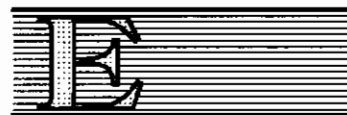




UNITED NATIONS

ECONOMIC AND SOCIAL COUNCIL

ECONOMIC COMMISSION FOR AFRICA



Distr. LIMITED
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20 November 1998

Original: ENGLISH

REPORT

ON

THE SEMINAR ON ENVIRONMENTAL AND NATURAL RESOURCE ACCOUNTING

**ADDIS-ABABA, ETHIOPIA
26-28 OCTOBER 1998**

FSSDD/99/018



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THE SEMINAR ON ENVIRONMENTAL AND NATURAL RESOURCE ACCOUNTING

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I. ORGANIZATION OF THE SEMINAR

Objectives

1. The objective of the seminar is to support the efforts of African Governments to identify, capture and use resource rent for economic development effectively. In the context of developmental challenges facing Africa in the coming millenium, the seminar introduces the system of integrated environmental and economic accounting (SEEA) and its potential policy uses, disseminate the experience of several African countries that have experimented with natural resource accounting, and call for support from both the African governments and the international community for the application of the SEEA in Africa.

Date and venue

2. The seminar on environment and natural resource accounting met in Addis-Ababa, Ethiopia, from 26 to 28 October 1998.

Attendance

3. Experts from the following countries attended the seminar: Benin, Cameroon, Chad, Côte d'Ivoire, Ethiopia, Gambia, Malawi, Senegal, Sudan, Uganda and Zimbabwe.

4. The following United Nations organs were represented at the seminar: FAO, UNDP, UNEP, UNESCO and UNSD/DSA.

5. The following Institutions were also represented at the seminar: Network for Environment and Sustainable Development in Africa (NESDA), the Organization of

African Unity (OAU), the Statistical, Economic and Social Research and Training Center for Islamic Countries (SESRTC) and the World Wide Fund for Nature (WWF).

Opening of the seminar (Agenda Item 1)

6. In his opening statement, the Executive Secretary of the Economic Commission for Africa (ECA) welcomed participants and drew their attention to the fact that during these three days, they are addressing a burning issue on which the future of our nations depend.

7. He then explored some of the most fundamental problems besetting our nations. Events beyond our control are changing the daily life of our people and for which we must find ways and means of regaining control of this process of change since, in the final analysis, only the African people themselves can take the necessary actions to improve their life style and living standards. Indeed, it would be an ideal reflection on the daunting problems of the management of environment and natural resources if we want to ensure the long term survival of our peoples.

8. He stated that despite being endowed with rich natural resources such as forests and minerals, Africa has experienced rapid depletion of these resources. At the same time, the standard of living in many parts of the region has declined significantly. The rapid depletion of the natural resources base, which logically was expected to provide revenue for development and improved living conditions, appears to have been a mirage.

9. He also stated that in the absence of large foreign capital inflows, Africa's natural assets represent a vital source of investment funds. Unfortunately, such natural assets have often been used without regard to their nonrenewable character and without properly accounting for their value in the economic planning process. Where accounts

do exist, the allowance for the depreciation of natural assets is not provided, thereby reducing the society's capacity to use resource rents for productive investments.

10. The impacts of human activities reach into every corner of the natural world. For instance, between one-third and one-half of the earth's land surface has been substantially transformed by agriculture because of the rapid population growth, the urbanization and commercial activities of various kinds. About one-quarter of a bird species have been driven to extinction; and more than one-half of all accessible surface water, as well as an enormous quantities of ground-water is diverted for human uses. Whereas these uses have brought unquestionable benefits to human welfare, the upshot of this growing human domination of the planet is that no eco-system on earth is free from a pervasive human influence.

11. He indicated that environmental degradation undermines sustainable growth in many ways. It adversely affects health and life expectancy, thereby reducing the returns to human capital investment and the rate of economic growth. It reduces the productivity of labour, land and capital and increases production costs. It damages economic infrastructure and increases the country's vulnerability to natural disasters. It is detrimental to the country's investment climate and attractiveness to foreign investors. It may entail loss of market share in environmentally conscious markets and failure to exploit business opportunities in emerging markets for green products and environmental technologies. Equally damaging, environmental degradation reduces the quality of life and erodes support for continued economic reforms and growth-oriented policies. On the other hand, without economic growth, environmental protection cannot be achieved and sustained. Growth is needed to alleviate poverty, a major cause as well as consequence of environmental degradation. Growth is also needed to provide the resources necessary for investment in environmental protection and improvement.

12. He pointed out that the challenge then is how to regulate economic activity, address market inefficiencies and protect the environment without harming

competitiveness, stifling investment, or introducing burdensome regulations. How to invest in environmental improvement and social development without compromising fiscal discipline, or jeopardizing economic growth?

13. He concluded by saying that this seminar will be successful if at its end, it contributes, to raise environmental awareness focusing on the values of natural assets; and in the adoption by policy-makers of SESA principles in designing economic instruments for regulating the use of natural resources and for encouraging productive investments. He expressed his hope that this seminar will in a small growing way contribute to motivating policy-makers to improve development strategy; to foster partnership among different ministries, research institutes and non-governmental organizations.

Challenges Facing Africa In The New Millenium

14. Introducing the theme, "Challenges facing Africa in the new millenium", Professor Abdoulaye Bathily said that there was an increasing awareness that natural resources were the key factor among the development strategies and particularly in Africa where ecosystems were deteriorating at an alarming pace.

15. Professor Bathily then reviewed the main causes of that deterioration during the past two milleniums. Some of these were natural causes such as frequent drought, which was an accelerating factor in desertification. However, socio-economic factors had played a greater role in the process of the destruction and over-exploitation of natural resources. He mentioned the following factors in particular: (i) the Atlantic Slave Trade; (ii) the trade in ivory, gum Arabic and rubber; (iii) the colonial wars of conquest and colonial policies which were based on the exploitation of wood, minerals and extensive cultivation of cash crops such as coffee, cocoa, peanuts and oil palm; (iv) population growth and urbanization.

16. The economic policies introduced after independence have not modified the "mining" nature of natural resource use. The depletion of natural resources was among the main causes of the crises and conflicts affecting many countries and sub-regions in Africa. In general terms these conflicts could be attributed to the question of the sharing of natural resources.

17. In conclusion, the speaker opined that the economic cost of deteriorating ecosystems was considerable and that the attendant effects seriously jeopardized the development process in Africa. He urged African countries to formulate and implement a strategy of sustainable management of natural resources. He proposed the following measures:

- Better coordination between decision-makers in the environment sector and those in other sectors such as economic planning, finance and development;
- Synergy among various actors at the national level, particularly government, local communities, the private sector, and NGOs, through efficient programme implementation in education and dissemination of information about environmental issues;
- Strengthen cooperation among different countries in collaborative management of transboundary natural resources and in exchanging experiences;
- Strengthen capacity-building in terms of individual and institutional expertise and encourage the creation and operation of expert networks such as REDDA.

