

# **The Third Module TSED Seminar**

## **Theme: Environment**



**Livingstone Club Hotel, Bagamoyo  
28<sup>th</sup>–30<sup>th</sup> June 2004**

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## List of Acronyms

CDC	Center for Desertification Control
EIA	Environment Impact Assessment
GIS	Geographical Information Systems
HBS	Household Budget Survey
JICA	Japan International Cooperation Agency
MAFS	Ministry of Agricultural and Food Security
MDG	Millennium Development Goals
MOWLD	Ministry of Water and Livestock Development
NBS	National Bureau of Statistics
NEMC	National Environmental Management Council
NGO	Non-Governmental Organisation
NLUPC	National Land Use Planning Commission
PMS	Poverty Monitoring System
PORALG	President's Office- Regional and Local Government
PRS	Poverty Reduction Strategy
REPOA	Research on Poverty Alleviation
NSDI	National Spatial Data Infrastructure
SEA	Strategic Environment Assessment
SUA	Sokoine University of Agriculture
TANRIC-IRA	Tanzania Natural resource Information Centre – Institute of Resource Assessment
TAWIRI	Tanzania Wildlife Research Institute
TSED	Tanzania Socio-Economic Database
TWG	Technical Working Groups
UDSM	University of Dar es Salaam
VPO	Vice President's Office
ZDoE	Zanzibar Department of Environment





## Executive Summary

Research on Poverty Alleviation, REPOA, in collaboration with UNDP through the Vice President's Office, and the National Bureau of Statistics held a TSED thematic seminar from the 28<sup>th</sup> to the 30<sup>th</sup> of June 2004 at the Livingstone Club Hotel in Bagamoyo. This was the third seminar to be conducted, and the theme was on environment. 35 participants attended the seminar representing the government institutions/ministries, research and environmental institutions and NGOs.

The objectives of the seminar were:

- ❖ To strengthen the understanding and use of TSED within the environment and natural resource sectors (including environment, water, agriculture, wildlife, forests and fisheries).
- ❖ To use TSED in the development of poverty analysis for policy in environmental and natural resource sectors (including agriculture), and PRS targets and MDGs.
- ❖ To identify data gaps and needs of TSED in the area of environment and natural resource sectors, and the development of poverty-environment indicators.
- ❖ Enhance the capacity of policy makers and planners (in government and civil society) to use data for decision-making.
- ❖ Promote awareness of TSED and its potential usefulness in supporting policy making and planning
- ❖ Promote further analysis of new datasets available from the Poverty Monitoring System of the Poverty Reduction Strategy
- ❖ Generate outputs which could be utilised for awareness raising and dissemination on various thematic issues related to poverty.

On the first day of the seminar the participants were familiarised with the background of TSED, the PMS, Environment-poverty linkages and the uses of indicators for environment-poverty monitoring through four key presentations. In the afternoon the participants had hands-on experience in using the TSED software using computers that had been set up for that purpose.

On the second day of the seminar, participants were informed on GIS in Tanzania and updated on the progress of the Environment-Poverty Study through presentations. In the afternoon, participants split into three groups and worked on how to improve the Environment Module in the database as well as how to improve the database itself. On the third day, the participants presented the outcomes of their group work. The following recommendations came out of the seminar:

1. Review of the structure of TSED



2. Develop the module on environmental data in the TSED database
3. Make deliberate efforts to collate spatial datasets existing in various institutions
4. Develop a meta database
5. Develop mechanism that will ensure government funding of database management in various institutions (including updating). One possible avenue is to revive the initiative of establishing National Spatial Data Infrastructure (NSDI).



## **Tanzania Socio-Economic Database**

Tanzania Socio-Economic Database (TSED) is a tool that is designed to assist policy makers and planners to use existing data and information to plan social development programs.

TSED, a stand-alone tool based on the DevInfo technology is a general purpose package for the collation and presentation of data. The software supports both standard and user defined indicators. TSED also supports up to ten levels of geographical coverage. It contains a mapping component, which can be improved upon and enhanced.

Beyond providing a repository of data, TSED provides easy to use facilities for querying the database and, based on the data retrieved, for producing graphics (tables, graphs, maps, standard reports) for inclusion in reports and presentations. For this reason, TSED is a powerful advocacy tool.

Tanzania was the first country in Africa to customize a common database for the government and its development partners. Many countries in African have visited Tanzania to learn from our experience.

In recognition to the powerful role that the UN system can play in supporting governments in pulling different sectoral data sets and analyses together within the MDG framework, and in helping national policy makers to ensure linkages with national planning and budgetary processes, DevInfo was offered to help countries monitor the MDGs and advocate their achievement through policy measures, multi-sectoral strategies and the development of appropriate interventions.

Tanzania has a comparative advantage since TSED has been in use for a number of years. In 2001, the Government adopted TSED as the repository of all quantitative data generated by the Poverty Monitoring System. TSED has a specific module on the poverty monitoring indicators and another one highlighting the Millennium Development Goals. It is expected that TSED will contribute to greater MDG awareness and knowledge at country level among a wide range of stakeholders in the different areas of the MDGs and to make the linkages with the PRS.

TSED will contribute to more evidence based policy-making, using quality data, and actual policy change and prioritisation by the government to shift priorities and achieve 'localized' MDGs. TSED will play a role in the MDG reporting expected in 2005.

Although TSED is currently running on CD-ROM, it is possible to download updated data from time to time from the TSED website ([www.tsed.org](http://www.tsed.org)). This year Tanzania has been nominated to pilot the web-enabled version and work is underway. This will allow for easy access of updated data by a wide range of stakeholders. Where available, TSED contains time series, multiple estimates from various sources, disaggregated down to district level, by gender, age groups and urban/rural strata.

The volume of data in TSED is quite large, with over 450 indicators available in the database to date. These are from the Routine data collection systems as well as from



the Censuses and Surveys, including the Household Budget Survey (HBS), the Integrated Labor Force Survey (ILFS), the 2002 Population and Housing Census.

TSED contains a lot of indicators e.g. from the health and education sectors, but very few from environment. The National Bureau of Statistics is currently updating and expanding on the indicators in TSED. Many people have requested that environmental indicators be included in the database. Consequently, an environment theme will be created in TSED highlighting environmental indicators – both spatial and non-spatial.

TSED does not/will not replace the already existing information systems – but rather aim to bring together key indicators from various sectors in one databank. TSED benefits from these systems. TSED's specific purpose and added value is to collect existing data, identify gaps in the indicators if they exist and provide a consolidated source of data on the Poverty Monitoring Indicators and MDGs. It is also designed to make it easy to use the integrated database for advocacy with key decision makers.

A training program has been established for TSED, including the thematic seminars. These seminars aim at enhancing the capacity of policy makers and planners (in government and civil society) to use data for decision-making. Another objective of seminars is to promote awareness of TSED and its potential usefulness in supporting policy making and planning.





## **Day 1: Monday 28th June 2004**

### **Opening**

The Data Management Advisor for TSED at the National Bureau of Statistics, Jane Mwangi, welcomed the participants to the workshop. Before continuing with the opening she asked the participants to introduce themselves by stating their name, the organisation that they work with and their title. After the self-introductions, Ms. Mwangi stated that in the next two days the participants would have the opportunity to get to know each other better and discuss how their organisations could collaborate in sharing data.

The participants were informed that they were attending the third module of the TSED seminar series, which was focusing on environment. Previous seminars covered the themes of education and health. As she discussed the importance of TSED, Ms. Mwangi observed that there was a lot of information collected in Tanzania in various ways, and by different institutions. However, the information was not always easily available to various users. Therefore, TSED was established to serve as a common repository of key socio-economic indicators on Tanzania that anyone can easily access.

The participants were informed that TSED was customised from UNICEF's DevInfo software. It is a general purpose package for the collation and presentation of data. The software supports both standard and user defined indicators. TSED also supports up to ten levels of geographical coverage. TSED has been designed using Microsoft tools and contains a mapping component, which can be improved upon and enhanced.

Beyond providing repository of data, TSED provides easy to use facilities for querying the database and, based on the data retrieved, for producing graphics (tables, graphs, maps, standard reports) for inclusion in reports and presentations. For this reason, TSED is a powerful advocacy tool.

Ms. Mwangi further informed the participants that in 2001, the Government adopted TSED as the repository of all quantitative data generated by the Poverty Monitoring System. The data came from the Census, Surveys e.g. the Household Budget Survey, Labourforce Survey, Demographic and Health Survey; as well as from the routine data collections systems that exist in line Ministries. Additionally, at the global level, the TSED software will be used by countries to monitor and report on the MDGs.

In recognition to the powerful role that the UN system can play in supporting governments in pulling different sectoral data sets and analyses together within the MDG framework, and in helping national policy makers to ensure linkages with national planning and budgetary processes, this software was offered to help countries monitor the MDGs and advocate their achievement through policy measures, multi-sectoral strategies and the development of appropriate interventions, TSED has a specific module on the poverty monitoring indicators and another one highlighting the Millennium Development Goals. It is expected that TSED will contribute to greater MDG awareness and knowledge at country level among a wide range of stakeholders in the different areas of the MDGs and to make the linkages with the PRS.



She further noted that the government was trying to integrate environmental issues into the PRS process, with a focus on three outputs: strengthening awareness and understanding on poverty-environment linkages; strengthening of the poverty monitoring system through the development of poverty-environment indicators; and capacity building of government and non-governmental organisations to address poverty environment issues.

