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**ECONOMIC COMMISSION FOR AFRICA**

**Workshop on Instruments, Methods and Advocacy  
Tools for Integrating Population, Agricultural  
and Environmental Dimensions in Development  
Policies, Plans and Programmes in West Africa**

**Accra, Ghana  
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**REPORT**



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## A ACCOUNT OF PROCEEDINGS

### Opening of the workshop

1. The Workshop on Instruments, Methods and Advocacy Tools for Integrating Population, Agricultural and Environmental Dimensions in Development Policies, Plans and Programmes for the West Africa sub-region was held from 2 to 7 December 2002 in Accra; Ghana, as the second of a series of Sub-regional workshops aimed at building the capacities of ECA member States in the use of the PEDA. The training was designed to give participants a clear understanding of the structure; the underlying assumptions and the data requirements of the model as well as the initialization process to enable participants use PEDA as advocacy tool at national and sub-regional levels. As an integral part of the workshop, participants were also exposed to sustainable development and environmental management tools such as Environmental Information Systems (EIS), Sustainable Development Indicators (SDI), Integrated Environmental and Economic Systems Accounting (IEESA) and Environmental Impact Assessment (EIA).
2. The ECA's Sustainable Development Division (SDD) in collaboration with the ECA's Office for West Africa, in Niamey, Niger (ex Subregional Development Centre for West Africa) organized the workshop. The United Nations Fund for Population (UNFPA), provided funds for the organization of the workshop. The workshop was hosted by the Regional Institute of Population Studies (RIPS), University of Ghana, Legon.
3. Twenty-one participants from The Gambia, Ghana, Liberia, Nigeria, Sierra Leone and a representative from CILSS (The Permanent Interstate Committee for Drought Control in the Sahel (CILSS)), attended the workshop. The list of participants is provided in annex 1
4. Mr. Stephen Kwankye, acting Director of RIPS chaired the Opening of the workshop. Mr. Kwankye delivered the welcome address and Mr. Israel Sembajwe, of the SDD, ECA made a Statement. Mr. Toma Makannah, of the ECA's Office for West Africa, delivered the Opening Statement.
5. In his welcome address, Mr. Stephen O. Kwankye emphasized the centrality of population issues in the development efforts of sub-Saharan Africa whose economies are largely dependent on agriculture. He reminded participants that one of the major recommendations of the 1994 International Conference for Population and Development (ICPD) was the need to incorporated population factors in the development planning processes of all countries. The PEDA model he said, provides a scientific mechanism of linking population to development planning in Africa, in line with the objective of moving away from sectoral approach to development planning. He reiterated the need to recognise the interrelationships among the four components of PEDA in our planning strategies for the attainment of successful development. He highlighted population/health-related problems such as HIV/AIDS, maternal mortality as impeding development and stressed and the need for multidisciplinary and multi-sectoral approaches to advocacy. He expressed hope that the model would one day be developed to such a level that

would make it possible for incorporation into RIPS training and research programmes. Finally, he welcomed all participants to the workshop and wished them a very fruitful workshop and a good stay in Accra.

6. Mr. Israel Sembajwe, SDD, ECA in his address recalled the development frameworks over the last decade, which, are aimed at redirecting the development process towards a sustainable path. Regarding the millennium Development Goals (MDGs), he informed participants that ECAs primary contribution has been and will continue to be in the area of awareness raising and advocacy in the interdisciplinary approaches to development issues and poverty reduction, with emphasis on the need to involve all stakeholders. In view of this, he said the ECA places emphasis on cooperation and collaboration among all its programmes to serve Africa better. He also highlighted the impact of H IV/ AIDS on the health of populations and associated problems posed to development. In this connection, he reiterated the importance of the nexus issues in addressing development issues holistically with a view to mitigating the negative results of interactions and enhancing positive ones. He expressed his confidence in the regions future given its dedicated human resources especially in the light of the New Partnership for Africas Development (NEPAD), which demonstrates the commitment of Africas leadership to the continents development. He said that the next step in operationalising this initiative is to mobilise resources both internally and externally. He ended his address by thanking RIBS for putting in place effective arrangements for the workshop.

7. Mr. Toma Makannah delivered the Opening Statement. He welcomed participants to the workshop on behalf of the Executive Secretary of the Economic Commission for Africa, Dr Y.K. Amaoko, the Director of the Sustainable Development Division (SDD) of the ECA in Addis Ababa, Dr Josue Dione and the Director of ECA's Office for West Africa Niamey, Niger, Dr Jeggan Senghor. He emphasized the importance ECA attaches to sustainable development issues which is evidenced by the establishment of a Sustainable Development Division within the Commission in 1996. He reiterated the work of the Commission in the interlinked areas of agriculture, population and environment geared towards attaining food security and sustainable development. He quoted the statement made by the Executive Secretary at the recently concluded World Summit on Sustainable Development (WSSD) that stressed the high stakes of Africa in sustainability issues. In view of this realization, he stated that the incorporation of environmental, population and population concerns in development policies, strategies and programmes is considered key to attaining sustainability. In this context, he stated that the short-term objective of the workshop is to familiarise participants about instruments, methods and advocacy tools incorporating the nexus issues. In addition to the PEDA model, he informed participants that the workshop would also include environmental management, sustainable development indicators, environmental and economic systems accounting, and environmental impact assessment. He urged participants to participate actively in the workshop as it was intended to be very interactive, encouraging the exchange of ideas and experiences. He expressed the hope that the instruments and tools acquired would be used for formulation and implementation of effective and integrated sustainable development policies and programmes in the West Africa sub region. In declaring the workshop opened, he wished participants fruitful deliberations and exchange of ideas.

## **B. AGENDA**

### **1. The meeting adopted the following agenda:**

1. Opening of workshop
2. Adoption of the agenda and organizational matters
3. Introduction to Sustainable Development
4. Introduction to the model (PowerPoint presentation)
5. Theoretical Assumptions underlying PEDA (Presentation of the User's Manual)
6. PEDA and its data requirements
7. Discussions of PEDA and related models
8. Presentation of the technical manual
9. Practical session: Running PEDA
10. Defining alternative scenarios in PEDA
11. Practical session: Interpretation of different scenarios in PEDA
12. Initialization of PEDA: General structure and data requirements
13. Instruments and Methods: Environmental Management
14. Instruments and Methods: Sustainable Development Indicators
15. Instruments and Methods: Integrated Environmental and Economic Systems Accounting
16. Instruments and Methods: Environmental Impact Assessment
17. Workshop evaluation
18. Closing Ceremony

### **Adoption of Agenda:**

8 No substantive amendments were made to the agenda. There was however a slight rearrangement regarding the half-day holiday taking into account the Muslim holiday of EID. Following this, the agenda was unanimously adopted as presented in annex 2.

### **Introduction to Sustainable Development:**

9. Mr. Toma Makannah of ECA's Office for West Africa presented this paper. The session was quite interactive and commenced with the analysis of various definitions of sustainable development starting with the Brundtland definition of 1987 introduced at the United Nations Conference on Environment and Development (UNCED, 1992). It was concluded that the Brundtland definition is a framework definition that can be adapted to country or region specific priorities and requirements. However all the definitions encompassed the three pillars of Sustainable Development namely; economic, social and environmental. Participants also provided definitions of Sustainable Development as applied to the local and/or African context.

10. The classification of West African countries according to the UNDP's Human Development Index (HDI) was discussed. No West African country was classified under high HDI, only two, (Ghana and Cape Verde) are classified under medium HDI and the rest under low HDI.