Current Economic and Social Situation in Africa

18. Introducing his paper Prof. Befekadu stated that the economic conditions in Africa were very much subdued in 1998 as they were in 1997 due to inauspicious turn-out in the major determinants of economic activity in the region- the weather condition and external economic environment. As a result of these two major factors, preliminary estimates indicate real GDP growth rate of 3% in 1998, which is barely above the rate of population growth.

19. The overall regional growth rate masks conspicuous variations between economic groupings, sub-regions as well as countries. GDP growth in oil exporting countries declined by a third to 2.4% in 1998 relative to the 3.6% of 1997. On the other hand, growth in non-oil exporting countries increased to 4% in 1998, compared to the low level of 2.3% in 1997 benefiting from the lower oil prices as well as a more auspicious weather out-turn that boosted agricultural output. Growth in the least developed countries was also buoyant at 3.8% in 1998 compared to the 2.4% of 1997.

20. Despite the capricious weather, agricultural output rebounded from 1.7% growth in 1997 to 4.3% in 1998. The mining industry was depressed by a drastic fall in prices. As a result, growth in mining sector declined from 3.8% in 1997 to 2% in 1998. Manufacturing industries continue to be constrained by host factors, including availability of foreign exchange for imports of raw materials and intermediate products. The liberalization of trade through the elimination of non-tariff barriers and the significant reduction of tariffs increased imports against which domestically produced goods could hardly compete both in price and quality. In 1998, manufacturing sector growth declined to 1.7% from 2.5% in 1997.

21. Currently, about half of the people in the sub-Saharan Africa continue to live below the poverty line; malnutrition and hunger, disease and lack of shelter are widespread; a sizeable number of adult were not productively employed and as such they were unable to meet their basic needs; millions of lives have been lost and families disintegrated through armed conflicts, and civil strife.

22. The paper discussed also the population growth rates of 2.9% in 1998 and which exceed those of any other developing region; the high fertility rate; the health which is still a concern; the state of education and the literacy rates which are among the lowest in the world.

Organizational Matter (Agenda Item 2)

Election of Officers

23. The following officers were elected:

Chairman: H. E. Mr. F.M. Mkandawire
Minister of Forest, Fisheries and Environmental Affairs
Malawi

Rapporteur: Mr. Ousmane Ndoye
Chef, Division de la Planification Générale
Ministère de l'Economie et des Finances
Senegal

Adoption of the Agenda and Programme of Work

24. After discussions, the seminar adopted the following agenda:

1. Opening ceremony
 - (a) Welcome remarks by the Executive Secretary, ECA
 - (b) Challenges facing Africa in the new millenium
 - (c) Current social and economic situation in Africa
2. Organizational matter
 - (a) Election of officers
 - (b) Adoption of the agenda and the programme of work

Session 1: Resource accounting and its benefits

3. Role of natural resources in Africa's economies
4. The System of Integrated Environmental and Economic Accounting – its basics and potential uses
5. Integrated accounting and policy reforms

Session 2: Country Experience and Policy Implications

6. Presentation on Namibia's experience
7. Presentation on Ghana's experience
8. Presentation on Zimbabwe's experience
9. Report of the Workshop on Environmental Statistics, Indicators and Accounting, November 1997

Session 3: Institutional Requirements for Implementing SEEA at the National Level

10. Organizational aspects of environmental and natural resource accounting
11. Data requirements and Environmental Information System
12. International support and coordination

Session 4: Proposals for Implementing the SEEA in Africa

13. Presentation of proposals for follow-up activities

Closing

14. Adoption of minutes
15. Closing

II. ACCOUNT OF PROCEEDINGS

Natural Resources and Macroeconomic Policy in an African Context (Agenda Item 3)

25. In presenting his paper Mr. Salah El Serafy stated that Africa's economic stagnation is recognized and its poverty manifestations are numerous. Despite much searching after the causes of Africa's troubles, the fact that analysts may be working with misleading measurements of macroeconomic magnitudes has not received deserved attention. The author showed that these magnitudes, estimated along conventional lines, are fundamentally deficient in that they overlook the deterioration of the natural resource base. For income to be assessed properly, capital must be kept intact from one accounting period to the next, and environmental capital must be counted as part of that capital. If capital is allowed to deteriorate, the income will be over-estimated. Apart from pollution (which is generally overlooked when it is not internalized as a cost in the accounts of perpetrators) natural asset declines in the form of deforestation, diminished fish and mineral stocks, falling water tables and soil erosion are usually overlooked in conventional estimates. Thus we have inadequate assessments of the national product savings and investments, and wrongly estimated balances of payments and other crucial macroeconomic variables that are needed for judging economic performance and designing policy reforms.

26. He indicated that not only the incomes of most African countries are conventionally estimated, exaggerated, but the confusion of asset sale proceeds (even those associated with commercial exploitation) with value added makes it impossible to ascertain progress, estimate input productivity, or even analyze new investments properly. Stagnation and declines of per capita income have been recorded for most African economies over the last quarter century based on the conventional estimates. With natural asset deterioration, the situation is in fact much worse. The macroeconomic policies that are frequently imposed on African countries by their creditors, and euphemistically called 'economic reforms', are frequently based on misleading numbers, and may in some essentials be totally inappropriate and even

harmful. There are many reasons behind Africa's poverty and apparent failure to develop, including demographic considerations, poor education, undeveloped institutions, lack of effective autonomy, difficult physical environments, corruption and political irregularities. But it is possible to argue that such factors might have been partly corrected or alleviated the economies had been better managed. Africa will remain deprived of economic progress until its economies are properly measured, its economic ills adequately diagnosed, and radical changes effected in macroeconomic policy in the light of the revised measurements. Exchange and interest rate policies, fiscal instruments, savings, investment, foreign trade regimes and the like need to be reassessed in the light of realistic national account estimates. These are all the areas that are routinely targeted by economic policies- except that such policies have until now been based on inadequately estimated magnitudes.

27. In the discussion most participants agreed on the importance of natural resources accounting in order to obtain adequate assessments of the national product, savings and investments, the balance of payment and other crucial macroeconomic variables that are needed to judge a country's economic performance and design policy reforms. It was noted that the problem is not that natural resources can not be used in the support of a country's development, but that the exploitation of natural resources has to be taken into account when making up the balance. In doing so we also have to consider whether the natural resources are renewable or not.

28. It was agreed upon that the exploitation or even depletion of natural resources is often a matter of survival, as well for governments as for civilians. However, this will only serve short-term survival and the role and uses of the Green Accounting System (GAS) are not to be sought on this level. The GAS has to be seen as an information system and its major goal is that of awareness creating, to support adequate policy making as well as a source of information to establish appropriate trade relationships. As such, it can also play a role in the sub-regional integration of African countries.