The TSED advisor went on to remark that the TSED thematic seminars are an important venue through which policy makers are apprised of the importance of statistics. She informed the participants that REPOA was contracted to facilitate the organization of the seminars. TSED has over 450 indicators to date. However, limited indicators from the environmental sector exist, and many people had requested the NBS to include additional environment indicators in TSED. The NBS planned to create an environmental module in TSED, both with spatial and non-spatial data. Therefore, the thematic seminar was a good opportunity to find out the data that the organisations represented at the seminar possess and see how they could come together and collaborate to share this information. She urged the participants to come up with suggestions during the course of the seminar on how the environmental data gaps that have been identified can be filled. More specifically, she stated that on the last day of the seminar participants input would be required in formulating the way forward and strategies for sharing the information.

The TSED advisor concluded by briefly outlining the timetable, and inviting the participants to feel free to speak in whichever language they felt most comfortable in during the seminar although the report would be produced in English.

### **Introduction to the Poverty Monitoring Systems presented by Olney Daly from the Vice President's Office**

The presentation gave a background and rationale to the Poverty Monitoring System (PMS) that is in place to monitor the effectiveness of the Poverty Reduction Strategy.

Following the World Summits in the 1990s on the environment, Women and Children and the World Summit on Social Development in 1995, Tanzania developed a National Poverty Eradication Strategy in 1995. In 2000, the Poverty Reduction Strategy (PRS) was put in place. There were five priority sectors under the PRS: agriculture, health, water, education and rural roads.

The PMS was formulated to monitor the effectiveness of the programs under the PRS. The PMS sets out to:

- Provide accurate and timely information
- Provide information from the poor themselves
- Provide information that is collected, analysed and disseminated regularly
- Be aligned with the PRS priority
- Be aligned with the Millennium Development Goals (MDGs)

There are several institutions integral to the PMS system: the PRS Technical Committee, the National Poverty Monitoring Steering Committee, four Technical Working Groups (TWGs), the TSED and the PRS Secretariat- Poverty Eradication Division of the



President's Office. The TWGs are comprised of the Censuses and Surveys group, the Dissemination, Sensitization and Advocacy group, Research and Analysis group, the Routine Data Systems group and the TSED group.

The presentation outlined the roles and responsibilities of the various institutions and the TWGs, and then gave a brief summary of the intentions of the PRS/PMS Review that is currently taking place. Through the review, the PRS (and subsequently the PMS) aims to make the following changes:

- Shift from priority sectors to priority outcomes
- Include cross-cutting themes
- Review the PMS institutions
- Review PMS indicators that were not well-developed earlier, e.g. environment
- Include greater linkages with regions in data collection- capacity development
- Include training for data collection and analysis
- Expand the survey program
- Communications strategy
- Broaden and deepen the TSED database

The TSED seminar on the environment is important because it will sensitize participants on the PMS, raise awareness of the importance of data collection, help brainstorm about indicators and other data needs for planning. The environment indicators in the 2001 PMS were not well developed, and this seminar aims to bring together experts in the area of environment in order to help develop indicators for the TSED. Ultimately, the seminar will contribute to the completion of the TSED and encourage participants to use it.

The expectations from the workshop follow up are that there will be better coordination between sectors, coordination between sectors and local governments, and that the seminar will inform training and data analysis.

The presentation is attached as annex 2.

## **Discussion**

Issue 1: Since the function of TSED is the dissemination of data, why not place the database under the Sensitization and Advocacy Working Group?

Response: TSED cuts across all of the other areas mentioned. This does not mean that TSED cannot have a home in the Advocacy and Sensitization TWG. We are reviewing the system and looking at the institutions and this is one issue that will come up. TSED institution will also be looked at. She omitted the qualitative data area, the poverty mapping area. These are housed under other TWGs. They are looking at more strategic ways of making these linkages, so this is an issue that is getting attention.

Issue 2: Will there be a time lag between the review of the PRS and the review of the PMS? If there will be, what kind of preparations have been put in place to make sure that the lag will not affect the implementation of the PRS II?

Response: The PRS and PMS are undergoing a fairly simultaneous review, but the new PMS cannot be completed until the PRS is known. One issue, for example, is the



change from a sector-based PRS to an outcome-based PRS. However a guide for the review of the PMS has been formulated and several institutions will be invited to review this document. By the first week of July the guide will be delivered to the PRS Technical Committee and the Poverty Monitoring Steering Committee.

Issue 3: The PRS review is moving the approach from priority sectors to priority outcomes with the aim of broadening and deepening the strategy. Are there enough resources to support this expansion?

Response: This shift is an effort to make the linkages between macro-level growth and micro-level outcomes. The first PRS demonstrated that no action is based solely in one sector, all actions involve inter-sectoral linkages. In the PRS II these linkages will be examined and a lead actor identified. The priorities will determine how resources will be allocated. There have been a series of consultations going in all the districts of every region going down to the village level.

Issue 4: Has capacity building at the district level been considered since unless this is carried out, data collection will not be effective and efficient?

Response: At the moment the Routine Data Working Group is preparing a strategy paper. The groups carried out a sector consultation and it is hoping to make it a guide for coordination of data collection and analysis at the district level and below. Linked to this will be the capacity building in collection and analysis. One area that has to be discussed is how to include sub-national indicators that are set by villages and districts. Involving the stakeholders on the ground gives them ownership of the data and planning, which combats top-down planning. This raises the challenge of skills: are there enough skills at the district level to analyse the data that they will be collecting? While resources for capacity building are a struggle, this is an important consideration in poverty monitoring.

Issue 5: Are you aware of and do you work with the National Environment Communication Strategy coordinated by NEMC?

Response: The Dissemination, Sensitization and Advocacy Working Group is developing the communication strategy. Part of the methodology is to bring in key sectors and people for brainstorming. Issues such as coordinating with NEMC will be included in the strategy when it is crafted.

### **Mainstreaming the Environment into the PRS presented by David Howlett, Poverty Environment Advisor, VPO**

The presentation gave an outline of the program to integrate environment into the PRS process.

First the presentation gave a brief history of the environment policy in Tanzania. During the 1980s, environmental policy focused on trees, soil conservation and protecting biodiversity. In Tanzania, NEMC was established and several environment programs and legislation were formulated. The main trend was that the environment had to be protected from people. After Rio 1992, this began to change and in the mid-90s there was increased push from national stakeholders to acknowledge the importance of the



environment. While it was included in the VISION 2025, the environment was not well addressed in the 2000 PRSP and was seen as a gap by the Government and other stakeholders.

There are several areas in which poverty and the environment are linked. The presentation focused on the following areas:

- Livelihoods
- Economic growth
- Vulnerability
- Water
- Energy
- Governance
- Conflict
- Gender
- HIV/AIDS
- Age (young & old)
- Disabled

Many people depend on the environment and natural resources for their livelihood. Water and access to water is another concern, as we all need it for drinking, agriculture and other environmental services. In the area of energy, charcoal is the main source of energy in Tanzania that has consequences in the area of deforestation and pollution. Economic growth depends on the environment and natural resources for growth in 2000, this sector contributed 43% of the GDP. People's health is dependent on a good and clean environment, and the poor are most vulnerable to pollution and environmentally related disasters. Access and control over natural resources impacts on people's livelihoods and the abundance (or scarcity) of some natural resources can trigger conflict; gold mining is one example.

A focus on the environment gap in the PRS led to the VPO requesting the UNDP to assist. Environment experts were appointed to poverty monitoring working groups, the environment was included in PRS progress reports and a programme was developed to integrate the environment into the PRS. The goal of integrating the environment into the Poverty Reduction Strategy Program is to "Achieve poverty reduction and sustainable development through the integration of environment and livelihood issues into the PRS process. "

One of the main activities in the program this year is a study that is meant to develop Poverty-Environment indicators. These are indicators that specifically look at the links between poverty and environment. The study will also help to address some of the challenges that face the environment and natural resources, such as inter-sectoral collaboration and the lack of use of data and indicators particularly at the local level, to name a few.

The presentation is attached as annex 3.

## **Discussion**

Issue 1: The efforts made by the government in the 1990s to promote environmental concerns at the district level: In 1999, section 111 a, subsection 2 part c of the Environment Act emphasized that local government consider the environment in planning. The recent Environment Act also underlines local government responsibilities. One of the challenges facing the VPO is how to build the capacity of local government to carry out these responsibilities.



Issue 2: The environment was linked to other sectors such as health and energy but housing was not mentioned. It was agreed that housing is an important sector, and did not appear only because the presentation was not exhaustive in mentioning all of the issues related to the environment.

Issue 3: The amount of wood used to produce charcoal each year was quantified in the presentation. The presenter was asked to comment on the amount of arable land being reduced by erosion each year.

Response: The presenter admitted that he has not seen any reliable data in Tanzania that could answer this question. There is other data available, for example, on deforestation at the district level. However, land degradation is difficult to measure because one has to define several parameters: what is degraded land, how can you measure it every year, how do you map loss of soil fertility? The data required to answer this question is quantitative, qualitative and spatial. This challenge serves to highlight the need for good data collection and information sharing on environmental issues.

Issue 4: Poverty is different in rural areas and urban areas but both areas are linked by common issues. Charcoal consumption in the urban areas, for example, has implications for deforestation in the rural areas. Plastic bags litter both rural and urban areas. Inserting environmental concerns into the PRS means that as various poverty-related issues are analysed, the environmental component is not omitted.

### **A Need for Indicators for Planning and Decision Making presented by Pius Yanda, Institute of Resource Assessment, UDSM**

In this presentation, indicators and their use in environmental planning and decision making were discussed.

