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ECONOMIC COMMISSION FOR AFRICA  
Training Workshop on the Integration  
of Population Variables in Deveelopment  
Planning: The Methodologies and Uses of  
Subnational and Sectoral Projections

Accra, Ghana, 23 November-5 December 1992

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## **A. ORGANISATION AND ATTENDANCE**

1. The training workshop on the Methodologies and Uses of Subnational and Sectoral Projections for participants from English-speaking African countries was organized by the Economic Commission for Africa (ECA) in collaboration with the Regional Institute for Population Studies (RIPS), with funds provided through the UNFPA/Government of Canada Census Training Programme in Sub-Saharan Africa, in Accra, Ghana from 25 November to 5 December 1992.

2. The 15 participants that attended the workshop were from 11 countries, namely: Egypt, Ethiopia, Gambia, Ghana, Kenya, Malawi, Sierra Leone, Swaziland, Sudan, Zambia and Zimbabwe.<sup>1</sup> Apart from Ghana, which had 5 participants, each country was represented by a participant. There were 5 female participants. (See Annexe 1 on list of participants).

3. In addition to ECA, the resource persons for the workshop came from the following organizations: Department of Economic and Social Development, Population Division, United Nations, New York; the Bureau of the Census of the USA; the Research Triangle Institute, USA and FAO. (See Annexe II).

## **B. OPENING OF THE WORKSHOP**

4. The training workshop was officially opened by Dr. Patrick O. Ohadike, Director of RIPS on Monday 23 November 1992 at 10:00. In his opening address, Dr. Ohadike underlined the importance of (a) the availability of adequate and accurate data for the preparations of population projections, and (b) the integration of population variables in development planning and programmes.

5. A statement of the Chief of the Population Division (ECA) was presented to the gathering on his behalf by Mr. Makannah. He observed that the objectives of the workshop were to expose African planners, statisticians, economists and other experts to the methodologies of subnational and sectoral projections and the integration of population factors in development planning, as well as, to provide a forum for the sharing of experiences on the uses of subnational and sectoral population projections and the integration of population factors in development planning. He noted that population projections facilitated the explicit consideration of population factors in socio-economic planning and programmes. On the uses of subnational and sectoral projections, he observed that since development planning should be people-oriented, knowledge of the size, dynamics and distribution of the population was essential for formulating and implementing national and regional planning.

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<sup>1</sup> The participants from Egypt, Malawi and Zambia were sponsored by the UNFPA programmes in their countries.

## C. RECOMMENDATIONS OF WORKSHOP

### a. General Recommendations

6. The workshop has taken place during a period when African governments are showing a heightened awareness of the importance of the role of population factors in socio-economic development, as a sequel to, among others, of proposals made in inter-governmental declarations like the Kilimanjaro Programme of Action on population. The United Nations and other organizations should, therefore, support programmes to enhance activities by African governments in improving basic data, preparing population projections and in considering population factors in development.

7. It is recommended that African countries should endeavour to utilize computer software packages for demographic projections such as those presented to this workshop. In this connection, it is further recommended that developers of softwares for (a) preparing the assumptions for national and subnational projections and (b) making such projections, should continue to make known the availability of such software. The United Nations and other donor agencies should provide financial and technical support (a) to institutions with proven software for subnational projections applications, to further develop and support such software; and (b) for additional training in the uses of computer softwares for subnational and sectoral projections.

8. The Economic Commission for Africa in collaboration with other International organizations and member States should introduce a project whose objectives would include the collection, collation and publications of benchmark data available on demographic and socio-economic aspects as well as prepare projections of school-age population, labour force, households and other sectoral areas.

### b. Data

9. In most African countries there are problems connected with the inadequacy and inaccuracy of base-year data needed for the preparations of subnational and sectoral projections, in spite of the increasing availability of data from modern population censuses and demographic sample surveys. It is to be noted in this context that the development of viable civil registration/vital statistics systems has yet to make headway in the majority of the countries. Thus, it is recommended that African governments and international organizations should strive to improve the quantity and quality of data on the age/sex structure, mortality, fertility, migration and related social-economic factors as well as initiate and/or continue activities to improve civil registration/vital statistics systems.

10. In many African countries, the demographic data collected from population censuses, sample surveys and administrative records, needed for subnational and sectoral projections have not been exhaustively processed, tabulated, analyzed and used at the national as well as the subnational levels and for socio-economic sub-groups. Detailed and timely tabulation and analysis of such data including internal migration are indispensable for demographic and socio-

economic estimates and projections. It is therefore recommended that each country should evaluate current uses of recent population census data for subnational projections, identify bottlenecks responsible for the failure for their utilization fully and institute appropriate measures to solve the problems.