29. Some comments were made on the fact that the GAS is not perfect either since the exploitation of natural resources may serve the creation of human capital, as was

the case in many developed countries. This factor is not incorporated in the GAS. In his reply, the author agreed with it on a theoretical level, but remarked that the two ideas were separate and accounting system has to remain manageable and that is precisely the problem of many African countries that relatively little human capital is generated where assets are depleted.

30. Further, more practical questions were raised on how to learn from experiences in the developed countries and how to implement natural resources accounting in Africa's policies when the current accounting systems are already lagging behind. The author replied with the statement that no accounting system is very precise, and that it is often just a matter to include them. He noted that some promising case studies have already been performed on the issue. He remarked further that there is still (as well in industrialized as in developing countries) a lot of resistance to GAS. But the problem is much more manifest in Africa, so Africa should take a leading role with this respect.

The System of Integrated Environmental and Economic Accounting-Its basics and potential uses (Agenda Item 4)

31. This Agenda Item was introduced by Peter Bartelmus in a paper entitled: Greening the National Accounts: Approach and Policy use.

32. In his presentation, he said that since the Rio Earth Summit on the Environment, environmental concerns have been increasingly integrated into economic development policy because of the interactions between the environment and the economy. The economy is embedded in the environment and both interact. Hence, the Earth Summit called for them to be dealt with together as against compartmentalization.

33. Mr. Bartelmus said that the rationale for the Greening of National Account was that Green National Accounts capture this interaction between environment and economy in order to assess the long-term sustainability in economic performance. The opaque concept of sustainability in growth and development, he said, can be

operationalized in terms of produced and non-produced capital maintenance. A corresponding expansion of the asset boundary of national accounts is the basic approach to integrated environmental and economic accounting. The integrative power of such accounting is based on pricing "priceless" environmental phenomena. As monetary valuation is thus controversial, Mr. Bartelmus thus discussed alternative "physical" accounting, which he said was important.

34. Concerning their main policy uses and applications of Green National Accounts he pointed to the use of environmentally adjusted "eco-nomic" variables in macroeconomic policy and the setting of market instruments of cost internationalization according to the environmental cost generated by economic agents.

35. During the discussions which followed on the presentation, a participant wanted to know which African countries among those represented at the meeting were familiar with the concept and structure of the SEEA. Only one participant said that he had some time ago received a document entitled "Integrated Accounting". He had understood some parts of this document while he had not understood other parts and hoped that these parts would be clarified during this meeting. In general, it was clear that most countries in Africa were not familiar with the SEEA. It was however explained that since the SEEA deals with national accounting, the document under reference was sent mainly to accountants in the countries. Hence, the ministries of environment may not have seen the document. In this connection, a member of the secretariat requested a copy of the document as it could be useful in the implementation of the Commission's work programme.

36. A question was also asked as to whether the presenter shared the resentment which many people have against integrating the environment with economic accounting. In reply, although the latter shared the resentment, he said that the purpose of green accounting was based on establishing the economic significance of environmental phenomena by measuring environmental depletion and degradation costs.

37. Another participant wanted to be provided with an update on the issue of degradation. In particular, how to value the damage done by pollution, imported toxic waste, destruction of forests by fires and other natural disasters and how to integrate these and the export of natural resources such as timber into the SEEA. Questions were also asked as to whether the thinking on contingency valuation and avoidance cost has changed over the years.

38. As regards imported toxic waste and pollution, these are transboundary concerns. It is not certain how important these issues are to Africa at present. In any case, these concerns have not been fully reflected in the SEEA. As regards the export of natural resources, it was the consensus that by exporting natural resources such as timber as a result of the demand of the industrialized countries, African countries were exporting their sustainability. Concerning the cost of degradation, these should be internalized and should reflect the ultimate welfare losses generated by environmental damage i.e. the cost borne by individuals. Once internalized, an optimal and sustainable net national product would be obtained under perfect conditions. However, such damage costing is not practicable in environmental accounting. Instead, maintenance costing is applied which assesses the cost of hypothetically avoiding actual impacts on the environment. Such costing permits to allocate the macro economic social (expenditure) costs generated by the degradation of a public good to those (the polluters) who caused the degradation. That is, the polluters can be made accountable for their environmental impacts.

39. Finally, a participant raised the issue that environmental management has mainly been looked at as an expenditure rather than as an investment/asset and that technologies used for controlling environmental degradation have far too often been imported from outside. He was of the view that domestic environmental resources could be used to invest to bring about environmental rehabilitation.

Integrated Accounting & Policy Reform (Agenda Item 5)

40. In presenting his paper, Mr. Fulai Sheng stated that case studies of SEEA implementation have so far offered few examples of how such accounting can improve policy-making. This, together with the perceived negative political and economic consequence of such accounting, tends to discourage its implementation. This paper aims to show possible ways in which environmental accounts can assist in policy-making while alleviating concerns over its perceived risks.

41. He stated also that the paper looks at environmental accounting both as an accounting and as a policy process. The accounting process generates a host of information that can be used to facilitate the formulation of economic and environmental policies. This information can be used to assess economic performance, reform economic policies, and assess the effectiveness of reformed policies. It can also help identify environmental problems and priorities, trace environmental pressure points, design environmental policies, and evaluate the effects of environment policies.

42. As a policy process, environmental accounting can improve the ways in which policies are made. It builds stakeholder participation into policy-making, facilitate the identification of environmental priorities, fosters an integrated approach to identified problems, raise environmental awareness, and strengthens the policy engagement capacity of civil society groups. For these goals to be achieved, the formation of a stakeholder group for the implementation of environmental accounts is indispensable.

43. He indicated that the potential; of environmental accounting to build in the policy process has yet to be fully realized through its broad implementation. Countries implementing environmental accounts stand to benefit from these applications by improving their image based on the commitment to protect natural assets. Moreover, such programmes will show the potential for new business opportunities resulting from sustainably managed natural resources base in a world of increasing scarcity. We should encourage an increasing number of countries to foster environmental accounting by demonstrating its feasibility and usefulness in policy making.

44. The debate following this presentation focussed on the following issues: Difficulties in collecting data on environment; harmonization of Data; how to reconcile the urgency of solving problems and the need to integrate environmental factors in development planning; measuring the trans-boundary environmental problems; how relevant are the ecological costs for policy-making for African countries who have little if no influence on the world market prices? Resource needs for the implementation of SEEA; inadequate or lack of natural resources inventory in African countries.

45. In response to these questions it was noted that greening the national accounting system has a particular purpose than the overall national account that covers the entire economic sectors. Natural resources accounting can be limited to specific areas of concern and data collection can be limited to those areas of concern. Therefore, the data needs are more limited than in national accounting. In most cases the use of existing data is enough to identify the environmental problems and there is no need to delay the implementation of SEEA until the development of database on environmental factors.