First, the presentation addressed the question “what are indicators?.” Indicators are used to quantify and simplify phenomena. They help us understand complex reality and tell us something about change in a system. environmental indicators are dependent on context they may be significant for one geographical area and not for another. The role of indicators is to help decision makers understand why change is taking place and thus they are selected to provide information to support decision making and management.

Some important issues to keep in mind when using indicators are that:

- Without good data it is impossible to develop indicators
- Performance measures mean that targets need to be set
- Indicators must be able to take into account different locations, peoples, cultures and institutions
- Sets of indicators are seldom, if ever complete and evolve over time
- Indicators can play an important role in the way in which human influences on the environment operate.

Environmental indicators are important because they synthesize information and reduce the number of measurements required to give a representation of environmental conditions. Indicators also reveal trends and trigger action when environmental thresholds are approached. Indicators are also important in communicating information



to the public, policy makers, the media and resource users. There is a hierarchy of indicators whereby data gets condensed into simpler information depending on the user, for example scientists require the most data while the public usually require top level information.

Environmental indicators should be developed within a framework that organises and presents the information in a logical manner. Indicators should be simple, robust, relevant to policy, analytically valid, cost-effective, easily understood and able to use existing information and data where possible.

The presentation gave examples of three frameworks that have been used to formulate and organise environment indicators. Under the Pressure-State-Response framework, human activities can exert pressure that induces changes in the state of the environment, causing society to respond to the changes. The Driving Force-State-Response framework is similar to the Pressure-State-Response framework but replaces the word Pressure with Driving Force to be able to include social, economic and institutional indicators. The Driving Force-Pressure-State-Impact-Response framework states that a driving force exerts pressure on the environment, changing the state of the environment which then impacts on human health and eco-systems causing society to respond. Finally, the Pressure-State-Poverty-Response allows users to track the impact of pressure factors both on natural resources and on the poor.

The presentation is attached as annex 4.

## **Discussion**

Issue 1: A debate was sparked on the development of indicators. Some participants were of the opinion that indicators are developed from existing data. Other participants felt that targets must be set first, from which indicators are derived. The presenter maintained that indicators vary according to the needs of the user. Indicators for planners, for example, may be derived from targets. Indicators for scientists will differ considerably in level of detail from indicators for policy-makers. There are implicit standards set into indicators because quantification of an issue requires the setting of standards. For example, indicators that measure how many people have access to firewood implies that it is desirable to access firewood. Likewise, indicators that measure the distance that women have to walk to a water source implies that there is a distance beyond which women should not have to walk to find water. There are basically two types of indicator: those that monitor the progress of a project against set goals, and those that demonstrate the situation and are used as a basis for planning and evaluation. When using indicators, it is also good to examine the assumptions that underlie indicators and affect their value.

Issue 2: What level of environment indicator will TSED contain, national, sub-national, Tanzania-specific?

Response: The reliable data that is being routinely collected can be fed into the TSED, and from that indicators can be developed at various levels. Uganda has made some poverty-environment indicators and there is a study being planned to develop the same in Tanzania. However, there is not much experience from other countries that can be drawn from.



Issue 3: Of the three models outlined in the presentation, which one shall be used to develop environment-poverty indicators for TSED?

Response: The presentation only offered information on some of the frameworks available. While the Pressure-State-Poverty-Response model is preferred because it links the attributes of pressure, impacts and response it does not necessarily have to be adopted wholesale.

### **Tanzania Socio-Economic Database by Jane Mwangi TSED Advisor, NBS**

In this presentation, participants were given an orientation on TSED. TSED is an indicator and database administration system that:

- Facilitates systemisation, storage and analysis of performance indicators
- Contains tools for the generation of tables, graphs, reports and maps
- Allows grouping of indicators in different frameworks.

Some of the problems that led to the creation of TSED were that there was a lack of common shared database for the whole country where information was available on a wide range of indicators. Within the government there was no unified mechanism for disseminating national statistics. Hardcopy publications of statistics from various government institutions were rigid in form, limited to set analyses- and were often delayed. Indicators from various sources were not standardized and could not be compared.

TSED aims to address several of the problems stated above by:

- Enhancing availability and timely dissemination of socio-economic data to support policy analysis and decision-making.
- Strengthen the capacity of database management in the NBS and support NBS in its role as executive agency
- Provide users with a comprehensive set of indicators that help them analyse the situation in Tanzania
- Allow for the monitoring of international, national and regional goals and commitments.

Discussion on TSED started a few years back and several ministries were involved. After a steering committee and task force were established, 330 indicators were identified to be included in the database. A matrix was created that provides information on the indicators was created: level of disaggregation, source, how often the data is updated, how far back in time data is available and definition of the indicator. The official launch of the database was conducted to:

- Enhance the awareness among decision-makers of the initiative, its potential and status
- Clarify the requirements and inputs needed from participating organisations
- Solicit support and commitment from the involved ministries.

TSED is at the very heart of the PMS. It stores and disseminates all quantitative information generated by the Poverty Monitoring Systems. It also contains a theme highlighting the Poverty Monitoring Indicators. However, TSED faces several challenges.



Incentives have to be provided that will ensure the sustainability of the current momentum, and links have to be forged with the local authorities to link the databases together. The participation of civil society has to be enhanced, and the use of evidence produced by the PMS promoted at all levels.

The presentation is attached as annex 5.

## **Discussion**

Issue 1: What are the quality checking mechanisms in place for TSED?

Response: The information in TSED comes from line ministries. The NBS requires the data received to be signed by different levels of management, whether it be electronic or paper copies. They also request the line ministries to document any data quality issues known to them, such as data that is omitted from aggregated data for whatever reasons. Documenting such quality issues is an ongoing activity. Participants commented that TSED would have to do more to assure data quality, and suggested that they come up with some comments on how this could be improved.

Issue 2: The presentation mentions that Tanzania was the first country in Africa to develop a database like TSED and that other countries have learned from Tanzania's experience and created their own databases. Has there been any feedback from the other countries?

Response: The UN shopped around for a tool to be used to monitor development, and adopted TSED as a basis. It is now developing it further for rollout to other countries as a UN monitoring tool. In Tanzania an Internet version of TSED is being developed, and a prototype should be ready by August. However, different countries are at different levels with their databases: in some countries, it is still a UN monitoring tool. What other countries have gained from Tanzania's experience is how to avoid some mistakes and learn from the good practices.

Issue 3: Has TSED been tested, and if so what were the results?

Response: As a software tool, TSED went through different levels of testing before it was rolled out. It is not complete, but it will keep evolving and incorporating new developments in indicators, data, software and technology.

Issue 4: There was a concern raised that the TSED is missing the biophysical aspect of environmental monitoring. Getting data on this may require going to the field: what if this is the case and the database has already been developed?

Response: The missing links such as the one mentioned are the reason participants have been asked to contribute their expertise to improving TSED. This gap also raises the issue of whether there should be separate databases for biophysical indicators and socio-economic indicators. This may not be desirable as the PRS would like to integrate environmental indicators, and inserting environmental data into the TSED is one way in which this could be achieved. TSED could also be improved in this aspect by working with existing databases from other institutions that collect biophysical data.



Issue 5: How will Tanzanian researchers find out that TSED exists so that they can share their information?

Response: TSED is housed at the NBS. The NBS is looking at how TSED can be linked with the Local Government Reform Program as well as donors, NGOs and other stakeholders. The NBS knows that it has to increase awareness of TSED and this is an ongoing activity. At the end of the workshop participants will be given a TSED package as one method of dissemination. The website is another way of disseminating the TSED.

Issue 6: When aggregating data, it is important to make sure that different kinds of data do not get mixed. While it is nice to include information from different initiatives with different purposes, have to be careful that methodologies match, sampling, etc, are compatible. Time, detail levels of studies and statistics present a problem for aggregation of data in indicators.

Issue 7: It may be too early to start marketing the TSED to the public, as it still needs to be developed.

Response: TSED has to be used for planning at the district level, and stakeholders on the ground – communities, local government, are needed to gather data. This requires sharing TSED and doing a lot of capacity building at the appropriate levels. Data quality can only improve if the people collecting it use it for their own planning. For any data to be included in TSED, it has to have a credible source. Sample size, analysis, methodology, design etc also have to be appropriate, but there is a mechanism in place to ensure that data is from good sources.

Issue 8: Does TSED contain sensitive or classified information? And have intellectual property rights and copyright been considered in the collection of data?

Response: TSED does not include any classified information. The issue of intellectual property rights and copyrights was shelved for discussion in the small groups.

### **TSED Hands-on Familiarisation Exercises**

Participants were asked to sit at the computers that had been prepared for practical sessions. More experienced TSED users were advised to sit with partners who were less experienced to share their skills. The facilitator, Ms. Mwangi, then led the participants through a tour of the TSED.

After the tour, participants were guided in a simple exercise that showed them how to use TSED to come up with a table and a map showing information on numbers of households using toilets.

The participants were then given the following task:

Using the HBS 2000/2001 data, open the water sub-sector in the environment sector. Use this data to find out the proportion of households using piped or protected water as their main source of drinking water in all the regions of Tanzania mainland.



Create a map for urban population, and name the 3 regions with highest proportions and the regions with the lowest proportions.

Outcomes:

Regions with the highest proportion of households using piped or protected water:

Dodoma and Arusha (97%), Morogoro (98%)

Regions with the lowest proportion of households using piped or protected water: Lindi (61%), Shinyanga (64%) and Kagera (65%)

The participants generally found that the exercise was fairly easy to carry out after the TSED orientation that they were given. The software was user-friendly.