11. Moreover, African governments are urged to attach priority to early analysis and timely release of census data needed for national and subnational projections. International organizations are requested to continue to provide assistance in support of national data collection and data analysis efforts, and to encourage in particular, activities aimed at strengthening national capabilities for decentralised and subnational planning.

c. Subnational projections

12. Some information collected in population censuses and surveys in many African countries pertaining to sub-divisions of countries and internal migration have not been an extensively used or even tabulated. The data set on these topics are crucial inputs in urban and regional planning. Given their vital role in socio-economic planning, subnational populations encompassing rural and urban areas, administrative sub-divisions, cities, regions and other geographical sub-divisions of the country, should be prepared on a regular basis in African countries. Where the data situation permits, it is recommended that the preferred methodology for the preparation of such projections should be the cohort-component method.

13. The software NPROJ developed by the Research Triangle Institute and running under HOST were found to be very useful but require quite detailed and elaborate data. Moreover, some modifications may be needed in methodologies.

d. Integration of population variables into development planning

14. Subnational and sectoral projections are required for the substantive and explicit consideration of population factors in development planning. In order to assist member States in this assignment, the United Nations and other international organizations should continue to develop and disseminate methodological studies and guidelines on the topic.

15. To also enhance the consideration of population factors in development, it is recommended that serious consideration be given by African governments to the creation of institutional structures supporting this process in every country. This may include: (a) a national population commission to act as the leading institution for policy formulation guidelines development and sensitization of political decision makers, and (b) a national population planning unit to act as a secretariat.

16. Countries with existing national population policies are requested to ensure that the policy is sufficiently detailed to provide demographers and planners with the necessary priority and sectoral targets to guide their work in making policy- and programmes-oriented projections.

Moreover, countries lacking national population policies are urged to consider adopting such policies as a means of supporting and guiding development planning.

17. International organizations, like the United Nations, are requested to continue to provide support for research aimed at improving understanding of the interrelationship between population and development as well as the uses of economic-demographic models.

e. Sectoral projections

18. Sectoral population projections are important in making provision in national development plans and programmes for the future requirements of e.g. food, employment, education, housing, health, and the needs of special population sub-groups. At the various stages for the preparation of such projections, consultations should be held with planners, statisticians, demographers, and other professionals along with users of the data, concerning issues like the selection of variables, choice of methodology, the formulation of assumptions, and adaptation of concepts, classifications and definitions.

19. While recognising problems of definitions and classifications in the collection, tabulation, and analysis on this topic, especially for economic activity, African governments are none-the-less encouraged to undertake sectoral projections. Priority should be accorded to making sectoral projections within the context of national planning priorities e.g. human resource development and manpower utilization, health, education, housing, together with the related projections on government expenditure.

f. Follow-up actions

20. The workshop recommends that a follow-up training workshop on subnational and sectoral projections should be organized, this time, also including participants from French-speaking countries, to facilitate the exchange of experiences.

21. The United Nations, with the assistance and collaboration of other international organizations and member States should prepare a workbook on subnational and sectoral projections along with documentation of the pertinent computer software packages found to be most useful for such projections. The United Nations and its regional commissions including the Economic Commission for Africa should be encouraged to work with software developers to prepare better training materials for these software packages.

### C. SUMMARY OF LECTURES AND DISCUSSIONS

a. Introduction

22. The working sessions of the workshop consisted of three parts: lectures introducing the topics followed by discussions and computer practice sessions. During the computer practice sessions various computer software packages for making subnational and sectoral projections

were introduced to participants. Three types were extensively used at the workshop, namely: (a) the Population and Development Projection Methods for the PC or microcomputer (PDPM/PC); (b) NPROJ, a micro computer package method for making population projections using a multi-regional cohort-component algorithm; (c) CAPPA, a software package for analysis of the agriculture-population packages. In addition, participants were encouraged to use spreadsheet to prepare their own projections.

## TOPIC I      NEED FOR SUBNATIONAL AND SECTORAL POPULATION PROJECTIONS IN DEVELOPMENT PLANNING

23.      The meeting underlined the following uses of population projections.

24.      One important way by which population factors can be integrated into economic and social planning is by using population projections in national development plans and programmes. This is because planning is concerned with making provision for the production of future goods and services, which consideration makes it imperative to have knowledge of the present and future size and composition of the population and its geographical distribution, because people drive the market demand for such goods and services.

25.      Population projections are also required for the formulation of population policies by elucidating issues related to the measurement of the impacts of population trends and evaluation of existing policies and programmes influencing them.

26.      Population projections could also be used for analytical studies that attempt to delineate the consequences of various assumptions made about the components of population growth - fertility, mortality and migration.