46. Regarding the harmonization of data, it was noted that there is not yet a universally admitted standard classification of data in natural resources accounting. However, The worldwide -adopted System of National Accounts (SNA) provides standard concepts and definitions for international comparison the System of integrated Environmental Accounting (SEEA) can make use. It was also reported that some Asian counties have adopted their own standard for the SEEA for purpose of comparison among them, and African countries might also do the same.

47. Concerning the adoption of SEEA by Governments it was pointed out that governments should be sensitized using a developmental approach. That is, focusing on the danger of depleting natural resources to the extent that it comprises future development when resources are exhausted or in case of the deterioration of the terms of the trade. Governments should be pursued on the need of finding alternative ways for promoting economic growth that less costly to the environment.

48. The SEEA provides a sheet for the measurement of trans-boundary environmental problems. Countries that export the flows are given positive value in their national income, whereas affected countries are given negative values. The measurement of the impact of these flows can be done by evaluating the physical damage on the environment of importing countries, or by assessing the cost of being exposed to the flows.

49. As to the relevancy of ecological cost as policy-making tools for African countries it was noted that the implementation of the SEEA is not to define the market price but to allow decision maker to adopt strategies that less harmful to their national resource base. If African countries continue to rely mainly on their natural resources for economic growth this will certainly compromise their future development when these resources are depleted.

50. It was also noted that African countries need financial resources to implement the SEEA and policy reforms as most often the reliance on their natural capital is due to poverty. In this regard it was pointed out that donors are often reluctant in providing funds for the rehabilitation of environmental degradation caused by the implementation of economic development projects.

51. Finally the need for a systematic inventory of natural resources was stressed, including non-tradable resources. These inventories are necessary for a better management and exploitation of natural resources.

52. In conclusion the meeting agreed on the fact that greening national accounting should not be seen as an obstacle to economic development process, but rather as a tool of defining the trade-off base on the cost and benefit of exploiting natural capital.

Country Experiences and Policy Implications

a) Namibia (Agenda Item 6)

53. Ms Glenn-Marie Lange who was supposed to deliver the Namibian experience did not attend the meeting as expected. Mr. Grant Milne, a delegate from Zimbabwe, volunteered to present the Namibian experience on her behalf.

54. Mr. Milne gave succinct accounts on the socio-economic and geographical background of Namibia, its natural resources, the natural resources account project in the country and its policy implications as well as the project's future activities.

55. Namibia is a country with 1.6 million people and one with the lowest population density in the world. 80 percent of its area consists of desert, arid and semi-arid land. Rainfall in the country is low and variable. Hence, carrying capacity varies with annual rainfall. Namibia's development is mainly constrained by shortage of water. Drought is also common. Namibia is very rich in diamonds and uranium. It has also one of the world's most productive fisheries. Namibia's economy is based on agriculture, tourism, fishing and mining.

56. In discussing how the project on natural resources came into existence in Namibia, the speaker said that Namibia was faced with the urgency of reducing the great social and economic inequalities, the competing demand for the use of resources from a growing population and economy, as well as the threat of resource degradation. The country was concerned with the capture of the rents from natural resources and what happened to these rents. There was also extensive fishing in the country since the 1960s by some European countries. Fish bio-diversity was on a significant decline. 75 percent of agricultural land was used for ranching. However, more than 90 percent of the meat comes from commercial farms. But because of shortage of rainfall ranching became a serious problem in the country. Number of cattle declined significantly, and questions have been raised regarding agricultural productivity. Against low rainfall,

consumption of water has increased due mainly to commercial agricultural demand. About half of the rural population lacks safe drinking water.

57. To address these problems, the speaker said, a project on natural resources account was established in 1995 within the Ministry of Environment and Tourism. The goals of the project were to integrate environmental issues (water, fishery, and mining) into economic policy; to improve communication with other agencies to increase understanding about environmental issues; and to influence economic policy and development.

58. The first phase of the projects ended in 1997. During its activities in the first phase, the project found out that the Namibian Government was gathering a high proportion of mining rents through different taxes. These rents were not allocated to special funds but were going to the central treasury. As a result, tracking reinvestment from the rents into productive projects was difficult. This practice, the speaker said, had policy implications for sustainable development.

59. Moreover, the project found out that only 30 percent of the total rent was collected by the government from fishing. There was also concern of overfishing. It was indicated that monitoring and control of fishing while much improved since independence, was still a problem for the government which itself had policy implications.

60. With respect to water, the project attempted to assess the extent of utilization of water by different economic sectors and the contribution of these sectors to the growth of the economy. The assessment revealed that commercial agriculture uses water the most, followed by urban households and mining. The government was heavily subsidizing water supply.

61. With regard to mining, the speaker raised the problem of confidentiality of data on mining. Hence, the project faced a problem to trace the flow of accounts of minerals.

62. It was indicated that the project may have lacked full support from central agencies as it was located within a line Environment ministry. This could lead to a lack of application by the central agency of natural resources accounting.

63. The speaker finally indicated the intended activities of the project in its second phase. He said that the project has started its second phase with the help of USAID. Its main areas of activities will be focused on forestry, pollution, and linking input-output accounts with natural resource accounts.

64. After the presentation of the country experience, questions, remarks, and comments were raised from the floor. Corresponding replies were also given by the speaker.

65. Commenting on the content of the presentation, a delegate said that a comparison of the traditional accounting system as against the green accounting system did not come out clearly in the presentation. The speaker replied that as the project was a pilot project, it was not fully engaged in adjusting accounts as such. Its activities were focussed more on studying the necessary background and capacity building. He indicated that the project would be more involved in green accounting activities in the second phase.

66. Another comment made was that the project did not actively dwell on the inclusion of environmental data in to national accounts. Rather, it emphasized on issues related to environmental problems, the depletion of resources, the collection of rents, and the pattern of investment from rents. In a situation where government authorities are not willing to provide accurate data, a delegate asked, how productive the effort of the project could be? In response, it was said that the question of political will was with respect to mining sector only; and that one could not say that there was no investment at all from rents because there was significant increase in educational systems during the period in consideration. The speaker said the project had made a very fruitful

endeavor in the area of capacity building and background studies in its first phase. He however underscored that the location of the project within the Ministry of Environment and Tourism made the implementation of its activities difficult.

67. Concerning the best location of the institution dealing with natural resources accounting, a suggestion was made by a participant that the physical data collection of environmental issues should be handled by the national statistical office in collaboration with related offices. This way, he said, confidentiality of information could also be ensured. On the other hand, the task of inputting the natural resources data into national accounts should be done by experienced national accounts experts. At any rate, he noted, there is a strong need for collaboration among environment data producers, national statistical offices and national accounts experts.