## **Day 2: Tuesday 29th June 2004**

Professor Yanda gave a recap of the proceedings from day 1. Following the recap, the definition of an indicator was raised again as a controversial issue. After some discussion during which no consensus was reached, participants agreed to shelve the topic and discuss it in the smaller groups during the afternoon session.

### **Application of GIS for Environmental Mapping: a Tanzanian Experience presented by Pius Yanda, Institute of Resource Assessment**

This presentation addressed the background and status of GIS in Tanzania. GIS is defined as more than map making technology. GIS is a spatial database with which complex modeling and analysis of geographical information is possible. In one definition of GIS, the personnel and data that goes into a GIS system are included.

In Tanzania, most of the GIS centers are based in Dar es Salaam. Almost all of the centers are using GIS for cartography, but the area where the strength of GIS lies is in data integration and analysis.

GIS spatial datasets are generated through satellite imaging from various satellites in orbit. Another way of generating GIS data is through the use of GPS, although this is used for smaller areas. GIS datasets can also be imported from existing datasets or be created by scanning maps.

Currently, GIS datasets available at the Institute of Resource Assessment include information on:

- Administrative boundaries
- Road networks
- Soils of Tanzania
- Agro-ecological zones
- Rainfall distribution
- Soil erosion hazard protection in the Lake Victoria Basin
- Protected areas
- Land use/ land cover

The presentation then demonstrated how GIS had been used to track land use changes in Arusha Region between 1970, 1994, 1995 and 2000. GIS was also used to estimate the rate of soil loss in the Lake Victoria Basin.

While there is a huge potential for using GIS in the management of natural resources and the environment, in most GIS centers the technology is being used in its simplest form: map digital cartography. The challenges facing GIS use in Tanzania include:

- High costs in generating datasets
- The problem of harmonizing methodologies and classification systems
- Data sharing mechanisms.



The presentation ended with the question: “How can one use Remote Sensing and GIS to determine not only general degradation of certain areas but, to go further and characterize species degradation in areas where species are selectively harvested?”

The presentation is attached as annex 6.

## **Discussion**

Issue 1: Which institution is mandated to regulate GIS activities in the country?

Response: The Directorate of Mapping and Surveying is the obvious choice of an institution. However, most of the GIS centers are thematic and specific. The different institutions conduct GIS surveying according to their research interests. No one organisation can be mandated to be overall overseer of all GIS issues because of the various areas of expertise that are being used. The directorate could act as a hub, a coordinating unit for GIS.

Issue 2: The list of GIS centers in the presentation left out some centres. The presenter noted that the list was an example but that he would be updating his GIS centre list.

Issue 3: Capacity building in GIS is very important. Technicians and managers need to be trained so that they can do analysis and use the GIS technologies for more than map making. Some centres do not even have technicians and collapse at the end of the projects that set them up. For the sake of sustainability and expanded use of GIS, capacity building is central.

Issue 4: Two nation-wide GIS surveys have been carried out. Can the datasets that they generated be compared?

Response: The Africover work was done later than the Forest Resource Management Project survey but used the same source of information. However, the datasets cannot be compared.

The two data sets use different legends. The Africover data is very complicated and difficult to use for practical purposes because it has a legend of 100 classes.

Issue 5: How is the VPO's office planning to track the use of land and resources, how these change over time, and link this to poverty issues?

Response: Mr. Howlett declined to speak on behalf of the VPO. However, as an advisor to the VPO, he informed the participants that they are looking at developing poverty mapping with help from the World Bank, the NBS and other partners. From the HBS data, a relationship between assets and poverty levels can be worked out. The census data can help take this information down to the household level so that poverty maps can be developed. There is also the aspect of land use, and how it is linked to assets and poverty levels that can be inserted in poverty maps. This meeting is one step towards figuring out how to link existing land use information to issues of poverty. Groups brainstorming in the afternoon should come up with some suggestions on how poverty mapping could proceed. Another consideration is how to build capacity for GIS



systems that are functioning above mapping levels, and that can survive the pulling out of donors. How can they be linked with poverty and socio-economic datasets?

Issue 6: Last year there was an initiative under the NBS to gather GIS enabled institutions. The aim was to combine GIS efforts in the country and show how GIS can be linked to planning by creating a checklist of GIS enabled institutions, recording the methodologies being used, coming up with agreements to share data and so on. One of the biggest challenges that GIS data users face is that there are no standards for data sets that were being generated, and accuracy and methodology were often not known. All of these activities would be carried out under a National Spatial Data Infrastructure. Several meetings took place and an activity plan was formulated as well as resolutions and proposals. Unfortunately, the initiative had to be suspended due to a lack of funding. The initiative could potentially sort out some of the uncertainties that were mentioned, such as the setting of data standards. The initiative could also potentially offer GIS data at zero cost, and subsidise GIS data that cannot be offered for free. The NBS was advised to share some of the ideas and proposals with the VPO.

Issue 7: If there are standards for GIS datasets they should be made known. Potential users of the data who are not GIS literate may not know about issues of accuracy, data sensitivity and so on. A lack of standards might result in users creating inaccurate maps or using poor data for planning.

Issue 8: There is an expectation that district authorities will use GIS information for planning, but it is a technology that requires a lot of sensitization. One potential method of sensitisation is to run seminars for district authorities using examples from their area to demonstrate how the technology can be used to address local problems. This would be a step in the move towards participatory mapping, in which the users develop map legends so that the mapping output is directly useful to them. Current users of GIS are the Government, ministries, research institutions and NGOs, and ideally districts should also become users as they are in charge of planning. However, establishing the use of GIS technology is part of a bigger issue of increasing capacity to use IT technologies at the district level.

Issue 9: GIS use is very basic in TSED, but when users view information on a map, their reaction to the data is much more pronounced than when they read tables and charts. Some of the areas in TSED would benefit from linkages between socio-economic data and GIS data (soil degradation and poverty/livelihood for example) so that information generated can be used for further activities.

Issue 10: In spite of all the positive aspects, users should keep in mind that GIS is a model-making technology. GIS maps are based on assumptions and users should be aware of the assumptions and the methodologies that produce maps. GIS maps are only as good as the creators plan for them to be.

Issue 11: Although ward boundaries are not yet gazetted, they are well known so this should not prevent people from using them in GIS mapping. Because mapping is not new to communities and districts, GIS can make use of the skills present at these levels even if it is complex.



## **Project on Poverty-Environment Indicators presented by Fanuel Shechambo, Institute of Resource Assessment**

This presentation was on the Poverty-Environment Study that is part of the program integrating environment into PRS processes. The earlier PRSP recognised but did not include a strategy for addressing Poverty-Environment linkages. The PMS is currently under review, and this project will ultimately provide Poverty-Environment indicators to be included in the new PMS that will monitor the PRS II.

The project is intended to develop a set of indicators linking poverty and environment in Tanzania, illuminating poverty-environment interactions as well as monitoring poverty reduction that results from environmental change. The specific objectives of the project are to:

- Assess and determine different uses of Poverty-Environment indicators from local to national levels
- Identify existing data collection systems and surveys producing or with potential to provide Poverty-Environment indicators
- Propose a set of key Poverty-Environment indicators for use by the PMS and local level planning
- Build national capacity on development and use of Poverty-Environment indicators.

The project started in the last week of May 2004. After an initial meeting with the VPO and UNDP, a team was mobilized to carry out the project and tasks were distributed among team members. Following that, stakeholder meetings were held during which key stakeholders and their likely concerns and inputs were identified. Stakeholders included the Environment Division and Poverty Eradication Division, NEMC, NBS, UNDP, UNICEF, REPOA and DFID. Stakeholders raised several issues, including the fact that Poverty-Environment indicators should not be gender or HIV neutral.

At the project planning workshop held in May 2004, a presentation was made of the study methodology and work plan. Two working groups were set up to discuss the use of indicators, criteria for indicator selection and data assessment criteria. Among other issues, the team was advised to set local indicators at the district level. It was advised that a steering committee be formed to guide the study and ensure ownership.

The indicators produced by the study will be used to:

- Track the progress of the PRS
- Disseminate information to inform policy debate
- Enable decisions on resource allocation by the central government, local government and donors
- Enhance accountability
- Demonstrate links between environmental policy and activities on the ground to assess the extent to which they lead to poverty reduction and why
- Feed information to early warning systems.

In its approach and methodology, the project aims to ensure stakeholder engagement at all stages of the project so that criteria for assessing indicators and data can be developed. The project will work within the existing institutional and administrative framework for data collection.



The presentation outlined the various tasks and milestones of the project in the following eight months. The criteria for selection of indicators so far are: relevance, validity, objectivity, simplicity, practicality, sensitivity and indicators should be measurable.

The presentation is attached as annex 7.

## **Discussion**

Issue 1: In the presentation, the development of a conceptual framework for the study is not included as a milestone.

Response: A literature review exercise is currently taking place and there is a paper that will be attached to the inception report. Following the literature review a conceptual framework will be developed. The conceptual framework aims at having three levels of indicators: those at the national level and those at the sub-national level.

Issue 2: The Ministry of Lands was not included in the list of stakeholders.

Response: A list of stakeholders is being developed to be as comprehensive as possible. The Ministry of Lands and other ministries will be included in this list.

Issue 3: How far has the study gone in terms of involving stakeholders? It would be undesirable to develop indicators to a level where stakeholders are brought in too late to have a say in them.

Response: the list of stakeholders is being widened. The study was meant to coincide with the PRS review process. Another ongoing issue that has an impact on the study is the new Environment Act that addresses issues of monitoring. The study intends to catch up with these processes as well as employ some participatory poverty assessment methods to get as much stakeholder input as possible. Once a steering committee had been formed, they will guide the study in the issues of stakeholder involvement.