11. The presenter then gave an overview of environmental problems in African countries namely; land degradation, deforestation, desertification, drought and diseases. These problems vary by the type of eco-geographical zone (desert, sahel, sudano-sahel, humid), under which a country is classified.

## **Discussion**

12. Participants then discussed sustainable development problems peculiar to their respective countries. These ranged from coastal erosion and salt-water intrusion in coastal areas, internal conflicts in politically fragile countries, to desertification in the Sahel region, land degradation and deforestation cut across all countries. Another crosscutting issue was the rural-urban drift, which increases pressure on an already inadequate urban infrastructure resulting in urban squalor. Drought and water shortage were also identified as problems, particularly in the Sahel region. Pollution was cited as a major problem in oil producing areas.

13. A major impediment to attaining sustainable development in The Gambia is the over dependence on rain fed agriculture. Over the years, erratic rainfall patterns have affected agricultural production in the country and this has contributed to unfavorable economic conditions in the recent past. To attain sustainable development, it is necessary to diversify agricultural production. Strategies should be put in place to explore the use of irrigation to complement rain fed agricultural production. Such a measure would reduce the negative effects of successive droughts on the national economy and improve the food security situation.

14. On the factors constraining the attainment of food security in the sub-region, problems cited included inadequate land tenure systems, drought, salt water intrusion, soil degradation, removal of agricultural subsidies, lack of investment in irrigation projects were also blamed on reduction in yields thus exacerbating poverty. An unfair international trade regime was also considered a major setback in agricultural development and hence the attainment of food security in Africa. It was argued modernization of agricultural techniques would only yield dividends if applied within a broader framework of sustainable agricultural development programme. Lack of political will to combat poverty which is a cause and consequence of environmental degradation - causing in a vicious cycle, was considered an overarching impediment to food security.

15. The picture that emerged from the discussions was not all gloomy; success stories have been recorded across the sub region: During the conflict in Sierra Leone, women entered into cooperative ventures in the area of vegetable farming which made it possible for them to pay school fees for their children thus ensuring continuity in their education. Also in Sierra Leone, National Research Institutions link with international institutions like IITA and ILRI succeeded in delivering packages to farmers which greatly contributed to local food production during the interwar period. In The Gambia and Niger, community forest management programmes have resulted in better management of forest resources thus ensuring their sustainable utilization. Early warning systems are well instituted in the Sahel and have been very instrumental in mitigating the effects of drought. In Nigeria, small-scale irrigation schemes have proved successful where large-scale schemes have proved unsustainable and have therefore failed. In Ghana, the introduction of demand-driven approach to service delivery encouraged the establishment of farmer cooperatives thus providing them with more access to credit, hence increasing productivity. Introduction of

lowland farming in Liberia has ensured that farming activities are also carried out during the dry season thereby increasing rice productivity.

### **Introduction to the PEDA model**

16. Mr. Israel Sembajwe presented the genesis of the PEDA Model. He indicated that with the assistance of the International Institute for Applied Systems Analysis (IIASA) in Vienna, the ECA has developed the PEDA model to illustrate the interactions between population changes, the environment, socio-economic development and agriculture. The PEDA Model is an Advocacy tool demonstrating the likely impact of national policies on the food security situation of the population. The objective and advantage of a quantitative model like PEDA is to help users to think in terms of the outcomes of alternative policy scenarios and, most importantly, to consider the nexus issues within a holistic framework.

17. The theoretical basis of PEDA is the vicious circle theory. The main purpose of PEDA is to study whether the proportion of food insecure increases or decreases over time. This is done by the means of multi-state population projections methods. PEDA, a population based model, distinguishes between eight different subgroups in the population based on three individual characteristics of their members: urban/rural place of residence, literacy status, food security status. The movements between the food secure and the food insecure groups are determined by production and distribution of food.

18. PEDA has been initialized for the following countries: Botswana, Burkina Faso, Cameroon, Ethiopia, Madagascar, Mali, Nigeria, Uganda, Zambia. Initialized means that the starting data have already been entered into the model and the model is ready to set alternative scenarios and present results. PEDA can be used at two levels. First, persons with only basic computer skills can define and simulate alternative scenarios, once it has been initialized for a given country. Second, a team of national and international experts can initialize PEDA for a country. This is a more engaging, extensive and intensive project.

### **Example from Cameroon**

19. Using PEDA as an advocacy tool for sustainable development policies in Cameroon, the presenter stated that policy makers in the country are already aware of the interlinkages between population, environment, development and agriculture in a perspective of sustainable development. Strategic plans formulated in Cameroon on population, agriculture and environment, aim to alleviate poverty and ensure a sustainable development. However, the actual situation is not favourable to sustainable development and the strategic plans are not implemented as expected. Our aim with PEDA is advocating for the implementation of these strategic plans. Using PEDA, two scenarios were created: a constant rate scenario (rate of 1995 remaining constant over the time) and a strategic goal scenario (in which the targets set by the strategic plans are achieved by 2030).

20. The results were presented in the form of line charts and age pyramids. The line charts from 1995 to 2050, comparing the two scenarios for the food insecure population of Cameroon, show that the implementation of the strategic plans would effectively have a positive impact on

food security. The age pyramids in 2050, comparing for each of the two scenarios the part of the “Rural, Not educated, Food insecure” in the Total population, give indication that with the achievement of the goals of the strategic plans this sub-group of the population would decrease. Concluding, the presenter pointed out that through PEDA it was demonstrated that the implementation of the strategic plans would have a positive impact on food security. In addition, policy makers can be ensured that their strategic plans are effective and implementing them the country would be on the right track to sustainable development.

## **Discussions on PEDA**

### **Intervention from Participants and remarks by Secretariat**

21. Participants acknowledged the user-friendly nature of the Model but wondered who the target group was. In reply, the secretariat indicated that as follow up to training workshops on PEDA, ECA expects participants to start using the model for advocacy purposes on the nexus issues and insert it into the courses of their respective training institutions.

22. Participants noticed that PEDA and the nexus issues approach should also be used within NEPAD. NEPAD considers agriculture and environment as two of the most important components of the development framework. However, at the current level of NEPAD, the components are not integrated in a common strategy. Policy makers in different ministries should understand that they cannot achieve anything by themselves, and that they have to work in an integrated manner for a common objective. This is why PEDA should be used to advocate for the nexus issues in the new framework defined by NEPAD in Africa.

23. The Secretariat explained that ECA has the role of coordinating NEPAD for Africa. It is also the mandate of ECA to organize leadership at the highest level regarding sustainable development issues. The Sustainable Development Division of ECA is advocating to policy makers on the integration of population, environment and agriculture areas in development strategies.

24. Participants raised the issue of data requirements for PEDA and the fact that often in Africa data are not reliable and not up-to date. This makes it difficult to create realistic scenarios with PEDA. It was explained that the scenarios set with PEDA can be used to advocate for policy alternatives to policy makers. In building the scenarios and setting the different variables in PEDA, users should have a large view of the reality and consider all variables that have an impact on food security. Discussing the results of the scenarios, users have to keep in mind the characteristics of the different scenarios set up. This is important for understanding and discussing the assumptions and in which context the results have been achieved. Also the problem of data requirement will be addressed by the utilization of experts in the relevant fields. For exercise purposes, any data is used. However, for the initialisation of a new country, the data required for the model need to be country specific, accurate and up-to date and this is the task for the experts in the various fields.