68. Another suggestion made was to locate the institution dealing with natural resources accounting within the Ministry of Finance as financial matters are highly centralized. Moreover, the Ministry of Finance has the power to implement policies and programmes related to natural resources. Against this, it was said that the Ministry of Environment could do the job better if it is given the mandate. After all, the Ministry of Finance does not have the required expertise to appreciate the natural resources.

69. In this respect, a delegate posed a question whether it is possible for the ECA, United Nations, OAU, etc. to set up a pilot project in a given country to test the most appropriate location of the institution that deals with natural resources accounting.

70. A delegate made a remark regarding the management of natural resources at a time of implementing structural adjustment programmes designed by institutions other than the countries themselves. Policies are being formulated in the Prime Minister's Office with out taking the concerns of line ministries into consideration.

71. A question was raised whether the increase in capacity in data collection in Namibia had any support from regional institutions such as SADC. In response, it was said that although there was close collaboration among professionals in Botswana,

South Africa, Namibia and Zimbabwe working in similar fields, SADC was not behind such collaboration. The collaboration is simply professional and supported by donors.

b) Ghana (Agenda Item 7)

72. The presenter, Mr. Matthew Powell, provided some background account of how the project involved. Ghana Statistical Service volunteered to participate in the UN Statistical Office initiated Pilot Project, which took place between 1995-1996. The Pilot Study Paper shown here was a first product of this Pilot Project which has since benefited from comments of various fora including an IARIW meeting in Tokyo and a Seminar with high-powered officials in Ghana. The work has also been revised to incorporate the Revised National Accounts and GTZ Study on Industrial Pollution.

73. The presenter furthermore highlighted the problems encountered in conducting the study, which included: separations of expenditures by separate environment divisions where most expenditure might have dual purposes; collection of data from assorted small case studies and small surveys present problems of coming up with gross estimates; methods and concepts used by scientists often do not fit easily into the SEEFA.

74. The main environmental policy conclusions from the Study were that: most costly environmental degradation and depletion was associated with Household activity not the formal sector; environmentally adjusted national income grew only slightly slower than traditional measures; environmentally adjusted savings was negative.

75. The presenter also highlighted the reactions received from the Accra Seminar, which were: participants were able to recommend some new information sources including previously unknown studies; environmentalists did not like the term non-economic assets and in particular emphasized many direct uses of Non Timber forest Products like using creepers for ropes etc. Equally, the connection between disturbed land and malaria and the importance of biodiversity; the importance of soil nutrients

was questioned given that farmers will not buy fertilizer; physical data on for example trees often included assets of very different economic values; difficulties of separating formal and informal land use e.g. farmers often move into logged over land; it was recommended that GSS seek funding to produce annual accounts.

76. In conclusion the presenter observed that even after the seminar presenting the results of the green account none of the participants went back and changed their ways or policy orientation not even in the Ministry of Environment. To set up Sustainable Environmental Accounting it is necessary to go beyond the Pilot Project by ensuring regular data collection paid out from regular budget. In order to be useful, pilot studies should make policy recommendation and identify areas where line agencies can collect key physical data.

77. In the discussion that followed: Table 6 on Environmental National Income 1991-3 of the Study generated some remarks in particular the fact that Environmentally adjusted account produced negative savings. It was observed that the short-term nature of the study provided a very important message. If it is an adjusted account then the important focus should not be the level but rather be on the growth rate and structure. There was also a question of why savings and not investment account was used the answer to which was simply the influence of the Tokyo seminar where savings had been the main focus.

78. The issue of whether political context is put into consideration as with the gender data was raised. This taking into consideration that government tend to focus on short term policy challenges. The response was that Green Accounting involved greater technical difficulties than Gender disaggregation. Pilot projects had to be hosted by National Accounts Units who were not used to political advocacy. Pilot projects on gender statistics could be organized by NGOs and women's organizations which are more politically aware.

79. The question was raised as to how the environmental account can be used to see whether the economy is growing or not. The response to this was the saving and

investment figure was the most important indicator of this. The structure of depletion by industry is also important.

80. On the issue of whether emission from transport sector was considered, the presenter said that it was.

c) Zimbabwe (Agenda Item 8)

81. Presenting the experience of Zimbabwe in natural resources accounting, Dr. G. R. Milne dwelt on the socio-economic sphere, giving details on the country's area, population density and distribution, gross domestic product and land use. He also described the role of natural resources in Zimbabwe's economy, the depletion of natural resources, environmental policy in the past and at present, natural resources accounting method, the prerequisites in natural resources accounting, and ongoing natural resources accounting activities in Zimbabwe.

82. The fact that 30 to 35 per cent of the country's GDP was essentially derived from its natural resources showed the important role of those resources in the economy, and hence the need to manage them in a sustainable way. The depletion of natural resources was a major problem in Zimbabwe. In particular, he mentioned soil erosion, deforestation and the depletion of the vegetation cover, over exploitation of the fauna (for instance, over-fishing on Lake Kariba), and water pollution. Soil erosion was a particularly devastating form of the depletion of natural resources; it caused the loss of between three and seventy five tons per hectare per year in the rural areas where most of the people lived. Such management was not sustainable because those soils would regenerate at no more than one half ton per hectare per year.

83. On macroeconomic policy orientations, and their impact on the environment, he identified four distinct categories, namely, fiscal, monetary, commercial and institutional policies, which in his view, were all linked to the issues of resource deterioration and depletion. Consequently, the role of natural resource accounting was to enable

decision-makers to have a better understanding of those linkages in the macroeconomic domain.

84. He mentioned four techniques of natural resources accounting, as follows:

- Adjustment of national income accounts to factor in the value of stocks depleted;
- Opening and closing balance of the natural resources and allocation of economic values to the stocks accounts;
- Pollution flow account of the reserves, by linking resources accounts and accounts of inputs and outputs;
- Environmental capital and investments account.

85. The speaker said that a natural resources accounting programme was being prepared in the country, but added that there were several prerequisites. He reviewed the following conditions in the context of databases:

- a sound national accounting system;
- an effective and detailed sectoral database;
- technically skilled local staff in the various ministries;
- economic and environmental research capacity;
- previous research carried out in the country; and
- strong support from the government.

86. The speaker described the ongoing natural resources accounting activities in Zimbabwe. For instance, a feasibility study was under way, with financing from the government of the Netherlands. On the basis of the feasibility study, programme proposals focused on strengthening national capacities in the long-term should emerge. The proposals would be submitted to the donors and governmental agencies concerned.

87. In the course of debate, the participants discussed at length the question as to what were the key elements to be taken into consideration in the elaboration of the natural resources balance. Although it was accepted that the natural resources balance was at the very heart of environmental accounting, it was also recognized that such a balance only contained the most important aspects in the context of each country. That was in fact one reason why environmental accounting relating to different countries were not really comparable.