Issue 4: On day 1 three possible frameworks were presented for developing environment-poverty indicators. What is the link between the input-process-output framework and the frameworks that were presented by Prof. Yanda?

Response: The pressure-state-response framework is a good one, and it has been improved as people have added variables such as context, pressure, state, response (DPSIR). Another consideration is the Livelihood Analysis strategy, which could help in the development of a framework for the study.

Issue 5: TSED has several kinds of indicators: input indicators (i.e. what resources is the government putting into natural resources), process indicators (i.e. showing how far you are moving in a process) and output indicators (e.g. productivity of agriculture or fisheries). In terms of practicality, indicators must preferably be affordable, depending on how much the government can allocate for data collection. The study team is challenged to come up with indicators within the budgetary framework of the government. Practicality demands that even at the local level indicators should not be costly in terms of time or resources. How to determine what indicators are too expensive to use was not discussed in this forum.



Issue 6: Does the study cover the whole country or is it only going to be carried out on the mainland?

Response: This project will be working in the mainland, but some of the study findings will be relevant to Zanzibar, so colleagues from Zanzibar will be invited to learn from the study.

Issue 7: Natural resources are not uniform across the country, so indicators developed at a national level may not be universally applicable. How is this issue being addressed in the study?

Response: The study will develop national level indicators first, and then they will try to develop indicators at the district levels or maybe for agro-ecological zones. This is where the importance of GIS databases is underscored. Some natural phenomena are localized and GIS can capture this data to feed into the development of appropriate indicators.

Issue 8: SUWA have developed something similar to what the study proposes to do. They would be a good source of information as well as wildlife monitoring indicators.

Issue 9: on the matter of resources, the study should not confine itself by being afraid of creating expensive indicators. This would build a limitation into the environmental monitoring from the beginning

Response: When we talk about expensive indicators, we are looking at the capacity of the government to collect the data for the indicator. It will be left up to the government to determine what indicators are too expensive. The study is well resourced, and criteria for selection of indicators will be determined with stakeholders. The eventual selection of indicators will depend on the input from the task force, steering committee, consultants, stakeholders and the conceptual framework.

## **Group work**

The participants were split into three groups and given the following assignments to work on for the duration of the afternoon. The results of the group work would be presented in the morning on day 3.

### **Group 1**

Characterise various environmental data to be incorporated into TSED (comprehensive checklist including spatial and non-spatial data)

- What is the format of the existing environmental data and how would these be integrated into the existing TSED
- What is the purpose and use of the data?
- Data gaps
- Constraints



## **Group 2**

What would be data gathering, retrieval and sharing mechanisms (consider the following)

- How the data is collected and analysed (concepts and definitions used)
- Standardisation of sampling methodologies (sampling intensity and frequency)
- Access to datasets in various institutions (the question of exchange mechanisms)
- Harmonisation of various data sets (including GIS)
- Information dissemination mechanisms
- Constraints

## **Group 3**

Review the TSED database structure and suggest ways in which it can be improved. Consider:

- Modifications on the structure
- Additional datasets to be included

## **Expectations from the Group Work**

Many people have requested the inclusion of environmental indicators within TSED. The National Bureau of Statistics will be building an Environmental Theme in TSED and output from this meeting will be key to:

- Determine the spatial data available in various organisations, and how these can be used to enrich the basic GIS available in TSED
- Determine a key list of environmental indicators from various Institutions which can be shared out with a wider audience through TSED
- Critically look at TSED and suggest ways in which the structure of the database can be modified in future models to take into consideration the needs of the country, especially on GIS use in poverty monitoring
- A way forward on the SDNI – discussions on how the various organisations can work together to improve the GIS literacy in Tanzania





## Day 3: Wednesday 30th June 2004

The lead facilitator, Prof. Yanda gave a brief recap of the proceedings from Day 2 of the workshop. After the recap the groups were invited to present their work in plenary. After each presentation there was a discussion of the group work.

### Presentations

#### Group 1

<p>Group Presentation</p> <p>Group 1</p> <p>TSED Seminar Environmental Module</p>
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<p>Spatial Data</p> <ul style="list-style-type: none"> <li>• Land use planning data</li> <li>• Loss of vegetation cover</li> <li>• Rate of loss of vegetation cover</li> <li>• Rate of loss of species</li> <li>• Loss of soil</li> <li>• Rate of Desertification</li> <li>• Extent of desertification</li> <li>• Land use change</li> <li>• Status of ground water resources</li> <li>• Status of surface water resources</li> <li>• Rate of Beach Erosion</li> <li>• Rate of Sand Mining</li> <li>• Quarrying</li> </ul>
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Data	Source
Land use planning data	NLUPC, NSS-Mlingano, TANRIC-IRA, NEMC
Rate of loss of vegetation cover	MAFS, NEMC, TANRIC-IRA
Status of ground and surface water resources	MAFS, MOWLD, RBAs,
Rate of loss of species	TAWIRI, FBD
Loss of soil	Mlingano, MAFS, ARIs
Rate of Desertification	MAFS, CDC
Extent of desertification	CDC
Land use change	NLUPC, NEMC, IRA,
Rate of Beach Erosion	NEMC, IMS,
Rate of Sand Mining	MEM, ZDoE,
Quarrying	
Status of surface water resources	MOWLD, LVEMP, TDA



### Spatial Data

- Rate of tree planting
- Land under water – Extent of Rivers and Lakes
- Change of coastal shores extent and rates

### Temporal Data

- Change in water availability
- Change in nutrient contents in water systems
- Change in water quality
- Change in Air quality – Lead content, CFCs
- Production of HEP
- Ecological Change of catchments and river basins.
- Fish stocks and species

### Socio economic

- Number of people in natural resources management
- Change in number People dependent on natural resources for their livelihood
- Fisheries and livelihood

### Why are data collected?

- Maps for projects
- Policy making
- Education
- Sensitise law enforcement
- Advocacy and social mobilisation

### Data Gaps

- Air quality data – No water quality monitoring
- Disorganised data
- Water quality
- Data available in some periods – Periodic
- Environmental health – Agrochemicals
- Wetlands Maps and socio-economic
- Digitisation of old data

### Known Data sets

- Hydro-met
- LVEMP
- Aqua-stat
- TCMP – Qualitative, Point monitoring of water pollution
- TAWIRI – Wildlife database
- TAFORI
- IMS – UDMS – Marine information
- TANRIC – IRA – Some districts data
- NBS
- Forest and beekeeping division on movement of forest products Timber charcoal, fuel wood
- Meteorology - TMA

### Constraints

- Capacity
- Lack of continuity
- Lack of funds for data collection
- Project based data collection
- Infrastructure – Telecommunication, roads
- Shortage of equipment
- Unreliable – (cooked) data
- Weak governance and accountability
- Lack of standardisation (comparability) of data
- Difficult of accessibility



## Discussion from Group 1's Presentation

Issue 1: out of the datasets mentioned in the presentation, participants were encouraged to go further and discuss which datasets are reliable, where they can be found and what kind of data can be found there. This would provide a rough idea of where to get quality data.

Issue 2: There are several other sources of data mentioned that did not appear in the group's list: groundwater and surface water data from the Ministry of Water, coastal facilities resource mapping has been conducted as well as surveys on land use cover, land use changes and shoreline change in the Kunduchi area. Participants decided to spend several minutes expanding the list of datasets by mentioning data held by their institutions for inclusion in the group presentation. The list of institutions holding environmental data was also expanded.

Issue 3: The participants provided additional information on available data:

- IRA - land use data, land cover, deforestation and land degradation, some comprehensive data on districts (Kisarawe).
- Ministry of Water- ground water, surface water and water quality. Some data gaps exist in the 1980s and 1990s.
- Zanzibar Department of Environment - data on quarrying.
- SUWA Center for Sustainable Rural Development - district project data.
- Ministry of Lands, data on land use planning, surveyed villages, maps and areas surveyed. The ministry is trying to establish a land databank.
- NBS - establishing an environmental unit.
- WWF - have project level data: Ruaha project, marine eco region, Mafia, Rufiji and coastal forest data.
- Ministry of Agriculture: conducted an environmental situation analysis in 1999 - total land area, surface water, small farms, total cultivable land, total land under crops, total area under pasture - all by region. It was a one-time survey so the information has not been updated.

Issue 4: Some information areas are missing in the group presentation such as urban environmental data, solid waste management, data from municipalities, the Forestry and Beekeeping Division and the Wildlife Division.

## Group 2

### Data gathering retrieval and sharing mechanism

#### ❖ How data is collected and analysed

1. Through administrative and management procedures
2. Community participation such as questionnaires and focused group discussions e.g. *pima*-questionnaire model by HakiKazi Catalyst
3. Targeted social-economic survey
4. Applied researches on biological data
5. Developmental data such as roads construction
6. Early warning data collection within a particular year to determine the problems at hand such as food security



7. Basic data such as research by students
8. Input data collection to generate output information
9. Frame survey to determine fishing *efforts* such as fishing vessels and number of fish folk

Modes of data collection at hand:

- Routine - e.g.: annually, bi-annually, monthly, quarterly such as social, economic, environmental, etc;
- Rapid data collection - based on un-expected circumstances such as flood, drought, fish mass killing, epidemics, eruption, etc;
- Specific data collection - based on the emergency of projects.

Data analysis:

- Data can be classified based on routine work and time frame to determine the trend
- Data should indicate the source to reflect the implication on its usefulness

❖ **Standardisation of sampling methodologies**

Methodologies

- Random sampling
- Stratified sampling
- Systematic sampling

Standardisation

- Categorise sampling at national and local levels so as to have different sample sizes for good results;
- Similar data standards should have similar methods of collection;
- Frequency and intensity of data sampling should be well determined to get statistically acceptable sample size.