25. A question was raised following the introduction of the PEDA model requesting the secretariat to clarify why some countries are not benefiting from PEDA as others whose models have already been developed. The secretariat responded that initially prototypes were developed



but now a common shell is available and can be adapted to fit specific situations within all other countries in Africa. Another participant requested to know how ECA can help to source necessary data for countries and the secretariat encouraged the participants, who are really the national experts to collaborate with ECA by pointing out the most recent data and surveys. The secretariat stressed that no one can really come from outside to give information about the various countries but rather, the national staff. A participant wanted to know how the model determines the food secure and those who are insecure. The secretariat responded that this is calculated based on nutritional requirements (Kilocalories) for each country. Regarding whether the model takes into account food storage/preservation aspects the response was that there is an element in the model to take care of food loss in the harvest/storage

26. One participant expressed concern as to whether there was a need to develop PEDA since there were too many tools that are supposed to do the same things hence bringing in confusion. Another participant on the other hand wondered whether PEDA was comprehensive enough to include a leadership component and even suggested that a variable L be added to make PEDAL. The secretariat responded by expressing empathy with the participant who was concerned about too much information and too many tools because this is true. But PEDA was built in response to a need for an 'African tool' for policy analysis and advocacy. This can indeed go a long way towards harmonizing the indicators being used by different countries for better comparison. Regarding the leadership component, this is implicitly included in the model through policy change. Good leadership/governance is reflected by good policies.

27. A participant asked how the issues of rural-urban migration and aging is accounted for in the model and the secretariat responded that the model does take care of rural-urban migration by allowing the user to input the migration element. With respect to aging, the model shifts the elderly to the different age cohorts over time and this has an impact on the labor force hence food production and food security. Another participant wondered if the model takes into account short-term vis-a-vis long term gains. The model does take care of these elements. For instance, deforestation today can have short-term gains in terms of agricultural production but at a later date these increases will be depleted due to soil infertility etc.

### **Technical Components of the PEDA Model**

28. This section of the PEDA Model was presented by Mr. Kwadwo Tutu. The PEDA Model has the following sub-modules; namely Population, Natural resources; Agricultural Production and Food Distribution. An HIV/AIDS section has been added to it. The Model is based upon the vicious circle which indicates that food insecurity results from a fast growing food insecure population that degrades land and consequently decreases food production leading to food insecurity. The model is regarded as population-based because it recognizes that people are agents of social, economic, cultural and environmental change.

29. There is an indirect Macroeconomic model which links output to labor which in turn becomes the driving force. Markets indirectly affect labor through incentives. There are migration and unemployment functions. There is a labor transition in which people move up each year in the age pyramid. People can also move from food insecure to food secure and vice-versa.

There are hierarchical transitions in that in the case of Education, people can move only from lower to higher not the reverse while in the case of migration the direction is only from rural to urban.

30. The other important segment of the model that was pointed out is the Agricultural Production function. Within that is the variables land and water. For land, there is both potential for regeneration and degradation with its consequences on food production while the water variable within the production function gives chance for rain fed and irrigated agriculture. Finally, food security status is given by a food distribution function.

### **Discussions**

31. During the discussions, the following interaction took place:

32. Participants made comments about the high level of technicality of the population, land, water and production functions in relation with the ordinary user of the model. It was pointed out to participants that the nature of the model makes it necessary to work with other sectors of the economy. The model is multi-sectoral so it was necessary to work with those sectors. Furthermore, the point was stressed that the model is not only for advocacy purposes but is also analytical. The reason is that it needs skilled and highly analytical persons in their area of expertise to model the segments to suit their particular country. Participants also asked about the method of arriving at the setting of the parameters of the various variables and the assumptions about the various variables of the segments and functions. In response, it was stressed that the skilled people will be able to give reasonable assumptions for the particular country. Also some of the parameters are derived from the models while others come out of experience of skilled people in their area.

33. The next issue was about data projections. A participant pointed out that projections are useful for planning for the future in a bid to help countries to review their potential and to sustain its populations over time. The longer the period for projection, the less accurate the predictions since it is difficult to foresee the events that might occur in the future due to uncertainties relating to wars etc. It was pointed out that although PEDA can make projections up to 2050 but it is advisable to make shorter projections, preferably to 2025. With projections it is important to take into account potential scenarios as well since with planning we may not foresee every situation. All countries have unique factors that influence events and data. These have to be taken into account. For example, in the Sahel, we have the risk of drought. In PEDA you can change the data/baseline according to the country situation.

34. Regarding land tenure, it was noted that land is an important input and better land policies are vital to the development of agriculture. While some traditional tenure systems impede agricultural development, there is no one method to address land tenure universally. Rather, one has to consider the uniqueness of each place and come up with a tenure system that will lead to present and future sustainable systems. It is important to have good governance. Governments cannot always impose themselves on traditional tenure systems because land is not only sensitive but remains the only means of earning livelihoods for the majority in developing countries. The issue of women and land tenure should be addressed since a lot of African women have no access

to land. It is also crucial to consider the diversity of land tenure systems within countries. Within PEDA, institutional variables such as land tenure are taken care through other variables. For instance in the production function, land tenure changes can be reflected just as credit and other variables. Institutional changes lead to changes in other variables e.g. gender imbalance in education land, health etc.

35. It was also pointed out that HIV/AIDS is explicitly taken care of in the model unlike other important diseases like malaria and TB. This is due to the fact that HIV/AIDS, unlike these other diseases, is a debilitating disease that takes a long time to cause death so its repercussions on household income, labor force have to be taken into account. We therefore need parameters to reflect the long-term impacts of this illness on e.g. agricultural production. Regarding the other diseases, the life expectancy variable implicitly takes care of the impacts.

### **Instruments and Methods: Environmental management**

36. The topic was introduced by **Mr. Toma Makannah** of ECA's Office for West Africa. In his presentation, he briefly outlined the objectives and contents of the following strategic planning instruments: National Conservation Strategies (NCSs), National Environmental Action Plans (NEAPs), Tropical Forestry Action Plans, the Plan of Action to Combat Desertification; the Framework Convention on Climate Change and the Convention on Biological Diversity. He noted that National Environmental Action Plans (NEAPs) rank foremost among national strategic environmental planning initiatives in West African Countries. NEAPs date from 1987, when the World Bank began encouraging borrowing governments to prepare and implement them and provide support for the exercise. All West African countries have formulated NEAPs; some have revised earlier versions of the plans, e.g., Gambia. The presenter observed that the usual contents of NEAPs that have been prepared for West Africa countries are: state of environment and natural resources; environmental policies and strategies; institutional and legal frameworks for the implementation, and priority programmes and related actions<sup>37</sup>. A presentation was made on by **Ms. Isatou Gaye** of the SDD on the use of Environmental Information Systems (EIS) as a planning and decision making tool for Environmental Management based on The Gambian experience. The speaker emphasized the centrality of access to relevant, accurate and timely data, information, and knowledge to Sustainable Development in Africa, of which environmental management forms an integral part.