88. Issues relating to harnessing of natural resources and the constraints connected with that exercise were also discussed at length. Some participants pointed out that in the case of most green accounts, it was necessary to express the stocks in monetary terms where economic assets were being considered, but that in the case of environmental accounts such as biodiversity, absorption capacity or pollution, the inventory of physical stocks gave a sufficiently clear picture, since in such a situation, there was no need for monetary values.

89. Other participants, however, supported the principle whereby monetary values were always considered useful, in view of national priorities. It makes it possible to determine what is available at the beginning of the exercise, to measure utilization, evaluate supplementary assets, changes in land use and natural growth. It is also possible to draw up a monetary account on the basis of the prices, as long as re-evaluation is done at year-end.

Report of the Workshop on Environmental Statistics, Indicators and Accounting, 17-21 November 1997 (Agenda Item 9)

90. Mr. Traore Souleymane, in his presentation, said that 18 countries, represented by 22 participants, had taken part in the workshop, which was focused on the following agenda:

- presentation of international statistical and environmental programmes;

- concepts, methods and uses of environmental statistics, indicators and accounts; and
- imperatives in the development of environmental statistics.

91. Each of those points was discussed following presentation.

92. *International Programmes.* (i) the framework adopted and recommended by the United Nations Statistics Commission was presented, but owing to its limitations in respect of quantitative statistical variables, it was recommended that it should be used in conjunction with other documents such as the manual prepared by the United Nations Statistics Division on environmental indicators, environmental statistics concepts and methods, human statistics, and statistics on the natural environment; (ii) establishment by ECA of a programme comprising short- and medium-term development objectives and dissemination of environmental statistics in Africa; (iii) the strategies adopted by Zambia, Lesotho and Egypt were also presented.

93. *Concepts, methods and uses of environmental indicators.* Four working groups were formed. From their work, a table was constructed, giving the priority areas in the context of the environment, as well as statistical variables connected with those areas (see pages 11, 12 and 13 of workshop report). Nigeria, Tanzania and Zimbabwe took the opportunity to relate their experiences in that connection. Environmental accounting has been conceptualized as part of an integrated economic accounting and environmental accounting system, which is implemented by the United Nations. Its application and utilization will be facilitated by a manual that is being prepared by the Nairobi group of experts and is scheduled to be distributed towards the end of 1998.

94. *Imperatives in the development of environmental statistics and environmental accounts.* Here, the participants discussed the implementation of national and regional programmes and support to those programmes through the establishment of a Steering Committee, formation of special teams on appropriate themes and organization of training workshops.

95. The recommendations of the workshop covered the following areas:

- *Availability and quality.* Environmental statistics produced in the countries of the region should be more widely available and of better quality;
- *Presentation of environmental statistics* in a form compatible with international norms to render them usable at the regional and international levels; in other words, they should be globally comparable;
- *Organize training courses* in environmental statistics and environmental accounts at training institutions and centres in the region, with the support of member States and international organizations;
- *ECA and UNSD should continue to facilitate collaboration and exchange of information* between member States through appropriate information technology, workshops, seminars, etc., on environmental statistics and environmental accounts;
- *Assistance by ECA of member States, in the area of technical and financial support* for ongoing and future programmes and projects connected with environmental statistics and environmental accounts;
- *Effective participation of member States in the international programme* for the compilation of environmental indicators, initiated by UNSD and their contribution in the elaboration of the ECA compendium on environmental statistics.

96. Finally, the participants were informed that the Development Information Services Division would (i) hold a workshop in the near future for French-speaking and Lusophone (Portuguese-speaking) African countries on the matter discussed during the workshop for the English-speaking group (17-21 November 1997) and (ii) take into consideration the recommendations that would emerge from the current seminar to guide its environmental programme in the future.

***Organizational aspects of environmental and natural accounting
(Agenda Item 10)***

97. In his presentation, Mr. Peter Bartelmus addressed two main issues: i) how to develop a national programme for the implementation of SEEA, and ii) the organizational and institutional problems related to the implementation of SEEA.

98. The implementation of national programmes for the SEEA generally includes the following four elements:

- (i) a pilot project for the testing of the methodology;
- (ii) an annual reduced-form of accounting to capture the major changes in the initial stock of crucial natural resources;
- (iii) the development of a benchmark every five to ten years that includes a comprehensive accounting of natural resources, using an improved database that would close data gaps identified during the pilot phase; and
- (iv) special accounting studies to address specific environmental concerns or the environmental aspect of a particular economic sector. These studies are much more detailed.

99. As far as the institutional and organizational aspect of environmental accounting are concerned, the speaker focused mainly on how to go about the implementation of the pilot project and defined the following sequences:

- Organization of national seminar of the stakeholders to introduce the programme and decide on the scope and coverage of the pilot project;
- Setting up of a steering Committee to monitor the implementation of the programme;
- Establishment of a Task force or organization of workshop on particular component of the environmental account;
- Designation of a lead agency or an executing agency which is responsible of synthesizing all the information and data originating from the workshops or

taskforce. This agency might be the Office in charge of National accounting, the national Office of Statistics, a Scientific institution, etc...

- National seminar at the end of the pilot project to evaluate results and decide on possible follow-up such as the institutionalization of green account system.

100. During the debates, participants raised issues about the role of the public and private sector, including NGOs and local communities in the production and dissemination of environmental data. Some participant felt that it is much more urgent to focus on the development of database on environmental factors, before starting the greening of national accounting.

101. It was agreed upon that although environmental data are still inadequate in most African countries, the Greening of National Accounting can be started using existing data and focusing on specific areas. Regarding the role of public and private sector, the participants felt that the public sector should concentrate its effort in the production of information and the Greening of National Account, while NGOs, private enterprise and local communities should help in providing the data, alerting governments on present and emerging environmental problems, and disseminating the results of Green National Account. In order to promote the interaction between the public institutions and other potential users of environmental data, it was suggested that national committees be established to serve as a forum for all stakeholders. These committees could help identify the problems, priorities and specific needs of particular end users. It was also suggested that statisticians should be given some incentives, as well as adequate means for collecting, analyzing, storing and disseminating data on environmental factors. This task can be facilitated by the use of modern technology.

102. In conclusion, it was noted that since environmental is not a sector by itself, the type of institutional organization will vary from one country to another. In general, the Ministry in charge of environment can play the leading role, but specific mandate should be given to other institutions so as to facilitate the collaboration and avoid duplications.

***Data requirements and Environmental Information System
(Agenda item 11)***

103. The representative of UNSD, Mr. Peter Bartelmus, who replaced the representative of the World Bank who did not attend the Seminar, outlined the steps to be followed for the implementation of the System of Integrated Environmental and Economic Accounting (SEEA), as contained in the Draft Operational Manual of SEEA implementation.