N.B.: Different institutions or actors should come together to collect data to avoid duplication of work, such as current initiatives by the agriculture sector and NBS

❖ **Access to datasets in various institutions**

- Develop a meta database which can be used as the directory to access data

The challenge is how to finance the whole process of accessing data.

**Problems in accessing data**

1. Poor inter and intra institutional coordination in accessing existing data;
2. Costly- user fee for accessing basic data from various institutions such as a Tshs. 3,000/- charge in accessing data from the agricultural sector;
3. Poorly organised data mostly are in scattered file documents;



4. Copyright barriers;
5. Attitudinal rigidity towards disseminating information- there is a need to consider a data user as a customer or partner;
6. Bureaucracy in accessing information.

## **Recommendations**

1. Encourage and facilitate all institutions to make data available to the public;
2. Create awareness and mobilize all institutions to generate and manage their data banks using bottom-up approaches;
3. Instill political will on the importance of database establishment;
4. Strengthen IT departments in managing database.

### **❖ Harmonisation of various data sets**

1. Advocate for establishment of a neutral regulator at national level to manage sub-data banks.
  - Responsible for prior reviewing of the report before publishing
  - Set terms of reference to guide the coordination body;
2. Strengthen capacity building indicatives in ICT and data management;
3. Incorporate database management as a cross-cutting issue in concerned national policies, regulations and rules;
4. Adopt modern technologies e.g.
  - Developing satellite images for urban unplanned settlements by the use of GPS to precisely determine the number of the building units available
  - *EIA*; and *SEA*;
5. Mobilise basket funding for data base management.

### **❖ Information dissemination mechanisms**

- National level to local authorities down to ward and village/*mtaa* level
- Use of media and leaflets, cartoons and brochures in user friendly packages
- Improve filing system at village and *mtaa* level
- Free distribution to basic institutions and needy communities

### **❖ Constraints**

- Financial limitations e.g. dictation in donor funded projects, low or none budgetary allocations for ICT and data management
- Rigidity among decision-makers
- Illiteracy
- Political wrangles e.g. in accepting common data

## **Discussion from Group 2's Presentation**

Issue 1: The current practice in the Ministry of Agriculture is to produce a booklet of data that is already analysed, which makes it hard to access the original data. The NBS also used to release documents with statistical outputs. Currently, however, the Ministry of Agriculture communicates with NBS and designs questionnaires with their help before doing a survey. Other institutions and government sectors should have an opportunity to



get information from those kinds of surveys. In this respect, there should be a coordinated forum so that all stakeholders can take part in such processes.

Issue 2: Last year, an agricultural survey was conducted. The NBS set up stakeholder meetings on the questionnaire and got a long questionnaire with a lot of various issues included. 48,000 households were included in the study. Another stakeholder round was held on what tabulations should be made and how other research institutions could access the data sets. The same approach could be adopted for the upcoming health survey, and issues of environmental health could be inserted into the survey.

Issue 3: It was suggested that the NBS be a coordinating body for such stakeholder inclusive survey design and analysis. While this is more or less the case, it was pointed out that the NBS is staffed mainly by statisticians. Technical issues specific to health or the environment etc. would require technical assistance from experts and stakeholders in order to create a comprehensive database. A team of experts could assist in advising about various issues in environment surveys, such as land use cover change detection, water quality issues and the like.

Issue 4: The issue of harmonisation of datasets of GIS data was discussed at length. Some of the problems brought up were that individual institutions generate their own data sets, there is a lack of standardisation and no way of ensuring the quality of the datasets produced. Without standardisation, data sharing among institutions will not be a fruitful exercise. On day 2, the National Spatial Data Infrastructure Initiative was presented to the participants. The initiative could potentially address all the issues raised, but again it would depend on the initiative getting funding so that it could take off.

Issue 5: The sustainability of TSED was questioned. At the moment it is a well funded project, but what will happen to it once it has to depend on government funding? Will the government afford to maintain some of the databases in there? Commitment from the government would have to come through a structure that would insert the TSED into the national budget and provide mechanisms for its continued sustainability. Through meetings like this, the importance of environment-poverty monitoring can be demonstrated. The fact that this area is getting funded by the Ministry of Finance demonstrates commitment from the government. Strong recommendations from the meeting would help to make the case for spending money on GIS and other environment poverty monitoring technologies even though the country has limited resources.

Issue 6: Clarification was requested on the PORALG Local Government Monitoring System that has a mechanism for transferring data from the local level to the district level to the central government level.

Response: The VPO has a monitoring and evaluation system developed to capture service delivery at the local level in the five pro-poor sectors: agriculture, water, health, rural roads and education. It is based on the priority sectors of the PRS. As long as the PRS sectors remain the same, then they will continue to get this data. If PRS changes, then so will monitoring system. In collaboration with the VPO and the NBS, the PORALG stated that there is room to accommodate changes in the monitoring system.

Issue 7: NBS works with a lot of institutions, and the issue of the meta database is an important one. It was suggested that one of the recommendations should be that a meta



database of available information be created by the VPO or NBS, so that available data is known.

Response: JICA is supporting the NBS in the creation of a meta-database but currently only the NBS data is included. Eventually information from other institutions will be included. The department of environment at the NBS will be linking up with the various institutions that could then aid in the gathering of information at one site.

### Group 3

**GROUP 3**


**Tasks:**

**A: Database structure**

**B: Additional Datasets**

**A: Database structure**

**(i) Home Page**




**Problems on Home Page:**

- Data search/ Indicator both open sector screen
- Clicking Indicator takes you to Sectors

**Suggestions:**


- Indicators, Time, Area & Data buttons may be replaced by MENU
- Rename Data search button to SECTORS

**(ii) Area Page**




- Is it important to have Africa as an area if data is not available?

**(iii) Duplication of sub-pops buttons**



**(iv) Presentation of Maps**



**Problems:**

- No clipping option to select an area of interest e.g. district, region etc.
- No editing option e.g.
  - moving or deleting overlapping texts
  - pointing an area or mark in a map

**(v) Spatial Analysis**

- It does not support geo-referenced datasets (e.g vector and raster) therefore lacks spatial analytical capabilities. Thus it can not:
  - calculate areas
  - Perform buffering function e.g. zoning non administrative features such as ecological zones.



- B: Additional Datasets**
- Environment sector should include data on:
    - Fisheries
    - Wildlife
    - Land and Human settlements
    - Forestry
    - Mining
    - Pollution (Land, Air, Water and Noise)
    - Weather (Wind, Temperature, Rainfall, Humidity)
    - Natural disaster
  - Agriculture sector should include:
    - Cooperative and marketing



### Discussion from Group 3's Presentation

Issue 1: Currently TSED does not support spatial reference data. Is there a possibility that it could do so in the future?

Response: Tanzania was first country to customize the database from UN software and house it in the government. There are limitations to being first country. In 2002 the UN adopted this database as a tool for use on a global basis. At the same time Tanzania had requested some upgrades including mapping, but was asked to wait. This database is also being used by the AU, that is why it is there is an Africa folder, eventually will be able to make comparisons with other African countries.

Issue 2: what GIS software is embedded in TSED?

Response: Arc View GIS has been embedded in the database. It is capable of doing much more than the political boundaries and administrative boundaries, but could include some geographical reference data. When you save a map in TSED, it is saved as a an object file for Microsoft office software to use but also as an Arc View GIS file so that GIS experts can take the map and work on it further. This database is not built to replace existing systems, it has been designed for end-user purposes so it tries to balance between expert input and end-user needs. This is one of the concerns when making it more or less sophisticated in terms of capabilities such as GIS. The mapping capabilities have been improved because of the MDG monitoring aspect. A new version will be released at end of the year. The current version of TSED is using Arc View version six or seven.

Issue 3: Many institutions have requested more indicators on the environment module. TSED is working on this: once they have a final report, will come up with a work plan on how can improve the environment module to include the subsections mentioned.

Issue 4: It would be very useful to have similar datasets with Kenya and Uganda for regional comparisons. Are we moving toward a common database, and can TSED provide a basis for this?

Response: In East Africa, Kenya just launched Ken Info based on the DevInfo software. Uganda should be launching a similar database soon. Many countries will be using DevInfo based software because of the monitoring of MDGs. The AU is also using this



software and has come up with a list of indicators to see which ones are harmonized and which ones are not across countries so that meaningful and statistically accurate comparisons can be made.

## Closing

For the benefit of the guest of honour, Professor Yanda gave a summary of the workshop, including a brief introduction of TSED, a statement of the seminar's objectives, activities, key points of discussion and outcomes. The recommendations of the seminar are as follows:

- Review the structure of TSED;
- Have a module on environmental data in the TSED database;
- Make deliberate efforts to collate spatial datasets existing in various institutions;
- Develop a meta database;
- Develop mechanism that will ensure government funding of data base management in various institutions (including updating) ;
- One possible avenue is to revive the initiative of establishing National Spatial Data Infrastructure (NSDI).

At the end of the presentation Prof. Yanda left the participants with the following consideration: Who is to initiate the process?

Rehema Tukai gave a vote of thanks during which she reiterated that environment is at the heart of poverty eradication and that we are all working towards this goal. She thanked the participants for their active engagement in this third seminar in the series of TSED seminars and pointed out that many institutions working in poverty alleviation and in the environment were represented. Ms. Tukai urged the participants to pledge their continued commitment and cooperation in the TSED endeavor. She assured the NBS that they would all be available to them for further input. Finally, Ms. Tukai thanked the VPO, REPOA, the NBS, the facilitators and the guest of honor for making this seminar a successful event.