27.      However, it was observed that a number of problems are encountered in the preparation and uses of national, subnational and sectoral projections in African countries. These include the inadequacy and inaccuracy of basic data, limited use of existing data and/or failure to release projection results in a timely manner, and the lack of understanding on the part of a critical mass of policy-makers and planners of the role of demographic variables

## TOPIC 2.

### DEMOGRAPHIC DATA REQUIREMENTS, PROBLEMS AND SOLUTIONS IN MAKING SUBNATIONAL AND SECTORAL PROJECTIONS.

28.      The major series of demographic projections needed for national and regional socio-economic development planning include: (a) projections of the national population classified by age and sex; (b) projections of the regional population also classified by age and sex; and (c) projections of sectors of the economy and population sub-groups e.g. labour force, households, agricultural population, school going population, educational and occupational classes also classified by age and sex. Sometimes, projections by age, sex, and marital status are necessary for special projections like economic activity and household.

29. Population data are crucial and essential prerequisite for planning urban settlement in terms of land use development, provision of housing, transportation, sewage/refuse disposal management and general provision of services. Given the rapid urbanization rate in most parts of Africa, the consequences of the rapid growth of urban centres especially the bigger cities deserve more attention.

30. The workshop took note of the following uses of demographic data, such as subnational and sectoral projections: (a) to provide a quantitative basis for the formulation of development planning and programmes, (b) to facilitate the consideration of population variables in socio-economic development, (c) for monitoring and evaluation of current demographic trends and action programmes such as family planning or maternal health programmes and (d) for policy analysis under different demographic/socio-economic scenarios.

31. It was noted that the inadequacy and inaccuracy of the base year data was an impediment for the preparations and uses of population projections in African countries. Specifically, the lack of certain types of data on internal migration for subdivisions of the countries and the non-availability of tabulations from population censuses and sample surveys for small areas and/or certain population groups were identified as major constraints.

32. However, it was also observed that the 1990 round of censuses of population and housing opens new opportunities for work in subnational and sectoral projection by making available the kinds of data required by state-of-the art projection methodologies and software.

33. To minimize some of the data problems mentioned above, a systematic approach for the preparation of population projections, national, subnational and sectoral was suggested. The first stage would involve an inventory of available demographic and related socio-economic data. This should be followed by the preparation of an inventory of the types of demographic and other data needed for national, subnational and sectoral projections and the integration of population factors in development planning.

### TOPIC 3.

#### METHODOLOGIES AND USES OF NATIONAL AND SUBNATIONAL PROJECTIONS

34. The presentation and discussion of the following methods of projecting subnational populations were dwelt upon: the mathematical, ratio and cohort-component, land use, housing unit, and other economic or regression methods. In this connection, it was pointed out that the mathematical and ratio methods have been the most commonly used methods for subnational projections in African countries, when such projections were made. It should be noted however, that these methods lack flexibility and are not very effective for disaggregation into age, sex and other classes. But the data requirements are minimal and the methods are comparatively easier to operate.

35. Recently, it was observed, with the availability of substantial data from various modern



censuses and demographic sample surveys such as the World Fertility and Demographic Health Surveys, the opportunity for undertaking subnational projections by techniques, like the cohort-component method has substantially increased in a number of African countries. In this context, assumptions pertaining to internal migration are indispensable for subnational population projections done by cohort-component method, in addition to those on fertility and mortality. Long-range projections of internal migration are made difficult because the movements are responsive to short-term socio-economic changes to a greater extent than fertility and mortality.

36. A key problem of subnational and sectoral projections is that census data for small areas populations, and population sub-groups, and migrant class by age and sex are rarely tabulated. Other problems with subnational projections include the bewildering variety of definitions of what is urban, and difficulties of taking into account changes in boundaries.

37. These and other factors make the data requirements for subnational projections more problematical than those for national projections, especially if it is realised that the data set is to be provided for sub-divisions of countries and sub-population groups.

#### TOPIC 4

#### INTEGRATION OF POPULATION VARIABLES IN DEVELOPMENT PLANNING

38. It was observed that subnational and sectoral projections were required in the integration of population factors in development planning and programmes. To this end, it was necessary for integration to be considered at the national and regional levels along with for short-, medium-, and long-term planning. Integration should be taken into account at various stages of the planning process: Overall goal and policy setting, research and the creation of policy options, decision making, planning, programming and allocation of resources and programme development, implementation and evaluation. Against this background, it was pointed out that development objectives should be specified in terms of both socio-economic as well as demographic outputs.

39. The various meanings of integration were reviewed. Some of the definitions proposed included the following: (a) Explicitly taking into account population variables in development planning; and (b) substantive, explicit consideration of population concerns in development planning in such a way as to achieve consistency in the objectives and means of action of socio-economic policies on the one hand, and population policies on the other.