38. **.She described EIS as comprising strategies, procedures and institutional framework and the set of data management tools with emphasis placed on accessibility and analysis by a wide range of users. In the case of the Gambia, EIS development was done within the framework of the Gambian Environmental Action Plan (GEAP), which provides the framework for overall environmental management in the country. The framework approach, which is demand driven, was used for EIS development. The approach is strategic planning process, which is flexible thus promoting a better sense of ownership and commitment to the process aimed at ensuring sustainability beyond individual projects.**

39. **The coordinating mechanism for EIS Working Group, which provides policy guidance comprise three task forces for documentation, spatial and non-spatial data and a network of data centers comprising key institutions responsible for producing and**

**maintaining key data sets. The National Environment Agency (NEA) served as the coordinating Agency and provided overall leadership for the EIS development process.**

**40. Constraints in the development of the framework cited by the presenter included the general lack of experience with information technology, the lack of understanding of the concept of shared responsibilities and data resources during the initial stages and little appreciation of the role of information technologies of decision making.**

41. Achievements included the building of capacity in information technology and management in all collaborating agencies and the implementation of several studies under the auspices of the Environmental Information Systems (EIS) working group. Collaborative studies were also successfully carried out with several regional and international institutions such as INSAH, CILLS, International Trypanosomiasis Center (ITC) and FAO.

42. Sustainability issues which were raised during the preparation of the framework and for which recommendations were made to ensure same, fell short of expectations. The EIS development and implementation which was largely donor driven did not go according to the "local rhythm" proposed, as donor timelines had to be met. Several other sustainability issues including awareness raising and marketing to create a user-driven demand and which were not thoroughly pursued were also raised.

43. The speaker concluded with the following remarks: National institutions should avoid over-dependency on donor support and should include the element of gradual integration of project activities into national budgets at the level of project design. Capacity building is important but staff retention mechanisms should also be part of institutional mechanisms and to be reviewed regularly. In conclusion, the speaker asserted a lot of grounds have been made with regard to development and implementation of an EIS framework. In this regard, it was recommended that these gains should be built upon in future Environment Management Frameworks to ensure that previous efforts do not go to waste.

## **Discussion**

44. The constraints and achievements of, as well as lessons learnt from The Gambia Environmental Action Plan (GEAP) were explained to the meeting. GEAP, adopted in 1992 was developed through a participatory process involving all stakeholders. In 1993, the Environment Unit was upgraded to a National Environment Agency to coordinate the implementation of the GEAP and which was subsequently established by an Act of Parliament in 1994.

45. Some of the achievements of GEAP were cited. They include, the strengthening of existing institutions through training of personnel; the creation of a well functioning institutional framework for environmental management; the creation of a network of multi-stakeholder and cross-sectoral working groups; assisting the national environmental agency (NEA) in its role of as coordinator; enhancement of the NEA performance; increasing the public's environmental awareness; introduction of a participatory planning mechanism; rekindling of the political commitment to environmental management; and the launching of the State of the Environment.

46. Among the constraints that impeded the implementation process were: staff recruitment and retention; lack of preparedness of the line agency staff in the area of environment; lack of representation of various groups; withdrawal of some donor funding; and bureaucracy involved in releasing donor funds.

**47. Among the lessons learned and some related recommendations were as follows: Care should be taken to evaluate capacity and potential collaboration needed; there is a need for integrating environmental issues and action plans into the national development plans, making sure that these are reflected in the national budgets; the cost of collaboration needs to be considered and budgeted for; awareness creation and capacity building are continuous processes and should be sustained; consultation among economic and environmental institutions is vital; capacity building in environmental economics and Natural Resource accounting is important; there is need to consolidate gains made so far to address the new challenges; and finally, efforts should be put into donor coordination.**

48. The representative of CILSS informed the meeting that in Niger the major environmental problems are desertification, land degradation, soil erosion, deforestation and pollution of surface and underground water. The Government considers land degradation as the country's single most important environmental problem and the most serious threat to the success of its development strategy. In an attempt to address this complex problem a number of initiatives have been undertaken by the government, e.g. in 1992 Niger adopted a Rural Development Policy Framework (RDPF).

49. Nigeria has a large number of environmental and resource management problems, e.g. deforestation, overgrazing, soil erosion, pollution of surface and ground waters and farmlands in the Niger Delta. Responsibility for environmental matters is vested in the Federal Environmental Protection Agency (FEDA).

50. Liberia's forests and biodiversity are threatened by agriculture and commercial harvesting of timber. Hunting, new settlements and uncontrolled fishing methods are also threats to the country's biodiversity.

51. The Global Environment Facility (GEF) through the National Environment Commission assisted Liberia in developing a National biodiversity Strategy and Action Plan (BSAP). The BSAP defines the current status of biodiversity situation in the country, including pressures on the resources, options and priority actions needed to ensure the conservation and sustainable use and equitable sharing of biological resources. The project will build on the existing knowledge base in the country.

### **Instruments and Methods: Sustainable Development Indicators**

52. The presenter of the paper on this agenda item, **Mr. Toma Makannah** of ECA's Office for West Africa, focused on three issues, namely: definitions of sustainable development indicators, uses of sustainable development indicators, and the framework and methodologies of indicators of sustainable development developed by the UN.. He cited the UNDP's Human

Development Index- a composite indicator of life expectancy, educational attainment and income- as one of the main sustainable development indicators.

53. Sustainable development indicators were defined as statistics, statistical series and related quantitative measures that enable assessment of the viability of sustainable development systems and issues. Indicators are an essential part of the information revolution, because they assist to simplify and communicate the masses of information now becoming available with new technologies. They can help to bridge the data gaps identified as a priority in Agenda 21, Chapter 40 (Information for Decision-Making)

54. The following uses of sustainable development were given. Indicators can provide crucial guidance for decision-making in a variety of ways. They can translate physical and social science knowledge into manageable units of information that can facilitate the decision-making process. They can help to measure and calibrate progress towards sustainable development goals. They can provide an early warning, sounding the alarm in time to prevent economic, social and environmental damage. They are also important tools to communicate ideas, thoughts and values.

55. Participants gave the following uses of sustainable development indicators in assessing sustainable development in their countries. In the area of health, indicators such as infant mortality, have been used to assess various health interventions. Measures on poverty levels have also been used to determine how various income generating measures have succeeded in improving the income status of the population. In the industrial and agricultural sectors, measurements are regularly made, for instance, on industrial and agricultural growth rates. Population growth rates, an important index for the economic well-being of countries, are also used to assess social progress.

56. Moreover, various environmental indices such as rate of desertification and changes in the levels of different pollutants are also normally measured and utilized by countries. It was observed that programmes for the measurement of sustainable development indicators in member States are constrained by lack of relevant data. An integrated approach was recommended for country programmes to systematically develop sustainable indicators programme. In this connection, the work of the United Nations Commission on Sustainable Development (CSD) was referred to as a framework for selection and developing sustainable indicators. The framework employed in the CSD work programme to guide the selection of sustainable development indicators has evolved from a driving force-state-response approach to one focusing on themes and sub-themes of sustainable development.

### **Instruments and Methods Integrated Environmental and Economic Accounting (IEEA)**

57. Mr. Tutu presented an overview of the Integrated Environmental and Economic Accounting. A historical development of the UN system of National Accounts (SNA) starting from 1947 was presented. The SNA was established in 1968 and updated in 1993. Then in 1992, as a result of the earth Summit in Rio, the IEEA was developed by the UN Statistical Division. Countries that have compiled their IEEA accounts include Ghana, Botswana, Namibia and South Africa.

58. Compiling national accounts is essentially taking care of the use of the nations' assets. These assets include those that are environmental and those that are not. The SNA environmental assets are those owned and capable of yielding economic benefits to owners whereas non-SNA Environmental assets provide non-economic benefits, such as waste absorption and ecological functions like flood control of forests.

