate data collection and analysis would facilitate effective policy and programme formulation as well as programme monitoring and evaluation.

### **iii. Harmonization of Population Estimates and Projections**

7. In many countries, the estimates and projections of population produced by the ACC Sub-Committee are not taken seriously by Central Statistics Offices, Planning Ministries and/or civil society due to lack of credibility of available data as well as lack of understanding of the modelling techniques employed. This is particularly more so in the emerging areas of new issues such as HIV/AIDS. The inputs to estimates and projections which include HIV/AIDS are so far decided at global level with little participation by member States. Consequently, there is a need for the ACC Sub-Committee to work closely with the regional commissions and national statistical agencies to harmonize the data and modelling techniques used.
8. A number of causal factors have been reported in the past as those contributing to the difference between estimates and projections by member States and those by the ACC Sub-Committee.<sup>3</sup> These include the following: (i) the different estimates of under-enumeration or over-enumeration of population census totals; (ii) the uncertain basis for the estimation of trends and projections of the components of population changes; and (iii) the lack and/or unreliability of data on age-sex distribution and international migration (especially estimates of the refugee and nomadic populations).

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<sup>2</sup> See Report of the UNFPA/CST Thematic Workshop on HIV/AIDS in Africa; Saly Portudal, Senegal, 5-9 July 1999 for further information

<sup>3</sup> See FSSDD, UNECA. Towards Co-ordination of and consistency Among Global and Regional Outputs of Demographic Estimates and Projections: ECA Contribution. A paper presented for discussion at the 20<sup>th</sup> Session of the ACC Sub-committee on Demographic Estimates and Projections, New York, 24-25 June 1998.

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9. To minimize such differences, it was recommended that ECA member States should (i) endeavour to improve the quality of data from population censuses, surveys and civil registration systems through the introduction of more stringent quality control checks and the use of qualified and well-trained enumerators and supervisors; (ii) attempt to extend the coverage of civil registration and vital statistics systems (where viable ones do not exist or cover limited areas); and (iii) provide a more solid basis for the extrapolation of demographic trends by understanding better the components of population change (fertility, mortality and migration).

#### **iv. The need for standard software**

10. There is a need for a standard software to be used in the member countries for estimates and projections. Currently there is a variety of software used by different countries and this may not lead to standardized results

### **D. IMPLICATIONS OF DISHARMONIZED ESTIMATES AND PROJECTIONS**

11. The first implication of disharmonised estimates and projections is the complete rejection of the results generated by the ACC Sub-Committee as already stated. This can either leave countries with no information to use at all in decision making and depend on political decisions, or force National Statistical Offices to generate estimates and projections in the best way they can and use these for their purposes.
12. The second implication is that when the National Statistical Offices generate their own estimates and projections independently they may do so with inadequate technical and modelling know-how and end up with misleading results. Alternatively, when the ACC Sub-Committee generates population estimates and projections without adequate consultation with the Commissions and member States, the consequence may be that the results may not be robust enough leading to misguided policy options and plans if used at country level.

### **E. A HYPOTHETICAL EXAMPLE**

13. As an example, we present some analysis based on a hypothetical case study utilizing the Spectrum software. We compare the baseline information given for a country with aids with two additional scenarios. The first scenario assumes that the prevalence of HIV/AIDS has been over-estimated by 20%; and the second scenario assumes that the prevalence rates have been under-estimated by the same margin (20%). What are the implications?
14. Many implications can be derived from this hypothetical example results. But for the purpose of our discussion here, let us assume that the purpose of generating the results is to solicit increased government commitment through increased budgetary allocations. The results would suggest that as governments struggle to allocate scarce resources among many competing priorities, in cases where the adult HIV prevalence rate is over-estimated by 20%, an extra 6% would be allocated to HIV/AIDS and moved away from other possibly equally important priorities; on the other hand, if the prevalence of the pandemic is under-estimated, there will be a 6% short-fall in allocations to such an important area of national survival and development (see Table 1 attached). Such situations can be avoided by carefully analyzing and utilizing available data in a collaborative and harmonistic manner.

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## F. THE PEDA ADVOCACY MODEL

15. The ECA, through the Food Security and Sustainable Development Division (FSSDD), has a long-term vision focused on “The reduction of poverty and the attainment of food security”. This vision is pursued through a mission targeted at two areas:

- ξ Addressing Africa's Urgent Nexus Issues (Population, Environment and Agriculture); and Building Africa's capacity for Science and Technology.

The advocacy process is pursued through;

- ξ Analytical Studies on the Nexus Issues to give a clear understanding of the interrelationships and to provide a platform from which to set off the advocacy process;
- ξ The development of the PEDA Model as an advocacy tool;
- ξ Publication of a variety of advocacy booklets; and
- ξ Utilization of information communication technology (ICT) for harnessing and disseminating information

In this part of the paper, the development of the PEDA advocacy model is briefly discussed.