104. These steps include:

(a) Adaptation of SNA

- Supply and use accounting
- Environmental expenditures
- Produced (natural) assets

(b) Natural Resource Accounting

- Physical accounting
- Valuation (market valuation)

(c) Degradation Accounting

- Physical "environmental" accounting
- Emissions
- Valuation (maintenance costing)

(d) Presentation of Results

- Overall results
- Comparison of conventional and "green" aggregates

105. He described the concept, characteristics, data sources and requirement for each of the steps. He observed that the adaptation of SNA, which is an adjustment of conventional national accounts, requires additional processing and estimation. This adaptation is warranted by the necessity of identifying those economic activities in the

national accounts which interact with the natural environment or respond to environmental concerns (e.g. expenditure for environmental protection).

106. He also explained that natural resource accounting measures the actual stock or changes in stock of the natural economic non-produced assets, namely fish, timber, mineral deposits, land etc. in terms of physical quantity, price and costs, and net returns. The assessment of resource stocks and their depletion may require modelling, e.g. of sustainable yield.

107. With regard to degradation accounting, he noted that there is another important tool of environment statistics which permits to monitor the environmental quality, e.g. through the measurement of BOD (Biological Oxygen Demand) media. However, in order to link pollution to economic activities, environmental accounts focus on emissions rather than environmental quality.

108. The representative of UNSD concluded his presentation by arguing that the environmental accounting is a far-reaching and continuing work necessitating a gradual approach ranging from sensitising the interest for the evaluation and measurement of environment to a good database making process.

109. A comment was raised concerning the limitations of SNA, which is too economy-biased to give a picture of environment indicators, and the importance of identifying natural resources of greater importance for national economies to make data collection process more concentrated on those resources.

110. Participants representing Benin, Cameroon, Chad, Côte d'Ivoire, Ethiopia, Gambia, Malawi, Uganda, Senegal and Sudan intervened to portray the situation of their countries specifics in the area of environment related data collection. They unanimously pointed out that green accounting is very important for their economies, which are mainly dependent on primary resources. A number of legal and administrative measures were taken in those countries, but the process of collecting and analysing environmental data is confronted to such difficulties as lack of financial

resources, competent technical personnel, and inter-departmental or inter-ministerial co-ordination.

International Support and Coordination (Agenda Item 12)

111. In the presentation of his paper, Mr. El Serafy drew our attention to the series of workshops organized by UNEP in association with the World Bank between 1983 and 1988. These lead to the amendment of the United Nations System of National Accounts and the issuance by the United Nations of a Handbook for implementing a new satellite accounts system that integrates environmental accounting with what is described as 'economic' accounts'. Subsequent progress is outlined, including the UNEP initiative to simplify the Handbook in the form of a manual for easy implementation. The variety of approaches made for adjusting the conventional measurements are related to various outlooks and perspectives, essentially grouped around two concepts of sustainability. Strong sustainability, which appeals to the environmentalists, considers that any diminution of the environmental stock should be charged fully against apparent income. A weaker sustainability, associated with the economic definition of income, would tolerate a reduction of natural stocks, provided that other forms of capital are created so that total capital, natural as well as human-made, is not diminished. According to this view the adjustment would be smaller.

112. It was pointed out that the national accounting framework is not particularly suited to show environmental decline, since many parts of the environment have no marked values or defy physical measurement altogether. The national accounting system will serve economic purposes much better, provided we keep in mind that it will always be partial and cannot be made comprehensive. The use of market prices for valuation and confining coverage to transactions will always be constraints that must be accepted, but researchers are free to make any adjustments they wish to the conventional estimates, using contingent, shadow or other prices, but preferably outside the accounts themselves. Due to their great dependence on primary activities that are rooted in the environment, greening the accounts is of great importance for

African countries. The benefits could be a fundamentally altered view of past development, and the way economies should be managed in the future.

113. The introduction of the satellite account system was a sensible compromise since debates about methods of adjustment have persisted. The satellite accounts essentially provide a window for depositing relevant information about the links between the economy and the environment. Adjusting the product and expenditure accounts would be one of the outputs of the satellite system. Much interest has been shown for greening the accounts worldwide, with many case studies already done yielding very useful results. But there has emerged also some skepticism about the rigor of the whole initiative since different approaches lead to widely different results. Reducing the range of controversy is therefore essential, and this can be realized if the various purposes behind the different approaches are explained and previous case studies analyzed and compared.

114. Finally, Mr. El Serafy summarized eight points of importance for the future. Interest in the subject should continue to be stimulated. The economic advantages of greening the accounts should be emphasized. Objectives of the adjustment should be clarified and tailored to local needs. Lessons should be distilled from earlier studies before new ones are undertaken. Institutional requirements need to be ascertained and local capacities developed. External assistance should be minimized. New case studies should have the active support and participation of local talents. Capacities developed should be versatile and flexible, and not tied to any specific approach.

115. In the discussion that followed, one participant suggested two more points to be developed in the future; i.e. the revision of the methodology of the Green Accounting System and the development of sector specific approaches to the GAS.

116. The participants further discussed whether or not support (financial as well as substantive) from international organizations (UNEP, WWF, WB, UNDP, etc.) is preferable above bilateral aid. It was said that bilateral assistance often occurs under the condition of the acceptance of the donating country's national standards and these

are not necessarily beneficial to the receiving countries. Bilateral aid programs often contradict each other as well. On the other hand, it was remarked that the international organizations often do not have the resources themselves to support programs such as the introduction of GAS in their member states.

117. Unanimity was eventually found in the statement that African countries should take up their own responsibility in managing and accounting for their natural resources. They cannot only blame the buyers of natural resources and expect aid in return. The role of the international organization is primarily to be seen as one of awareness creation.

Presentation of Proposals for Follow-up Activities (Agenda Item 13)

118. *Generate demand for, and promote application of, integrated environmental and economic accounting.* Delegates will use the materials from the seminar and request additional materials from the ECA and other relevant organizations such as UNSD, UNDP, and UNEP if necessary to publicize the benefits of integrated environmental and economic accounting in their respective countries. Target audiences include officials from the ministry of finance, the ministry of economic planning, national environmental agencies, and statistical departments. The objective of such awareness-raising efforts is to highlight the importance of natural assets to social and economic development in their respective economies and to demonstrate how a country can gain most out of its natural assets through the application of integrated environmental and economic accounting.

119. *Build and strengthen capacity for implementing integrated environmental and economic accounting.* Depending on the results of the awareness-raising efforts in each country, delegates will request necessary support for training in integrated environmental and economic accounting. The ECA will identify institutions that can provide relevant training programs at the regional and sub-regional levels. Three types of training programs can be envisaged. The first has policymakers and key resource

managers as its primary audience. This is to give additional support to the awareness-building efforts. The second is to provide training to national accountants and statisticians on the techniques of integrated environmental and economic accounting. The third is to provide training of trainers in order to strengthen local training capacity. The three can be combined in various ways depending on the needs of the country concerned. These training programs can also be part of a broad training program on environmental economics. UNSD can provide training facilities, training material by organizing specialized information on training facilities on demand. Many other organizations have broad environmental economics training program, of which integrated environmental and economic accounting is a part.