59. The SNA Asset Boundary includes land, mineral deposits, timber and non-timber forest products. For instance, in SNA, account is taken only of cocoa output not the deterioration of the land used in the production of cocoa. Items not included in the SNA are environmental assets, such as ecosystems without enforceable ownership rights whose economic benefits cannot be derived. Others are environmental costs incurred through the use of natural resources in production and consumption (depletion) and the impacts on environmental quality resulting from pollution (degradation).

60. The reasons for compiling Asset Accounts include:

- monitoring of resources used in production
- assessment of economic contribution of resources to each industry
- assessment of whether resource rent is recovered through taxes or user fees
- assisting in resource management policy and
- assessment of national wealth

61. The components of IEEA include:

- Asset Accounts
- Physical flow Accounts
- Environmental protection, resource management and resource exploitation Accounts and
- Monetary valuation of non-market environmental accounts

62. There are ten steps in the implementation of IEEA. They are:

- (Kwadwo, Step I missing)
- Step II: Identification and compilation of environmental protection expenditures
- Step III: Compilation of Produced Natural Asset Accounts
- Step IV: Compilation of Physical Natural Resources Accounts
- Step V: Valuation of Natural Resources
- Step VI: Compilation of physical environmental assets accounts
- Step VII: Compilation of emissions
- Step VIII: Maintenance costing of emissions
- Step IX: Aggregation and tabulation
- Step X: Comparison of conventional and environmentally Adjusted indicators

63. The Accounts that are relevant for the compilation of the IEEA are:

- A) Land and Soil Accounts
- B) Subsoil Asset Accounts
- C) Forest Accounts

- D) Fishery and other Biota Accounts
- E) Water Accounts and
- F) Emission Accounts

### **Ghana's Accounts (1991-3)**

64. Two major important results from the yearly IEEA that was prepared from 1991-3 are:
- The environmentally adjusted yearly National Income of Ghana was between 5% and 15% lower than normal National Income.
  - Most of the degradation and depletion comes from the household or informal sector

### **Discussions:**

65. During discussions, it came out that since Africa is a natural resource dependent and less industrialized continent, it was crucial that natural resource accounts are taken seriously so that the rich resources are well managed for the present and future generations.

### **Instruments and Methods: Environmental Impact Assessment (EIA)**

66. In the presentation of the topic, Mr. Toma Makannah defined Environmental Impact Assessment (EIA) as a tool that helps to identify, predict and evaluate the foreseeable environmental consequences of proposed development projects, plans and policies. As a proactive tool, EIA attempts to operationalize the principle, 'prevention is better than cure.' The presenter traced the beginning of EIA to the 1970s, when governments in developed countries began to formulate environmental legislations and create agencies with responsibilities for environmental legislations. Two examples of such earlier environmental legislation were: the 1970 National Environment Policy Act of the USA and the 1973 Environmental Assessments Review Process of Canada. In the 1980s the number of countries introducing EIAs had substantially increased. African countries started introducing EIAs in the 1990s.

67. The following main steps that constitute the EIA process were briefly explained: *screening* (the process which helps to decide whether or not to perform an EIA), *scoping* ( involves detailed research and expert advice to (a) identify the project's key impact on the neighbouring environment) and (b) evaluate the importance of the critical issues of the various stakeholders other than the decision makers, the developers); and *prediction and mitigation* ( assess impacts and identify mitigation measures through the gathering of baseline information and the collection of any available secondary data). Other elements of EIA were mentioned, namely: management, monitoring, auditing and public participation.

68. The sub-module Techniques for Identification of Environmental Impacts was presented by Ms. Isatou Gaye as an integral part of the module on EIA. This sub-module dealt with the logical and systematic approach to the identification of impacts. The aim was to demonstrate to participants the importance of taking into account all the important environmental / project impacts and interactions with a view to making sure that the indirect and cumulative effects, which may be potentially significant are not inadvertently omitted. Impact identification methods



discussed were checklists, matrices, networks, overlays and Geographic Information Systems (GIS).

69. The key features of the identification methods were described as follows:

Checklists annotate the environmental features or factors that need to be addressed when identifying the impacts of projects and activities. Three types of checklists namely: simple lists, scaling lists and questionnaire lists were described. Examples of each were presented and discussed. The Leopold type matrix, which consists of a list of development activities ranged against a list of environmental factors, was used to demonstrate the components of an interactive matrix. An example of an interactive matrix was presented and discussed.

70. A Network Diagram was presented as a technique for illustrating how impacts are related and what the consequences of impacts are. An example of a network diagram, which illustrated environmental impacts of proposed actions up to the quaternary level and possible mitigation measures, were presented and discussed. Overlays, manual and computer based (GIS), which demonstrate the spatial component of the impact to be identified and represented, were also discussed. Finally, the main advantages and disadvantages of the impact identification methods were discussed. It was advised that the advantages and disadvantages would need to be weighed in order to decide on which method to use depending on the task at hand and where emphasis is required. A summary of the presentation is attached as annex .....

## **Discussion**

71. During the discussion participants made the following comments and remarks:

72. Among the obstacles confronting the operation of formal EIAs in West African countries the following factors were enumerated, namely:

- A general lack of political will or awareness of the need for EIA,
- Insufficient public participation in decision making,
- Lacking or inadequate legislative frameworks,
- Lack of an institutional base,
- Insufficient financial resources,
- Lack of environmental data,
- Insufficient skilled manpower.
- Corruption

73. Ghana, Gambia and Nigeria are the countries in the sub-region where EIA is institutionalized. Other countries are facing obstacles confronting their efforts to introduce formal EIAs.

74. The following criteria for screening and their applications in West African countries were debated:

*Type* –for example, whether it is a heavy industry, infrastructure project or whether it is based on resource extraction.

*Location-sensitive areas*, for example, national parks, watershed reserves, potential tourist spots, areas of unique historical, archaeological or scientific interest; areas frequently visited (e.g. beaches) or hard hit by natural calamities, water bodies.

*Size*: magnitude of project e.g. for an irrigation project, greater than a predetermined surface area of irrigated land that would be affected, number of rooms of a new hotel.

75. The types of projects for which EIA are undertaken in West African countries include industrial projects like the production of cassava, roads, hotels, mining, waste disposals.

More specifically, the following types of projects that must be subjected to EIAs in Sierra Leone were cited: substantial changes in renewable resource use and in farming and fisheries practices; exploitation of hydraulic resources; infrastructure; industrial activities; extractive industries; waste management and disposal, housing construction and development schemes.

76. Looking at techniques used in the EIA process the workshop noted that it is advisable to modify some of the techniques to enhance adaptation to the environmental conditions. The Leopolds matrix for example may not be directly employed in many African situations.

Public participation in the EIA process should not be an open-ended involvement.

77. The way forward for EIAs in West Africa should involve prioritizing: i) the strengthening of political will, good governance, political and public awareness, ii) the strengthening and empowering of existing institutions, and iii) tackling the problems of corruption and lack of financial and human resources.

78. Country-specific experiences on dealing with impacts of development projects were provided. These showed that with Nigeria and Liberia, for example, before the introduction of EIAs projects, development projects introduced utilizing economic tools like feasibility studies and cost/benefit analysis focused on economic viability and completely failed to identify adverse environmental consequences and make provision for mitigation measures to address them by the developers.

79. In Nigeria, before the EIA Act which was promulgated in 1992, oil mining and development activities in the Niger Delta were carried out without due evaluation of the possible impact of the activities on the environment and the people of the area. However, since 1992, all the projects in the region, and the nation as a whole, are preceded by EIAs, which often includes a Social Assessment. As a result, there is now a much better understanding of the dynamic interaction between the people and the peculiar environment of the area. In addition, there is an almost general agreement on the development needs of the area. Hence, unlike the period before the EIAs, both the Government and the Oil Companies operating in the Niger Delta area are better able to target their development assistance programmes to meet the needs of the people.