40. With respect to the stages where various African countries have reached in the integration of population factors in development planning, it was observed that at the one end of the continuum were those countries - the vast majority - where consideration is given to projections of size, age-structure and spatial distribution of the population in determining future requirements for food, employment, education, health services etc. At the other end of the continuum are those countries - very few in number-where the two-way interrelationships between population

and development are also considered in the formulation and implementation of development plans and programmes.

41. The discussion that followed covered the following subject fields: Conceptual consideration, institutional building, training and dissemination of information.

42. The conceptual considerations pertaining to the collection of the relevant socio-economic and demographic data, and research about the relationship of socio-economic and demographic variables were discussed.

43. On the institutional framework, the setting up of two agencies concerned with population policy formulation, namely a national population commission and a national population planning unit, was underlined. The promulgation of a populations policy document was also considered as an invaluable step toward the attainment of integration. The role of the national population commission may be were, to act as the leading organization in population policy guidelines development and sensitization of political decision makers about the importance of population factors in development. The national population planning unit would serve as the secretariat for the national population commission and the government planning unit.

44. Considerable time was spent in explaining the uses of economic-demographic models in examining the population -development linkages. It was pointed out that these models help to establish linkages between economic and demographic sectors: e.g. how changes in the levels of fertility and mortality have an effect on household sizes and thus food consumption; how migration has an effect on food consumption and production patterns and income distribution.

## TOPIC 5.

### METHODOLOGIES AND USES OF SECTORAL PROJECTIONS:

(Labour Force, Education, Household, Housing, Government Expenditures, Agriculture)

#### A. Labour Force

45. As a background to the discussion, it was pointed out that the provision of adequate and meaningful employment opportunities for a growing labour force ranks among the most pressing economic problems of African countries. An important factor for this is that African governments are striving to come to grips with current and future unemployment and underemployment problems in the face of rising numbers in the working age group. It is therefore important that policy makers and planners take into account projections of labour supply and demand in order to reconcile differences between the two components.

46. The problems of definition and enumeration of the labour force were reviewed before the discussion on the methodologies of labour force projections. It was brought to the the attention of the working group that classifications, definitions and concepts adopted by census and survey

statisticians result in unsatisfactory measures of labour force participation, especially for particular population groups, like women.

47. During the computer practice sessions the uses of the labour force module of PDPM/PC; in addition, the spreadsheet and RTI's NPROJ's Labour Force and Employment models for projections were explained.

#### B. Education

48. Educational projections such as school enrolment are vital to providing for future resource allocation for teachers, classrooms and school equipment. These projections also form important ingredients for manpower planning by providing data on supply aspects.

49. As to the uses of projections on the education sector, it was noted that, given the importance of human resources in the development process, education and training should be accorded central roles in development plans and programmes. In African countries, the large increases in the numbers in the school-going population in recent years and prospects for further future increases make it of utmost importance to include estimates and projections of the school-age population in social and economic plans and programmes. Discussions centered on the methodology, data sources, quality, and adequacy for projections.

50. During the computer practice sessions, both the school enrolment module of the PDPM/PC package and spreadsheet were utilized to demonstrate the projection of school enrolment based on the enrolment ratios. The PDPM government expenditures module was then used to look at the cost of alternative government responses to growing needs for educational services. based on enrolments.

#### C. Housing and Household Projections

51. Shelter ranks among the basic requirements of man. However, the provision of adequate and acceptable housing to most of the population of a country has proved an elusive task in African countries. The low quality and inadequacy of housing on the continent are glaringly reflected in urban areas, characterised by the mushrooming of slums and squatter settlements, resulting in environmental degradation.

52. Among the factors that have contributed in making the provision of adequate and satisfactory housing to vast majority of the population difficult are high population growth, immigration to urban areas and the low pace and high cost of housing construction.

53. The presentation dealt at length with problems of classification, concepts and definitions, with particular attention paid to the definition of household and head of household. It was pointed out that the concept of household differ from country to country, with the definition as a group of individuals who share living quarters and principal meal recommended for statistical purposes. The problem of lack of data especially on households, families, and housing was

highlighted.

54. Household and family projections were illustrated through household size and headship methods. Household size distribution was derived through trend analysis and by fitting appropriate curves. Estimation of housing needs was based on household/family projections after adjusting for dilapidations, vacancies and other factors. Spreadsheets were extensively utilized to illustrate the projection of households and housing units.

55. The practical sessions in household and housing projection showed participants how to project inputs using spreadsheet software and how to complete projections using the same software or PDPM/PC'S household and government expenditures modules.