120. *Conduct focused, practical case studies based on the framework of the UN and System of Integrated Environmental Economic Accounting (SEEA).* Delegates may consider initiating case studies to be coordinated at the regional level by the ECA. The ECA, in its capacity as the regional coordinator, will help member governments identify sources of funding and technical assistance for these case studies. Such a regional program should focus on priority resource sectors. It should be designed to address specific policy issues, such as public investment priorities and export strategy. The program should start with a rigorous assessment of existing integrated environmental and economic accounting projects and programs in Africa with a view to improving methodologies and sharpening policy focus. UNSD is conducting a critical assessment of the available case studies. It will distribute this document to the UNSD for translation and further distribution. Only when case studies have proven to be policy relevant and practically useful, will policymakers sustain their interest in integrated environmental and economic accounting. Only then will regular compilation of integrated accounts be politically feasible.

121. *Develop and consolidate database for implementing integrated environmental and economic accounting.* Delegates will initiate a domestic process to identify data sources and gaps for priority resource sectors. They will seek allocation of domestic budgetary resources for this work at the national level and request external technical and financial support where necessary. Although priority resource sectors may differ

from country to country, at the regional level, a database for land/soil, forestry, minerals, energy and oil, and water may be essential for all African countries to varying degrees. The ECA, in collaboration with partner agencies, could aim to develop related concepts, frameworks, and methodologies that are consistent with international practices. The ECA may consider requesting regular reporting from member governments when it has become practical for the governments to do so. (refer to para 103 to 110)

122. *Apply integrated environmental and economic accounting information to policymaking.* As integrated information becomes available, delegates will help initiate a process to design and implement necessary policy and institutional reforms implied by the results of integrated accounts. This process should be specified and budgeted as part of any integrated environmental and economic accounting project and program. These reforms also imply the need to monitor environmental performance, and use economic and regulatory instruments to achieve environmental goals. For those countries where integrated environmental and economic accounting has yet to take place, delegates will seek to include in the routine publication of conventional economic aggregates any existing and newly available physical information on priority resource sectors. Where international financial and development institutions fail to recognize the importance of natural assets in their policy prescriptions, governments need to urge these institutions to account for these assets. For example, IMF in its consultation with governments should use accounts that incorporate measures of natural asset depletion.

123. *Strengthen regional coordination.* Delegates will support the designation of the ECA as the regional focal point for coordinating the implementation of integrated environmental and economic accounting. The ECA may identify prominent research institutes and Environmental Network based in the region to serve as executing agencies on a multi-year funding basis. Such institutes need to gain recognition from interested member governments and relevant donors and partners as far as the coordination of integrated environmental and economic accounting in Africa is concerned. ECA will distribute selected materials from this seminar, including this work plan, to its counterparts in member governments and to major donors, including

Canada, France, the Netherlands, Sweden, United Kingdom, the United States, FAO, UNDP, UNEP, and the World Bank. ECA should promote consultations among donors and partner agencies in support of integrated environmental and economic accounting projects and programs in Africa. ECA will report the outcome of this seminar to the Meeting of the Ministers responsible for planning and finance.

Adoption of the Report (Agenda Item 14)

124. The participants of the seminar after having examined the draft report paragraph by paragraph adopted it as amended.

Closing (Agenda Item 15)

125. Mr. Fulai Sheng from World Wide Fund for Nature, Mr. Eya J. Bisso and Mr. Telly Muramira, respectively on behalf of francophone and anglophone countries, thanked ECA for taking the initiative to organize this seminar for sensitizing African Governments on the importance of environmental and natural resources accounting. They expressed the wish for ECA to implement the ENRA (Environment and Natural Resource Accounting) in member States. Special thanks was given to Mr. Peter Bertelmus and Mr. Grant Milne for covering some topics of the seminar in the absence of designated absent speakers.

126. The Chairman thanked the participants for the support and confidence in leading the seminar, and called upon all participants to be ambassadors of the ENRA in their respective countries.

127. In her closing remarks, Prof. P. K. Makinwa-Adebusoye, Director of the ECA Food Security and Sustainable Development Division, on behalf of Mr. K. Y. Amoako, Executive Secretary, expressed the appreciation of the ECA to all participants. In her words:

" In his opening remarks, the Executive Secretary underscored the indicators of success for this seminar; namely to raise environmental awareness by focussing on the values of natural assets; an important first step towards achieving long-term objectives:

- Adoption by policymakers of SESA principles in designing economic policies for regulating the use of natural resources;
- Fostering partnerships among different ministries, research institutes and NGOs; and
- Generally motivating policy-makers to improve their development strategies.

You will all agree that in the last two and a half days, this seminar has succeeded in sensitizing distinguished delegates on the importance of natural resources.

This success, we all agree, is due, in large measure to our knowledgeable resource persons who held our attention by their lucid presentations on various facets of Green Accounting. In this regard, our thanks go to our partners in this endeavour; the WWF, represented by Fulai Sheng and Monica Glenn, who helped in drawing up this programme. To our eminent resource persons, Mr. Fulai Sheng, Mr. Peter Bartelmus, Mr. El Serafy, Mr. Powell, Mr. Grant Milne and His Excellency Professor Bathily.

Our resource persons have succeeded because of the distinguished participants who not only listened but interacted very actively with their insightful comments and questions. We at the ECA are happy that you have come and hope you will, as good ambassadors of your countries, not only carry the message of Green Accounting home but work towards moving it forward by spearheading the organization of national workshops.

We are particularly grateful to donors who have sponsored participants to this meeting, in particular, the Statistical, Economic and Social Research and Training Centre for Islamic Countries.

We particularly appreciate the collaboration of DISD and ESPD and recognize the contribution of our colleagues from these Divisions.

We are grateful to the overall rapporteur Mr. Ousmane Ndoye, to all staff of the Secretariat, all my colleagues from FSSDD who have worked very hard as rapporteurs; to colleagues from the Sub-Regional Development Centres of ECA who have all helped to ensure the success of this seminar. I wish to recognize my colleague Mr. Ousmane Laye who is the team leader for the Environment group of the Food Security and Sustainable Development Division of ECA.

I thank the interpreters who have worked long hours and thus facilitated our understanding, and the general staff of FSSDD who worked unseen typing and duplicating seminar papers; those who ensured that air tickets are confirmed, DSAs paid promptly etc...

Last but certainly not the least (as we say in my language the mighty masquerade that comes at the end of the crowd), I thank our very able Chairman, His Excellency the Honourable Frank Mkandawire for the able way he conducted the seminar. "

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