80. In Liberia in place of EIAs, feasibility studies, with little emphasis on environmental concerns were usually conducted. With particular reference to mining, concession agreements that were entered into did not take into account negative environmental consequences such as deforestation, water pollution and land degradation nor provision made for mitigation measures

such as the restoration of the land and infrastructure to a state suitable for cultivation and other uses. The companies, at the end of their operations left huge unfilled pits, neighboring rivers polluted and damaged roads, among other environmental damages.

Preparation of well designed EIAs are now addressing the above mentioned problems in the sub-region.

81. In Ghana the use of EIA has become standard practice for projects depending on their sizes, location and types as stipulated in the country's guidelines. A mix of methods or approaches is used to assess the environmental impact of projects including, research, public hearings, structured questionnaires and professional assessments by multi-disciplinary teams of experts including engineers, health and environmentalists, legal persons, local administrators and sociologist, to mention but just a few.

82. EIAs which have been conducted recently include: the Kwabenya Landfill Project in Accra, a waste disposal site, and a cassava project in the Gomoa area, large estate sites such as market and SSNIT housing schemes.

83. In the Gambia, EIA is always an integral activity of the national environmental activities so as to ensure a friendly environment for all Gambians. EIA screening is done for any new project starting from 1994. Before approval is given to any project to start, the project has to meet the EIA procedures. The role of the National Environment Agency is to ensure that all projects are screened because they have to be licensed in order to start the implementation. The EIA programme is issued along with the screening form, and the industrial registration forms for our industrial database at the Agency.

### **Closing Ceremony**

84. A participant from Nigeria expressed a note of thanks on behalf of the participants. He thanked the organizers of the Workshop, the host institution in Accra and the resource persons that intervened in the different sessions. He said that participants wanted to express their appreciation for the possibility given to them to attend the Workshop. The Workshop allowed them to enrich their knowledge and develop a new skill on the PEDA model and on instruments and methods for environmental management. He said that organizers could be ensured that going back to their respective country, participants will act for disseminating the new skill acquired. They will also advocate to their respective government on the issue of integrating population, agricultural and environmental dimensions in development policies.

85. The Acting Director of RIPS said that he was really pleased that the Workshop was fruitful. He expressed his gratitude to the organizers and financiers and stated that it is his hope that people will remember the fruitful partnership that made possible the organization of the Workshop. He hoped that participants would implement what they have learned and advocate about the tools. He expressed his believe that participants and organizers would carry to their respective country and duty station the message that RIPS is still alive and that the institute is open to host other capacity building workshops.

86. The representative of ECA congratulated all participants for the active involvement and interest shown during the workshop. He said that he is confident that participants will leave as competent experts and ardent spokespersons on instruments, methods and advocacy tools for integrating population, agriculture and environment in development policies, plans and programmes in Africa. He commended the partnership and collaboration shown by different organizations in the holding of this workshop. These include the partnership and collaborative spirit shown by UNFPA, RIPS, ECA Office for West Africa and ECA/SDD. He said that the generous contribution of funds by UNFPA, is a clear demonstration of the organization's devotion to supporting policies and programmes targeted at poverty reduction and population welfare in the region.

87. The representative of ECA also stated the hope of his organization that participants and resource persons are going away with renewed vigor and determination in influencing planning and policy making in relationship to the nexus issues in individual African countries in the context of good governance. He recommended organizers to set up an active network (or vigilant group) to keep people in contact with each other on the PEDA model and environment assessment methods, and develop other tools and materials to facilitate the advocacy work on the nexus issues.

## Annex I

### Evaluation Report of the Workshop on Instruments, Methods and Advocacy Tools for Integrating Population, Agricultural and Environmental Dimensions in Development Policies, Plans and Programmes for the West Africa sub-region

#### Background

**1.1** The PEDA training workshop for English speaking West African countries was organized for 21 participants by ECA/SDD, ECA/SRO-West Africa with funding from UNFPA, from 2 to 7 December 2002. At the end of the workshop, the participants were requested to complete a questionnaire to evaluate various aspects of the workshop. The purpose of this exercise was to provide the organizers with feedback that would be useful in planning future similar workshops. The following section describes the results of this exercise based solely from information provided by the participants.

#### Evaluation.

Out of the 21 participants, the majority responded to the questions with the response rate varying from a 71% to 86% depending on the question.

#### Organizational aspects of the workshop

Most (88.24%) of the participants thought that the length of the workshop was adequate to cover the material. While more than half (53%) of the participants received their invitations on time, improvements are needed in this area since a good number (47%) of respondents indicated that the time between when the invitations were received and when they traveled for the workshop was inadequate to make adequate preparations.

The table below shows that the participants rated the organization and content of the workshop favorably. A rating of very good or excellent was received from at least 69% regarding the administrative arrangements, professional mix of participants, technical level of participants, preparation of the workshops, relevance and quality of documents issued and presentations as well as guidance during the practical sessions.

**Q3. Please rate the following aspects of the meeting on a scale from A-F (A = excellent, F = very poor):**

	A	B	C	D	E	F	Total %
Overall administrative arrangement of the meeting	25	43.75	12.5	6.25	6.25	6.25	100
Professional mix of participants	41.18	52.94			5.88		100
Technical level of participants	37.50	56.25			6.25		100
Preparation of the workshop and the organization of the sessions	47.06	35.29	5.88	5.88		5.88	100
Relevance and overall quality of the documents received	58.82	29.41	5.88			5.88	100
Relevance and quality of presentations	52.94	29.41	11.76		5.88		100
Content and guidance during practical sessions	37.50	43.75	12.50		6.25		100

### Quality and Usefulness of workshop

In the opinion of about 82% of the participants, PEDAs were seen as at least very good. In terms of quality of documents, presentation and guidance during practical sessions the workshop was adjusted as at least very good. While 88% thought that the quality of the documents was at least very good, 82% of the participants rated the relevance and quality of the presentations as at least very good with 81% considering the guidance during practical sessions as at least very good. Over 90% of the participants considered the workshop as extremely useful in terms of new ideas and policies, clarification of issues and exchange of ideas with colleagues. In fact, all the participants considered the PEDAs as an introduction of new policies to be at least very good.

### Usefulness of the workshop

**Q4. Please rate the usefulness of the workshop in the following areas: On a scale from A-F (A = excellent, F = very poor)**

	A	B	C	D	E	F	Total %
Overall usefulness of the workshop	58.82	35.29				5.88	100
Introduction of new ideas	37.50	56.25	6.25				100
Clarification of issues	35.29	52.94	5.88			5.88	100
Introduction of new approaches/policies	35.29	64.71					100
Exchange of ideas and experience with other in the same or related fields	41.18	52.94				5.88	100

### Effectiveness of the workshop

All the participants thought that the workshop had achieved their expectations and that it had achieved the purpose to which it was planned. At least 88% of the participants were of the opinion that PEDAs are a model which is capable of addressing the nexus issue of integrating population, environment, agriculture and development into policies.

**Q5. Please rate the effectiveness of the workshop. On a scale from A-F (A = excellent, F = very poor)**

	A	B	C	D	E	F	Total %
Outcome of the workshop against your expectations	50.00	50.00					100
Extend to which the workshop achieved its objectives	33.33	66.67					100

**Q6 What is your overall opinion of the PEDAs model On a scale from A-F (A = excellent, F = very poor)**



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Technical level of participants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preparation of the workshop and the organization of the sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance and overall quality of the documents received	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance and quality of presentations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Content and guidance during practical sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other aspects of the workshop (please specify): .....