## TOPIC 6

## AGRICULTURE

56. As a background to the discussion, the main population-agriculture relationships were reviewed. First it was stressed that population growth and change in structure impacts on demand for food in a particular country: rapid growth of population implies a simultaneous growth of food demand, but the composition of the demand also depends on where population growth takes place: in rural or urban areas, in which agro-ecological zone or region in which ethnic group. Each of these factors have an impact on food consumption patterns. It was remarked that a number of other factors affected demand; income and its distribution, prices of products and changes in taste and preference. In case of poor economic conditions, the relatively greater importance of food in the populations consumption make agriculture a big sector. Under better economic conditions demand for non-agricultural products would be relatively greater.

57. Effects of greater demand for food are expressed by either increased local production or a need to import food. Increased local production, if new technology is not available, which is often the case, requires expansion of agricultural land which may lead to enviromental degradation and often requires sizable investment to facilitate access to newly cultivated land.

58. Second, it was stated that the issue of labour was another big aspect of the population - agriculture relationships. In Africa agriculture remains the main source of employment and choices in technology are translated directly to job creation or reduction.

59. The discussion emphasized the need to conduct sufficiently disaggregated analysis to understand the population - agriculture relationships and to plan correctly. In this context, gender regions socio-economic and cultural dimensions of food consumption were deemed necessary as factors to be considered.

With respect to labour they need to know the gender breakdown of labour requirements of increased agricultural labour by women also performing other activities like raising children, fetching water, and other domestic chores was also underlined.

60. The discussion was followed by practical computer sessions on the CAPPA

(Computerized System for Agriculture and Population Planning Assistance and training) software developed by FAO.

The software simulates the "food and labour" relation between population and agriculture.

## **E. EVALUATION OF WORKSHOP**

61. The workshop was evaluated by participants by the completion of a specially designed questionnaire. Out of the 15 participants at the workshop, 13 completed the questionnaire. It should be noted, however, that among those who responded, some did not answer all the questions, especially the last two on follow-up actions and comments about future such workshops.

62. With reference to the question on the workshop achieving its objectives, 10 or 77 percent of the respondents said that it wholly achieved its primary objective; while 23 percent reported that it partially achieved its objectives.

63. 46 and 38 percent of the participants were satisfied that the practical computer sessions wholly and partially achieved their objectives, respectively. Two thought that the computer practice sessions did not achieve their objectives.

64. Relative to the training workshop's objective of providing a forum for the sharing of problems and experiences in the preparation and uses of population projections and the integration of population variables in socio-economic development, 54 percent of the respondents were of the opinion that this objective was wholly achieved, compared with 38 percent that said that the objective was partially achieved. One participant commented that this objective was not achieved.

65. All the 13 respondents agreed that the training workshop was relevant to their job requirements in their various countries.

66. Opinion was divided about the allocation of time for the lectures, discussions and computer practice sessions. Most of the respondents replied that the time allocated for the lectures and discussions was wholly or partially adequate. On the other hand, 7 participants or 54 percent considered that the time allocated for the computer practice sessions was inadequate.

67. Overall, the majority of respondents, 12 out of 13, i.e., 92 percent, were of the view that the discussions that took place were useful and relevant.

68. On future such workshops, the participants that responded to the question suggested the following: a) allocation of a longer time; b) concentration on fewer subnational and sectoral software packages, especially when the time allocated is limited; c) more discussions on the practical ways of integrating population factors in development planning and programmes, and; d) the conduct of a similar workshop at the country level.

# ANNEXE I:LIST OF PARTICIPANTS

<p>BANDA, Christine (Mrs) Senior Economist National Commission for Development Planning P.O. Box 50268 Lusaka, ZAMBIA</p> <p>BOCKARIE-TORTO, Alice (Mrs) Deputy Director Central Statistics Office Tower Hill Freetown, SIERRA LEONE</p> <p>GEBREMEDHIN, Behailu (Mr) Senior Researcher Central Statistical Authority P.O.Box 1143 Addis Ababa, ETHIOPIA</p> <p>GAYE, Amie (Mrs) Cadet Statistician Central Statistical Dept. Buckle Street Banjul, GAMBIA</p> <p>GEEL, Fatma El Zahraa M.M.(Ms) Program Planning Specialist/Demographer National Population Council Cairo, Maadi, EGYPT</p>	<p>IBRAHIM, Khalid T.(Mr) Researcher National Population Committee Khartoum, SUDAN</p> <p>MAMBA, Levy D.(Mr) Statistician/Demographer entral Statistical Office P.O.Box 456 Mbabane, SWAZILAND</p> <p>MBIBA, Beacon(Mr) Lecturer Dept. of Rural &amp; Urban Planning University of Zimbabwe P.O. Box MP167, Mt. Pleasant Harare, ZIMBABWE</p> <p>MPHEDWA, Sosten W.(Mr) Principal Statistician National Statistical Office P.O.Box 333 Zomba, MALAWI</p> <p>MUNENE, Francis M.(Mr) Senior Planning Officer/ Economist Central Bureau of Statistics P.O. Box 30266 Nairobi, KENYA</p>
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# ANNEXE I Contd.: LIST OF PARTICIPANTS