16. In 1998, the ECA commissioned two experts from IIASA to develop a computer simulation model that will be used to illustrate the interactions between population changes (P), environment (E), socio-economic development (D) and agriculture (A). During the 1998-1999 biennium, the ECA developed the first prototypes of the PEDA model; an interactive computer simulation model for the analysis of the Population, Environment, Development, Agriculture interactions (i.e. the nexus issues). The PEDA model is an advocacy tool aimed at demonstrating the likely impact of alternative policy options on the food security status of the population.

### **Sample Policy Questions**

*“What will be the effect on the food security status of the population if the government took measures to increase fertiliser and machinery use in agriculture by 2% a year”*

*“What will be the impact on the food security situation in a country if the educational enrolment rates would immediately be brought up to 75% for both sexes?”*

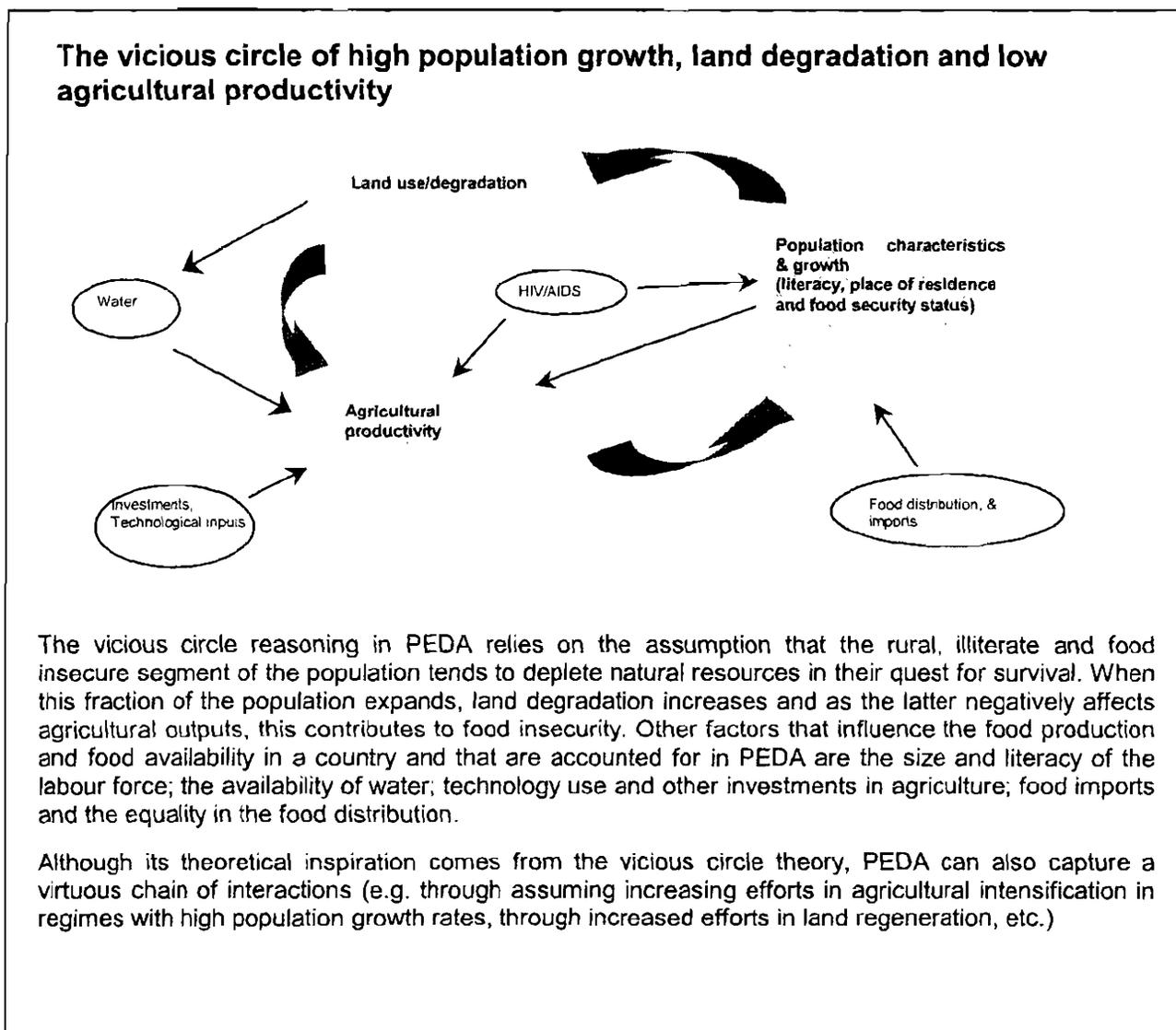
*“What is the impact of increased education on the environment and land degradation?”*

*“How does a decrease in fertility rates influence the agricultural production in a country?”*

*“What is the impact of HIV/AIDS on agricultural outputs?”*

As food security is a factor of developments in the areas of population, environment, agriculture and socio-economic development, the model demonstrates the relationships between these fields as well. The first experiments have been carried out to introduce an HIV/AIDS component and to illustrate its impact on the other variables in the model. As such the PEDA model is able to give answers to a wide range of policy questions regarding the interactions of the nexus issues.