.....

.....

**Usefulness of the workshop**

Please rate the usefulness of the workshop in the following areas: On a scale from A-F (A = excellent, F = very poor)

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
Overall usefulness of the workshop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduction of new ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarification of issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduction of new approaches/policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exchange of ideas and experience with other in the same or related fields	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify): .....						

.....

.....

.....

**Effectiveness of the workshop**

Please rate the effectiveness of the workshop. On a scale from A-F (A = excellent, F = very poor)

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
Outcome of the workshop against your expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extend to which the workshop achieved its objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What is your overall opinion of the PEDA model On a scale from A-F (A = excellent, F = very poor)

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please comment: .....

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 .....

Contribution of the workshop to issues of sustainable development in West Africa

Please rate the substantive contributions of the workshop to the issue of Integrating Population, Agricultural and Environmental Dimensions in Development Policies, Plans and Programmes in West Africa.

On a scale from A-F (A = excellent, F = very poor)

	A	B	C	D	E	F
Background material provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New approaches/issues emanating from the meeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify): .....

.....

.....

.....

Suggestions for improvement

Have you any suggestions on how the ECA could be of better assistance in i) Using the PEDA model as an advocacy tool for policy making; ii) Integrating population, agricultural and environmental dimensions in development policies, plans and programmes in West Africa; iii) Topics for instruments and methods.

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Please provide any observation, remark or suggestion that will assist ECA to improve future workshops of this kind.

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Participants background

Education:.....

Professional position: .....

**Annex : Definitions of Sustainable Development**

1. 'Economic development that meets the need of the present generation without compromising the ability of future generation' (WCED, 1987).
2. 'The kind of human activity that nourishes and perpetuates the historical fulfilment of the whole community' (J.R. Engels, 1990).
3. 'SD focuses on environmental sustainability and is concerned with the preservation or enhancement of the productive resource base, particularly for future generations' (Chambers and Conway, 1992).
4. 'SD is increasingly concerned with how trade offs are made optimally between environmental sustainability and economic and social sustainability...) (Devereux and Maxwell, 2001).

5. 'Balancing economic development and environmental protection' (UK Conservative Govt).
6. 'The general goal [of SD] is an equitably distributed level of economic well-being that can be sustained over many generation while maintaining the services and quality of the environment' (Lowell L. Flanders)
7. "SD is concerned is about a better way of approaching the management of natural resources and the adverse effects of globalization in order to address a range of problems.(UNSD, 2002)
8. 'The reduction of vulnerability, poverty and welfare issues, social justice and environmental protection and growth and equitable distribution of its gains' ( Devereux and Maxwell, 2001).
- 9.
10. SD means ensuring that actions taken today to promote development and reduce poverty do not result in environmental degradation and social exclusion tomorrow.' (World Bank, 2002)
11. 'The merger of human well-being and natural resource stewardship.' K.Y. Amoako at Johannesburg World Earth Summit, August 2002

**Annex II****African Perspectives on Sustainable Development (SD)**

Participants interviewed in a project in 1993 which aimed at exploring the common elements and differences in people's views about SD underlined the following aspects:

- Agricultural practices and food security essential for a sustainable future;
- Empowerment of women;
- Acknowledgement of the importance of religion;
- Deep understanding of ethnicity;
- The management of natural resources through family holdings and communal responsibility;
- The importance of communal responsibility for proper caring for natural resources;
- Improvement on rather than disruption of the inherited knowledge of resources management;
- Perception of education as the single greatest equalizer of status and income;
- Wisdom comes not just from books but also from the traditional knowledge and customs including folktales.

Source: Tanvi Nagpal, Voices from the Developing World, Progress Toward Sustainable Development. Environment, October 1998

**Annex Success Stories: Community Involvement In Environmental Management: A Gambian Success Story**

Located in the Sahel, The Gambia is beset with a host of environmental problems characterized by deforestation, the erosion of agricultural land, the intrusion of salt and increased acidity of swamps previously used for the cultivation of rice. Aware of the environmental challenges faced by the country, the Government introduced a number of remedial resources to curb the negative effects of this development on the environment in general and agricultural production in particular.

One of these initiatives is the introduction of community owned and managed forests. Under this initiative, communities established community forests with government support. Produce of these forests are harvested and marketed by communities and proceeds are then utilized for the development of their communities. This initiative has helped restore some of the forest cover and has also served as a source of income and fuel wood for communities.

Another initiative is the construction of dikes, bunds and causeways mainly, in rice fields to protect and improve access to agricultural land from the intrusion of salt water from the River Gambia. This intervention initiated by the Soil and Water Management Unit of the Department of State for Agriculture has succeeded in reclaiming thousands of hectares of land, which could not be cultivated for many years due to salt intrusion. This greatly improved agricultural output among many farming communities.

Probably taking cue from the success of the soil and water management unit, The Gambia capacity 21 Programme supported a smaller initiative in a Gambia rural village called Mamutfana. The capacity 21 programmes were designed to support the implementation of The Gambian Environmental Action Plan (GEAP). Mamutfana is a community, which was faced with a problem of loss of seedlings and fertilizer due to floods and erosion. In addition they had a major gulley in the outskirts of the village, which attracted large quantities of storm water into the village destroying houses and property. With support from The Gambian capacity 21 Programme, check dams were constructed with rocks at strategic points across the land stopping the runoff from heavy rainstorms entering the village and eroding farm land on a massive scale. The Mamutfana project succeeded in increasing groundnut production and protected the village from the hazards of erosion, hence raising the self-esteem of the community. This success story has motivated the community to be involved in activities that they feel would alleviate their problem.

**LIST OF PARTICIPANTS****NIGERIA**

<b>NAME</b>	<b>CONTACT ADDRESS</b>
Ms Festa Ogbuji Director Vital Registration	National Population Commission Plot 2031 Olusegun Obasanjo Way, Wuse Zone 7 Abuja Tel: 080 23051 354 234 09 52239449 (Office) Fax:09-52399447 E-mail: <a href="mailto:citiken@yahoo.com">citiken@yahoo.com</a>
Mrs H.K. Mohammed Assistant chief statistical Officer and Desk officer for Population matters	Federal Ministry of Environment Federal Secretariat Complex, 9thFloor, Shehu Shagari way P.M.B. 468 Abuja Tel/Fax: 09-5234014 Fax (234) 09-2346596-7 PRS Dept E-mail : <a href="mailto:halmohammedus2000@yahoo.com">halmohammedus2000@yahoo.com</a>
Alhaji Musa Saleh Deputy Director	C/o Federal Ministry of Agriculture and Rural Development Office of the Director (PKS) P.M.B 135 Garki, Abuja Fax : 09-314 0347 Tel : 09-6708517 E-mail: <a href="mailto:prs@microaccess.com">prs@microaccess.com</a>
Dr Azeez Mabawonku	Environment and Technology Policy Unit, Development Policy Centre P.O.Box 30177 Agodi, Ibadan, Nigeria Tel: 234-02-8103321 E-mail: <a href="mailto:g-mabawonku@yahoo.com">g-mabawonku@yahoo.com</a>