<p>ODAI, Henry N.(Mr) Head of Population Census Organization Ghana Statistical Service P.O. Box 1098 Accra, GHANA</p> <p>NSIAH, Evelyn A.(Mrs) Economic Planning Officer Ministry of Finance &amp; Economic Planning P.O. Box M40 Accra, GHANA</p> <p>OKOREE, Edmund, N.(Mr) Population Impact Project Box 59 University of Ghana Legon, GHANA</p> <p>QUASHIE, Samuel Efui(Mr) Principal Statistician Ghana Statistical Service P.O. Box 1098 Accra, GHANA</p>	<p>TWENEBOA-KODUAH, K (Mr) Ghana Statistical Service P.O. Box 1098 Accra, GHANA</p>
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## ANNEXE II:RESOURCE PERSONS

<p><b>BELAI, Assefa (Mr)</b>                      Senior Research Assistant Population Division                      UN-ECA P.O.Box 3005 Addis Ababa, ETHIOPIA</p>	<p><b>RAMACHANDRAN, K. V. (Mr)</b> Regional Adviser Population Division UN-ECA P.O.Box 3005 Addis Ababa, ETHIOPIA</p>
<p><b>LUU, Mau Thanh (Mr)</b> Special Technical Adviser Population Division Department of Economic and Social Development United Nations New York, NY 10017, USA</p>	<p><b>WOLOWYNA, Oleh (Mr)</b> Senior Population and Health Policy Specialist Research Triangle Institute Center for International Development  P.O.Box 12194 Research Triangle Park North Carolina, USA</p>
<p><b>MAKANNAH, Toma J.(Mr)</b> Chief, General Demography Section Population Division                      UN-ECA P.O.Box 3005 Addis Ababa, ETHIOPIA</p>	<p><b>MAETZ, Materne (Mr)</b> Training Advisor Training Service Policy Analysis Division FAO, Rome</p>
<p><b>MCDEVITT, Thomas (Mr)</b> Senior Adviser Population Data Analysis, Dissemination and Utilization International Statistical Program Center US Bureau of the Census Washington, D.C. 20233, USA</p>	



### ANNEXE III

#### TIME TABLE

##### Monday, 23 November

08.30-10.00-Registration

10.00-11.00 -Opening session

- Chairperson: Dr P.O.Ohadike, Director, RIPS
- Introduction of Chairperson
- Keynote address of Chief, ECA Population Division
- Organization of Workshop

11:00-13:00-Free

13.00-14.30-Lunch

14.30-16.00-Lecture and Discussion

Lecturer: Dr.T.Makannah  
Chairperson: Dr T.McDevitt  
Rapporteur: Dr K.V.Ramachandran

The need for and uses of national, subnational and sectoral projections in development planning and in the integration of population variables in development planning in Africa.

16.00-16.30- Tea Break

16.30-18.00-Lecture and Discussion

Lecturer: Dr.T.Makannah  
Chairperson: Dr T.McDevitt  
Rapporteur: Dr K.V.Ramachandran

Demographic data requirements, problems and solutions in making subnational and sectoral projections.

##### Tuesday, 24 November

08:30-10:00-Lecture and Discussion

Lecturer: Dr.T.McDevitt  
Chairperson: Dr T.Makannah  
Rapporteur: Dr K.V.Ramachandran

Methodologies of National and Subnational (rural/urban, administrative subdivisions) projections

10:00-10:30-Tea break

10:30-13:00-National and Subnational (rural/urban, administrative subdivisions) projections

- Computer Practice Session  
Supervisors: Dr T.McDevitt/Mr Assefa Belai
- Explanation of PAS system
- Demonstration and hands-on practice, 3-4 spreadsheet

13:00-14:30- Lunch break

14:30-16:00-National and Subnational (rural/urban, administrative subdivisions) projections

- Computer Practice Session  
Supervisors: Dr T.McDevitt/Mr Assefa Belai
- Introduction to PDPM/PC
- Explanation of PDPM/PC treatment of, and requirements with respect to projections inputs

14:30-16:00-Computer Practice Session

- Supervisors: Dr T.McDevitt/Mr Assefa Belai
- Demonstration and use of PDPM/PC for making national and subnational projections

16:00-16:30-Tea break

16.30-18.00-Computer Practice Session

- Supervisors: Dr T.McDevitt/Mr Assefa Belai
- Hands-on practice, data entry & production of subnational projections