Ms. Mwangi also thanked the participants for their time, deliberations and contributions. She stated that she was confident the objectives of the seminar had been met. She assured the participants that the NBS will continue to call upon them so that they can enrich the TSED and so that policy makers can access and use the information. Ms. Mwangi pointed out that governments that have committed themselves to reducing poverty can only monitor this trend by using statistics. The TSED tool can help us all in a very simplified way to monitor the success of poverty reduction measures. Ms. Mwangi assured the participants that the NBS shall keep in touch with them and rely on them to help them improve the environmental theme in the TSED.

The guest of honour, Dr. Magnus Ngoile – Director General of the National Environment Management Council – could not make it to the seminar closing so Professor Salome Misana of the Geography Department, UDSM read the closing speech on his behalf. The speech is attached as annex 8.

After the closing of the workshop the participants were asked to fill in an evaluation form. The results of the evaluation are attached as annex 9.





## Annexes

### Annex 1: Programme Third Module TSED Seminar – Theme: Environment June 28 – 30, 2004, Livingstone Club Bagamoyo

#### Monday June 28 – Introduction and Concepts

<i>Time</i>	<i>Activity</i>	<i>Responsible</i>
08:30 – 09:00	Registration	REPOA
09:00 – 09:15	Opening	REPOA
09:15 – 10:30	Introduction to Poverty Monitoring Systems (PMS)	Olney Daly Vice President's Office
10:30 – 11:00	Tea/Coffee Break	
11:00 – 12:30	Poverty-environment linkages – integrating environment into the PRS  State of the environmental reporting framework  Discussion	David Howlett Vice President's Office  Pius Yanda University of Dar es Salaam
12:30 – 14:00	Lunch	
14:00 – 15:30	Introduction to TSED	Jane Mwangi National Bureau of Statistics
15:30 – 16:00	Tea/Coffee Break	
16:00 – 17:00	Step-by-step on data retrieval and data manipulations in TSED	Jane Mwangi

#### Tuesday, 29<sup>th</sup> June - Ongoing Activities

<i>Time</i>	<i>Activity</i>	<i>Responsible</i>
08:45 – 09:00	Registration	
09:00 – 10:30	Presentation on GIS and environment mapping	Pius Yanda
10:30 – 11:00	Tea/Coffee Break	
11:00 – 12:30	Update of work on the poverty-environment indicators study	Hussein Sosovele Institute of Resource Assessment
12:30 – 14:00	Lunch	
14:00 – 15:30	Presentations on available environment indicators and data	Ministries/Departments



15:30 – 16:00	Tea/Coffee Break	
16:00 – 17:30	Group work	Jane Mwangi

### Wednesday, 30<sup>th</sup> June – Way Forward

<i>Time</i>	<i>Activity</i>	<i>Responsible</i>
08:15 – 08:30	Registration	REPOA
08:30 – 10:30	Presentations of group work	Pius Yanda
10:30 – 11:00	Tea/Coffee Break	
11:00 – 12:00	General Discussion (how to expand/improve the current environment indicators in TSED data, quality issues, mapping components, etc)	Pius Yanda
12:00 – 13:00	Evaluation and closing	Magnus Ngoile Director General NEMC Jane Mwangi David Howlett Pius Yanda
13:00 – 14:00	Lunch Departure	



Annex 2: Introduction to the Poverty Monitoring Systems presented by Olney Daly from the Vice President's Office.

**The TANZANIA  
POVERTY MONITORING  
SYSTEM**

TSED THEMATIC SEMINAR: ENVIRONMENT  
BAGAMOYO  
28-30 June 2004

**WHO AM I?**

**OLNEY T. DALY**  
**POVERTY MONITORING ADVISER**  
**VICE PRESIDENT'S OFFICE**

**BACKGROUND**

- **WORLD SUMMITS – 1990s**  
**ENVIRONMENT**  
**WOMEN**  
**CHILDREN**
- **WORLD SUMMIT FOR SOCIAL  
DEVELOPMENT – 1995**

**BACKGROUND 2**

- **NATIONAL POVERTY ERADICATION  
STRATEGY – 1997**
- **TANZANIA ASSISTANCE STRATEGY**
- **POVERTY REDUCTION STRATEGY  
(PRS) –2000**

**PRS (2000)**

**PRIORITY AREAS/SECTORS**

- **AGRICULTURE**
- **HEALTH**
- **EDUCATION**
- **WATER**
- **(RURAL) ROADS**

**PRS**

**ARE PROGRAMMES UNDER THE  
NPES AND PRS IMPROVING THE  
WELFARE OF THE POOR?**

**ARE THE TARGETS SET AMBITIOUS?**

**HOW COULD RESOURCES BE MOST  
EFFECTIVELY DEPLOYED?**

**POVERTY MONITORING  
SYSTEM (PMS) - 2001**

- **ACCURATE & TIMELY DATA**
- **INFORMATION FROM THE POOR  
THEMSELVES**
- **COLLECTED, ANALYSED AND  
DISSEMINATED REGULARLY**
- **ALIGNED WITH THE PRS  
PRIORITIES**
- **ALIGNED WITH THE MDGS**

**PMS**

- **POVERTY MONITORING MASTER  
PLAN (PMMP)**
  - **SETS OUT THE PMS INSTITUTIONS**
  - **SETS OUT THE TERMS OF REFERENCE**
- **INDICATORS TO BE MONITORED  
(THIRTY-NINE UPDATED TO SIXTY)**



### **PMS INSTITUTIONS**

- **POVERTY REDUCTION STRATEGY (PRS) TECHNICAL COMMITTEE**
- **NATIONAL POVERTY MONITORING STEERING COMMITTEE**
- **FOUR TECHNICAL WORKING GROUPS**

### **PMS INSTITUTIONS 2**

- **TSED**
- **PRS SECRETARIAT – POVERTY ERADICATION DIVISION OF THE VICE PRESIDENT’S OFFICE**

### **PRS TECHNICAL COMMITTEE**

- **MEMBERSHIP FROM GOVERNMENT SECTORS FOCUSED ON POVERTY REDUCTION**
- **REVIEW WORKPLANS AND BUDGETS OF THE TWGs & PRS SECT.**

### **NATIONAL PM STEERING COMMITTEE**

- **MEMBERSHIP FROM GOVERNMENT SECTORS, CIVIL SOCIETY, ACADEMIA, PRIVATE SECTOR, FAITH-BASED ORGANIZATIONS AND FROM DONORS PARTNERS.**
- **OVERSEES THE POVERTY MONITORING PROCESS & PREPARATION OF PMMP**

### **NATIONAL PM STEERING COMMITTEE**

- **PROVIDE GUIDANCE TO TWGs**
- **APPROVE WORK PLANS OF TWGs**
- **GUIDE PREPARATION OF ANNUAL PROGRESS REPORT ON POVERTY**

### **TECHNICAL WORKING GROUPS**

- **CENSUSES & SURVEYS**
- **DISSEMINATION, SENSITIZATION & ADVOCACY**
- **RESEARCH & ANALYSIS - PPA**
- **ROUTINE DATA SYSTEMS**
- **TSED**

### **CENSUSES & SURVEYS**

- **COORDINATED BY THE NATIONAL BUREAU OF STATISTICS**
- **FOCUSES ON PRODUCING AND IMPLEMENTING A MULTI-YEAR CENSUS AND SURVEY PROGRAMME**

### **DISSEMINATION SENSITIZATION ADVOCACY**

- **COORDINATED BY THE VICE PRESIDENT’S OFFICE**
- **DISSEMINATE DATA, INFORMATION AND RESEARCH GENERATED BY THE PMS**
- **RAISE AWARENESS ON POVERTY TRENDS**



### **RESEARCH & ANALYSIS**

- **COORDINATED BY THE PRESIDENT'S OFFICE PP – IN CO-ORDINATION WITH THE RESEARCH ON POVERTY ALLEVIATION (REPOA)**
- **SET PRIORITIES FOR RESEARCH**

### **RESEARCH & ANALYSIS**

- **HEALTH – USER FEES**
- **POVERTY MAPPING**
- **EMPLOYMENT**
- **POVERTY & ENVIRONMENT LINKAGES**

### **ROUTINE DATA**

- **COORDINATED BY THE PRESIDENT'S OFFICE, REGIONAL ADMINISTRATION & LOCAL GOVERNMENT**
- **ENHANCE EXISTING SYSTEMS**
- **COHERENCE AMONG SYSTEMS**
- **RELEVANT TO LOCAL GOVERNMENT LEVEL**

### **TSED**

- **DATABASE OF MONITORING INDICATORS**
- **PRS**
- **MDGS**

### **PRS/PMS SECRETARIAT**

- **MEMBERSHIP FROM VICE PRESIDENT'S OFFICE, MINISTRY OF FINANCE, PRESIDENT'S OFFICE PP**
- **ORGANIZE MEETINGS OF NPMSC**

### **PRS/PMS SECRETARIAT (2)**

- **ORGANIZE MEETINGS OF PRS/TC**
- **PREPARE CABINET PAPERS**
- **CENTRAL DOCUMENTATION CENTRE FOR THE PRS/PMS**

### **PRS/PMS SECRETARIAT (3)**

- **PROVIDES INFORMATION TO STAKEHOLDERS ON ALL POVERTY MONITORING ACTIVITIES**
- **RESOURCE MOBILIZATION FOR THE PMS**

### **PRS/PMS SECRETARIAT (4)**

- **COORDINATES & CONSOLIDATES WORKPLANS & BUDGETS OF TWGs**
- **COORDINATES THE PREPARATION OF THE ANNUAL PRS PROGRESS REPORT**
- **COORDINATES STAKEHOLDER**