17. different population subgroups (by age and sex) based on three dichotomous individual characteristics: urban/rural place of residence, literacy status and food security status. Through the setting of scenario variables, the model enables the user to project the population that will be food secure and food insecure for a chosen point in time. It also demonstrates a number of other variables related to the socio-economic development of a country.



18. The model assumes a causal chain of interactions between high population growth, environmental degradation and a declining per capita agricultural production. Due to high population growth, the need arises to utilize more marginal land and to utilize more labor to maintain production levels. This, in turn, induces higher fertility levels, increases environmental degradation, decreases productivity, and adds to more food insecurity.

19. Currently, the PEDA model available is only an advocacy model. In the long term, plans should be made to construct or adapt analysis models that will accompany the advocacy model and assist member countries to carry out analyses of different policy options.

20. The introduction of HIV/AIDS morbidity considerations in the model has increased the scope of the model as an advocacy tool, especially on policy advocacy issues related to the pandemic. An example on policy issues is given by simulation results from the model based the following two scenarios for Botswana:

**Scenario 1:**

- ξ Reduction of HIV Prevalence Rates from 40% in 1991 to 5% in 2020
- ξ All other rates held constant as in the baseline (Base1) scenario

**Scenario 2:**

- ξ Reduction of HIV Prevalence Rates from 40% in 1991 to 5% in 2020
- ξ Increased enrolment rates to 75% for both sexes
- ξ Increased fertilizer use by 3%
- ξ Increased the use of machinery by 2%
- ξ All other rates held constant as in the baseline (Base1) scenario

It was quite obvious from the results shown in Table 2 that a multi-disciplinary policy mix produces more positive results than any sectoral policy.

## **G. THE WAY FORWARD**

21 Demographic estimates and projections that are as realistic as possible will be facilitated by close collaboration between member States on the one hand, and Regional Commissions and the ACC Sub-Committee, on the other. This collaboration should be strengthened. At country level, efforts should be made to (i) improve the quality of data from population censuses, surveys and civil registration systems; (ii) extend and improve coverage of civil registration and vital statistics systems; and (iii) increase the understanding of the components of population change. In particular, the ECA should make concerted effort to cultivate mutual understanding and provide encouragement to member States and national experts during the process of initializing the PEDA model and searching for suitable country data that can make the model reflect true specific national situations. Similarly, the ACC sub-Committee can create an environment of more extended consultation and sharing of information and analytical models so that as many national experts as possible become conversant with the inputs and models used for the estimates and projections.

22 Strengthened collaboration in the Africa region implies the need for allocation of more resources to the work of the ECA and the ACC Sub-Committee to facilitate regular contact and monitoring of new developments at country level by both members of the ECA Staff and those of the ACC Sub-Committee involved in population estimates and projections. This increased collaboration will build increased confidence at the country level in the population estimates and projections generated by the ACC Sub-Committee.

23 More specifically for the PEDA Advocacy model, there is a need to:

- ξ Refine the PEDA Advocacy model and adapt/support the development of related analytical models;
- ξ Carry out sub-regional training activities;
- ξ Initialize PEDA for all African Countries;
- ξ Promote the utilization of country specific data; and
- ξ Identify and mobilize resources for advocacy and analysis activities.

**Table 1.** Percent of MOH budget for AIDS allocated according to different hypothetical scenarios

	<b>Withaids1<sup>1</sup></b>	<b>Aids201<sup>2</sup></b>	<b>Aids20h<sup>3</sup></b>
1989	0.3	0.2	0.4
1994	3.8	3.1	4.6
1999	15.7	12.6	18.8
2004	24.4	19.7	29.1
2009	29.8	24.1	35.3

1. *Baseline Scenario*
2. *Low aids hypothetical scenario (20% lower)*
3. *High aids hypothetical scenario (20% higher)*

**Table 2:** Example of HIV/AIDS scenarios based on Botswana

<b>Scenario (1)</b>	<b>Population (millions)</b>		<b>Percentage Food Secure (4)=(2)/((2)+(3))</b>
	<b>Food secure (2)</b>	<b>Food Insecure (3)</b>	
BASE1	1.71	1.11	61
BASE3	2.04	0.79	72
BASE4	2.34	0.49	83