Wednesday, 25 November

08:30-10:00-Lecture and Discussion

- Lecturer: Dr K.V.Ramachandran
- Chairperson:Dr Luu
- Rapporteur:Dr Makannah

Methodologies and Uses of Sectoral Projections I  
Education and Labour Force

10:00-10:30-Tea break

10:30-13:00-Lecture and Discussion

- Lecturer: Dr K.V.Ramachandran
- Chairperson:Dr Luu
- Rapporteur:Dr Makannah

Methodologies and Uses of Sectoral Projections I  
Education and Labour Force

13:00-14:30- Lunch break

14:30-16:00-Computer Practice Session

Supervisors: Dr T.McDevitt/Mr Assefa Belai

-Introduction to sectoral projection modules of PDPM/PC

-Demonstration of education & labour force projection using PDPM/PC

16:00-16:30-Tea break

16:30-18:00-Computer Practice Session

Supervisors: Dr T.McDevitt/Mr Assefa Belai

Demonstration and hands-on practice, data entry, production of education & labour force projections using PDPM/PC

Thursday, 26 November

08:30-10:00--Computer Practice Session

Supervisors: Dr T.McDevitt/Mr Assefa Belai

Demonstration and hands-on practice, data entry, production of education & labour force projections using PDPM/PC (continued)

10:00-10:30-Tea break

10:30-13:00-Lecture and Discussion

Lecturer: Dr. M.T.Luu

Chairperson:Dr K.V.Ramachandran

Rapporteur:Dr T.Makannah

Integration of Population in Development:I

13:00-14:30- Lunch break

14:30-16:00-Lecture and Discussion

Lecturer: Dr. M.T.Luu

Chairperson:Dr K.V.Ramachandran

Rapporteur:Dr T.Makannah

Integration of Population in Development:II

16:00-16:30-Tea break

16:30-18:00-Lecture and Discussion

Lecturer: Dr. K.V.Ramachandran

Chairperson:Dr T.McDevitt

Rapporteur:Dr T.Makannah

Methodologies and Uses of Sectoral Projections:  
Health and Housing

Friday, 27 November-

08:30-10:00-Lecture and Discussion  
Lecturer: Dr. K.V.Ramachandran  
Chairperson:Dr T.McDevitt  
Rapporteur:Dr T.Makannah

Methodologies and Uses of Sectoral Projections:  
Health and Housing (continued)

10:00-10:30-Tea break

10:30-13:00-Computer Practice Session  
Supervisor: Dr Ramachandran / Mr Assefa Belai

Sectoral projections: Housing

13:00-14:30- Lunch break

14:30-16:00-Computer Practice Session  
Supervisor: Dr Ramachandran / Mr Assefa Belai

Sectoral projections: Housing

16:00-16:30-Tea break

16:30-18:00--Computer Practice Session  
Supervisor: Dr Ramachandran / Mr Assefa Belai

Sectoral projections: Housing

Saturday, 28 November

08:30-10:00-Computer Practice Session  
Supervisor: Dr T.McDevitt/ Mr Assefa Belai

-Discussion of PDPM/PC algorithm for projecting  
government expenditures

10:00-10:30-Tea break

10:30-13:00-Computer Practice Session  
Supervisor: Dr T.McDevitt/ Mr Assefa Belai

-Hands on practice , data entry, production of  
government expenditure

13:00-14:30- Lunch break

Afternoon free

Monday, 30 November

08:30-10:00-Lecture and Discussion

Lecturer: Dr O. Wolowyna

Chairperson: Dr K.V. Ramachandran

Rapporteur: Dr T. McDevitt

Sectoral projections: Health resources planning  
model

10:00-10:30-Tea break

10:30-13:00-Computer Practice Session

Supervisor: Dr O. Wolowyna

Introduction to RTI's projection software

13:00-14:30- Lunch break

14:30-16:00-Computer Practice Session

Supervisor: Dr O. Wolowyna

Demonstration and hands-on practice of the health  
model software

16:00-16:30-Tea break

16:30-18:00-Computer Practice Session and Discussion

Supervisor: Dr O. Wolowyna

Demonstration and hands-on practice of the health  
model software

Tuesday, 1 December

08:30-10:00-Lecture and Discussion

Lecturer: Dr O. Wolowyna

Chairperson: Dr K.V. Ramachandran

Rapporteur: Dr T. Makannah

Subnational projections

10:00-10:30-Tea break

10:30-13:00-Computer Practice Session

Supervisors: Dr O. Wolowyna

Demonstration and hands-on practical session  
of the RTI's subnational projection  
software

14:30-16:00-Computer Practice Session

Supervisors: Dr O. Wolowyna

Demonstration and hands-on practical session  
of the RTI's subnational projection  
software (continued)