**SIERRA LEONE**

NAME	CONTACT ADDRESS
Mr Sam Jalloh Principal Development Planning Officer	Ministry of Development of Economic Planning Youyi Building Freetown, Sierra Leone Tel: 232-22-240276 E-mail: <a href="mailto:samajalloh@yahoo.com">samajalloh@yahoo.com</a>
Miss Eugenia F. Fisher Program Officer	Agricultural Production Extension And General Services (APEGS) 7 Fisher Drive, Cockle Bay Murray Town, Freetown Telephone: 273342 (Home) 239076 (Office) Mobile: 076604492 E-mail: <a href="mailto:Eugenia-fisher@hotmail.com">Eugenia-fisher@hotmail.com</a>
Dr Andrew K. Bomah Department of Geography and Rural Development Lecturer	Faculty of Environmental Sciences Njala University College Freetown, Sierra Leone e-mail: <a href="mailto:nuclib@sierratel.sl">nuclib@sierratel.sl</a>

**GAMBIA**

<b>NAME</b>	<b>CONTACT ADDRESS</b>
Mr. Alieu Sarr Principal Statistician	Central Statistics Department Ministry of Finance and Economic Affairs Central Bank Building Buckle Street Banjul, The Gambia Tel: (22 0) 223673/225891 Fax: (220) 22 96 83 Mobile: (220) 90 68 95 E-mail: <a href="mailto:alieubadou@hotmail.com">alieubadou@hotmail.com</a>
Mr. Adama B. Cham Program Officer, Environmental Quality	National Environment Agency (NEA) P.M.B. 48 Banjul, Gambia Tel: (220) 22 48 69 Fax: (220) 22 97 01 Mobile: 92 51 35 E-mail: <a href="mailto:adamacham@hotmail.com">adamacham@hotmail.com</a> <a href="mailto:nea@gamtel.gm">nea@gamtel.gm</a>
Mr. Ebrima W. K. Jawo Camara Director	Department of Planning (DOP) Department of State for Agriculture (DOSA) 5 Marina Parade Banjul, Gambia Tel: (220) 2288751 Mobile: (220) 750330 Fax: (220) 224851 E-mail: <a href="mailto:njobojawo@hotmail.com">njobojawo@hotmail.com</a>

## GHANA

NAME	CONTACT ADDRESS
Dr. Chuks Mba Lecturer	Regional Institute for Population Studies, University of Ghana, P.O. Box LG 96, Legon Ghana E-mail: <a href="mailto:chuksmba@hotmail.com">chuksmba@hotmail.com</a> Tel: 233 21 500 274 Fax: 233 21 500 273
Mr. Eric Adjei Boadu Senior Research Officer	Population Impact Project (PIP) Geography Department, University of Ghana, Legon, Ghana E-mail: <a href="mailto:ericca98@hotmail.com">ericca98@hotmail.com</a> Tel: 233 21 500 796/500 251 Fax: 233 21 500 310
Mr. Emmanuel Boadi Head of Research, Monitoring and Evaluation	National Population Council P.O. Box MB-666, Accra, Ghana Tel: 233 21 66 59 44 233 020 81732294 mobile E-mail: <a href="mailto:ekboadi64@yahoo.co.uk">ekboadi64@yahoo.co.uk</a>
Mr. Rudolph S. Kuuzegh Deputy Director (Sustainable Development)	Ministry of Environment and Science P.O. Box M232, Accra, Ghana Tel: 233 21 66 7324/666049 Fax: 233 21 666 828 E-mail: <a href="mailto:kuuz2001@yahoo.com">kuuz2001@yahoo.com</a>
Dr. Philomena Nyarko Lecturer	Regional Institute for Population Studies, University of Ghana, P.O. Box LG 96, Legon, Ghana Tel: 233 21 500 274 Fax: 233 21 500 273 E-mail: <a href="mailto:philo141@yahoo.com">philo141@yahoo.com</a>
Mr. Gabriel Owusu	Ministry of Food and Agriculture Extension Directorate, P.O. Box M37, Accra E-mail: <a href="mailto:gko2001gh@yahoo.com">gko2001gh@yahoo.com</a> Tel: 233 24 65 06 56 Fax: 233 21 671414
Mrs. Cindy Badoe Senior Programme Officer Built Environment Dept. EPA, Ghana	Environmental Protection Agency Ministries, P.O. Box M326, Accra, Ghana Tel: 233 21 66 46 97/98



**LIBERIA**

<b>NAME</b>	<b>CONTACT ADDRESS</b>
Mr Francis J. Momolu Senior Economist, Economic Analysis Unit. Bureau of Economic Affairs and Policy	Ministry of Planning and Economic Affairs P.O. Box 9016 1000 Monrovia10 – Liberia Tel: (231) 22-60-75/21-69-62
Mr. Tommy Teah Executive Director	Environmental Relief and Development Research Organisation (ERARDRO) Tel: 520-793, 520-212 mobile E-mail: <a href="mailto:eradro@yahoo.com">eradro@yahoo.com</a>
Mr A. K. Twalla National Professional Project Personnel (UNFPA) Population and Development Strategy	UNFPA Monrovia Liberia Telephone: 226195 ext 5000-Office 513972, 520629-Mobile E-mail: <a href="mailto:aktwalla@yahoo.com">aktwalla@yahoo.com</a> <a href="mailto:aktwalla@netscape.net">aktwalla@netscape.net</a>

**INTERGOVERNMENTAL ORGANIZATION**

	<b>CONTACT ADDRESS</b>
Mr. Ide Bana	Permanent Interstate Committee for Drought Control in the Sahel (CILSS) B.P 7049 Ouagadougou Burkina Faso Tel: 30 67 57 158 Fax: 30 72 47

**ECA RESOURCE PERSONS**

NAME	CONTACT ADDRESS
Dr. Toma J. Makannah	ECA's Office for West Africa P.O. Box 744 Niamey, Niger Tel: 227 72 27 88(Office) E-mail: <a href="mailto:tmakannah@yahoo.com">tmakannah@yahoo.com</a>
Dr. Bossa M. Vlavonou	ECA's Office for West Africa P.O. Box 744 Niamey, Niger Tel: 227 72 29 61/72 44 57(Office) E-mail: <a href="mailto:bvlavonou@uneca.org">bvlavonou@uneca.org</a>
Prof. Israel Sembajwe	SDD, UNECA, P.O. Box 3005 Addis Ababa, Ethiopia Tel: 251 1 443425 Email: <a href="mailto:isembajwe@uneca.org">isembajwe@uneca.org</a>
Ms. Joan Kangwanja	SDD, UNECA, P.O. Box 3001 Addis Ababa, Ethiopia Tel: 251 1 443518 Fax: 251 1 51 4416 Email: <a href="mailto:jkgwanj@uneca.org">jkgwanj@uneca.org</a>
Ms. Isatou Gaye	SDD, UNECA, P.O. Box 3005 Addis Ababa, Ethiopia Tel: 251 1 443089 Fax: 251 1 51 4416 Email: <a href="mailto:gaye.uneca@un.org">gaye.uneca@un.org</a>
Ms. Donaatella Giubilaro	SDD, UNECA, P.O. Box 3005 Addis Ababa, Ethiopia Tel: 251 1 445313 Fax: 251 1 51 4416 Email: <a href="mailto:dginbilaro-demonio@un.org">dginbilaro-demonio@un.org</a>
Mr. Kwadwo Tutu	SDD, UNECA, P.O. Box 3005 Addis Ababa, Ethiopia Tel: 251 1 603376 Email: <a href="mailto:ktutu@uneca.org">ktutu@uneca.org</a>