16:00-16:30-Tea break

16:30-18:00--Computer Practice Session  
Supervisors: Dr O.Wolowyna

Demonstration and hands-on practical session  
of the RTI's subnational projection  
software (continued)

Wednesday, 2 December

08:30-10:00-Lecture and Discussion  
Lecturer: Mr Maetz  
Chairperson:  
Rapporteur:

Sectoral Projections: Agricultural Population  
& Food: Part 1

10:00-10:30-Tea break

10:30-13:00-Computer Practice Session  
Supervisor: Mr Maetz

Sectoral projections: Agricultural Population  
& Food: Part 1

13:00-14:30- Lunch break

14:30-16:00-Computer Practice Session  
Supervisor: Mr Maetz

Sectoral projections: Agricultural Population  
& Food: Part 1

16:00-16:30-Tea break

16:30-18:00-Computer Practice Session and Discussion  
Supervisor: Mr Maetz

Sectoral projections: Agricultural Population  
& Food: Part 1

Thursday, 3 December

08:30-10:00-Lecture and Discussion

Lecturer: Mr Maetz

Chairperson: Dr K.V.Ramachandran

Rapporteur: Dr T.Makannah

Sectoral projections: Agricultural Population  
& Food: Part 2

10:00-10:30-Tea break

10:30-13:00-Computer Practice Session

Supervisor: Mr Maetz

Sectoral projections: Agricultural Population  
& Food: Part 2

13:00-14:30- Lunch break

14:30-16:00-Computer Practice Session

Supervisor: Mr Maetz

Sectoral projections: Agricultural Population  
& Food: Part 2

16:00-16:30-Tea break

16:30-18:00-Computer Practice Session and Discussion

Supervisor: Mr Maetz

Sectoral projections: Agricultural Population  
& Food: Part 2

Friday, 4 December

08:30-10:00-Discussion

Lecturer: Mr Maetz

Chairperson: Dr T.McDevitt

Rapporteur: Dr. K.V.Ramachandran

Sectoral projections and Integration: Agricultural  
Population and Food

10:00-10:30-Tea break

10:30-13:00-Chairperson: Dr T.McDevitt

Presentation & discussion of reports  
of sessions

13:00-14:30- Lunch break

Afternoon free

Saturday, 5 December

08:30-10:00-Chairperson: Dr T.McDevitt

Presentation & discussion of recommendations

10:00-10:30-Tea break

10:30-13:00

Adoption of the report of workshop

Closing of workshop



#### ANNEXE IV: LIST OF DOCUMENTS

1. Need for national and sectoral population projections in development planning and the integration of population variables in development planning(ECA/POP/WG/92/1).
2. Demographic data requirements, problems and solutions in making subnational and sectoral population projections in Africa(ECA/POP/WG//92/2).
3. Population and development interrelationships (ECA/POP/WG/92/3).
4. PDPM/PC user's manual(ECA/POP/WG/92/INF.1).
5. Computer softwares for the integration of population and development factors(ECA/POP/WG/92/INF.2).
6. Draft PDPM/PC user's manual, November 1992.
7. Using Wordperfect's Grab feature.
8. Projecting Government Consumption and Investment in Education, Health and Housing(IESA/P/AC.36/7).
9. Uses of and Methodologies for School Enrolment projection (ECA/POP/WG/92/4).
10. Uses of and Methodologies for Health projection.
11. Uses of and methodologies for Housing projection.
13. Labour force and Employment Model, User's Guide.
14. Health Resources Planning Model, User's Guide.
15. NPROJ: A General Cohort Component Population Projection Model in HOST, Version 3.0, User's Guide.
16. HOST, An Introductory Guide.
17. Projection Methods for integrating population variables into development planning, Vol. 1, Methods for Comprehensive Planning, Module one & two, United Nations, New York, 1990.

# ANNEXE V

## A Comparison of Software Packages for Sectoral Projections Presented in this Workshop on Selected Criteria

No	Criteria	PDPM/PC			RTI's Labour Force & Employment model	RTI's Health Resources Planning Model
		Labor Force Module	School Enrolment Module	Govt Exp Mod		
1	1/1 or 5/5		5/5		5/5	1/1
2	Regions allowed		2		up to 50	up to 25 by Urban/Rural
3	Output flexibility		None		complete	
4	Input flexibility		Minimal		very good	
5	User friendliness		Friendly		Reasonably so	
6	Interface with Population Projection model		Excellent		Excellent	
7	Interface with other sectoral models		None		None	
8	Adaptability to variation in data availability and differences in definitions of concepts across applications		Minimal		Very good	
9	Documentation		very good		Draft form	
10	Hardware requirement a. Hard disk space b. Math coprocessor		Approximately 2.3MB No		5 to 10 MB, depending on number of regions Yes	