**PRS/PMS SECRETARIAT  
(4)**

- COORDINATES STAKEHOLDER CONSULTATIONS

**WHY ARE WE HERE?**

- WHAT MAKES YOUR WORK IMPORTANT.
- EXPECTATIONS FOR FOLLOW-UP

**PRS/PMS REVIEW**

- FROM PRIORITY SECTORS TO PRIORITY OUTCOMES
- INCLUSION OF CROSS CUTTING THEMES
- REVIEW PMS INSTITUTIONS

**PRS/PMS REVIEW 2**

- REVIEW PMS INDICATORS THAT WERE NOT WELL DEVELOPED EARLIER, e.g., THE ENVIRONMENT
- GREATER LINKAGES WITH REGIONS IN DATA COLLECTION-CAPACITY DEVELOPMENT

**PRS/PMS REVIEW 3**

- TRAINING FOR DATA COLLECTION AND ANALYSIS
- EXPANSION OF SURVEY PROGRAMME
- COMMUNICATIONS STRATEGY

**PRS/PMS REVIEW 4**

- BROADEN AND DEEPEN THE TSED DATABASE

**WHY IS THIS WORKSHOP MPORTANT**

- SENSITIZATION
- RAISING AWARENESS ON THE IMPORTANCE OF DATA COLLECTION
- THINK ABOUT INDICATORS AND OTHER DATA NEEDS FOR PLANNING

**WHY IS THIS WORKSHOP MPORTANT**

- INDICATORS ON ENVIRONMENT NOT WELL DEVELOPED IN 2001
- BRING TOGETHER EXPERTISE IN THE AREA OF THE ENVIRONMENT
- EXPERT GROUP TO GUIDE THE DEVELOPMENT OF INDICATORS



**WHY IS THIS  
WORKSHOP MPORTANT**

- TSED DATABASE COMPLETE
- USE THE TSED DATABASE

**EXPECTATIONS FOR  
FOLLOW-UP**

- COORDINATION FOR DATA COLLECTION BETWEEN THE SECTORS... AND
- COORDINATION BETWEEN SECTORS AND LOCAL AUTHORITIES/REGIONAL GOVT.
- INFORM TRAINING & DATA ANALYSIS

**Thank You**



**Annex 3: Mainstreaming the Environment into the PRS**  
presented by David Howlett, Poverty Environment Advisor, VPO.

**Mainstreaming Environment  
into the PRS: Challenges and  
Opportunities**

*David Howlett  
Poverty Environment Adviser, VPO  
Presentation to TSED Workshop  
28<sup>th</sup> June 2004*

**Outline**

- History and background on environment mainstreaming
- Programme to integrate environment into PRS
- Poverty-environment indicators

**Myself**

- Background in agriculture, forestry, livelihoods and environment.
- Now working as Poverty Environment Adviser in Poverty Eradication Division, VPO.
- Focusing on environment & natural resource issues in the PRS
- Contacts: david.howlett@undp.org; 022 2152465 or 0744 586876

**Questions for today**

- Why is environment crucial to poverty reduction in Tanzania?
- What are we doing about environment mainstreaming?
- What are the challenges for environmental data?
- How can we develop TSED to include more environment data?
- Set in the context of PRS Review

**A history from 1980's**

- A focus on:
  - Trees
  - Soil conservation
  - Protecting biodiversity
- In Tanzania:
  - Establishment of NEMC
  - National Conservation Strategy
  - Tropical forest action plan
  - Conservation programmes (e.g. HIMA)
  - Development of EIA
- Legacy that environment was to be “protected” from people
- Started to change after Rio 1992

**Recent history**

- Mid 90's increase push from national stakeholders that environment mattered:
  - 1995 election manifesto
  - National Environment Policy 1997
  - Commitment to Environment Management Act
- Environment recognised in Vision 2025
- 2000 PRSP developed
- Environment was not well addressed & seen as a gap and by GoT and other stakeholders

**So why is environment  
important to poverty  
reduction?**

**Poverty-Environment Links**

Many! I will focus on the following links:

- Livelihoods
- Economic growth
- Vulnerability
- Water
- Energy
- Governance
- Conflict
- Gender
- HIV/AIDS
- Age (young & old)
- Disabled



## Livelihoods

- Majority of people depend upon environment and nat. resources (ENR) for their livelihoods - agric., forests, fisheries, & wildlife.
- ENR use was main economic activity for 63% of adults (76% in rural areas) in 2002
- Degradation of environment is affecting poor (confirmed in responses to PRS Review)

## Water

- We need water for drinking, agriculture, energy and env services.
- Access to improved water sources has improved, but time taken in rural areas has increased.
- Catchments deforested and degraded – e.g Eastern Arc Mountains provide most of water for Dar, Tanga, Morogoro
- Emerging conflict over water e.g. Usungu (irrigators, pastoralists, park, energy)

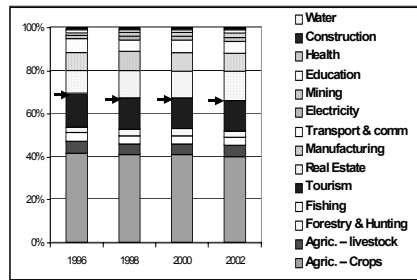
## Energy

- 2002 estimate 926,000 tonnes of charcoal consumed.
- Present poor management leading to deforestation (est. 91,000 ha/year!)
- But charcoal is renewable, it's a major "industry" & source of livelihoods, no immediate substitute.
- Environment is also main source of electricity generation (hydro) – 50% from E Arc Mountains
- But this year \$43m loan to pay for fuel for TANESCO!

## Economic Growth

- Economy depends upon environment and natural resources (ENR)
- In 2000 ENR (not inc tourism) contributed 48.3% to the economy
- Some GDP figures

## GDP



## Vulnerability

- Poor are most at risk from environmental related disasters:
  - Floods (e.g. El Nino '98)
  - Drought (look what happened last year)
  - Pollution
  - Land degradation

## Health

- People's health is dependent the good and clean environment
  - Safe water
  - Sanitation
  - Solid waste management (2001 – 58% disposed in pit/bin, 42% thrown away)
  - Water borne diseases
  - Indoor air pollution (serious factor in child < 5 yr mortality)
  - WHO estimate globally 25% childhood deaths due to environmental causes

## Pollution

- Poor are most vulnerable from pollution:
  - Indoor air pollution from lamps/candles/stoves
  - Solid & liquid waste in water courses
  - Vehicle pollution recent study in Nairobi highlighted impacts of lead on children
  - Hazardous wastes mixed up in general waste
  - Agrochemicals – est 1700 tonnes laying around the country

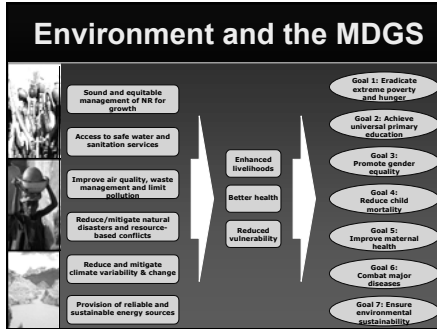


## Conflict

- Abundance and scarcity of natural resources as triggers/fuels for conflict:
- **Gold:**
  - Commercial mines and artisanal mines
  - Police and artisanal mines
  - Districts vs National government
- **Land/water:**
  - agriculturalists vs pastoralists
  - Refugees vs resident communities over fuelwood/water/land

## Governance

- Access and control over ENR resources impacts on peoples' livelihoods:
  - Land tenure
  - Wildlife
  - Forests
  - Fisheries
  - Minerals
  - Pollution



## What has happened?

- Focus on environment gap led to VPO request UNDP to assist
- Environment experts appointed to poverty monitoring working groups
- Environment included in PRS progress reports
- Programme to integrate environment into PRS developed

## The Programme

- Title:  
➢ Integrating Environment into the Poverty Reduction Strategy Process
- Goal & objective:  
➢ To achieve poverty reduction and sustainable development through the integration of environment and livelihoods issues into the PRS process.
- Outputs:  
• Increased understanding & analytical work on p-e links  
• Env. data used in poverty monitoring system & local planning  
• Capacity built in national/district bodies on p-e issues
- Implementing agencies:  
➢ Poverty Div; Div of Env.; Nat. Env. Man. Council; Nat. Bureau of Statistics; and, Rural Affairs & Local Gov.
- Partners:  
➢ UNDP, DANIDA, DFID, PEI, Dryland Dev. Centre (Norway)

## Last year's activities

- Environment management act
- Env sustainability included in performance action framework of PRSC
- Preliminary poverty environment indicators
- Knowledge and awareness on PE issues
- Strategic Environment Assessment study
- Participatory poverty assessment – environment and vulnerability
- Inputs into 2003/04 agricultural survey
- Environment Working Group
- PER of environment

## This year

- Commissioning of a study on poverty – environment indicators
- Support to develop environment module in TSED
- Support to IUCN for lesson learning on p-e links from small grants
- Support on solid waste management and poverty reduction
- Livelihoods & poverty reduction workshop
- PER environment
- PRS review and environment as X-cutting issues
- Support to drafting of Environmental Management Act.

## This workshop

- Part of the activities to strengthen use of environmental data in poverty reduction and aim is to help start to answer:
  - What data do we already have which could be included in TSED?
  - What spatial data do we have and how can this be used with existing socio-economic data?
  - What plans can we develop to fill the environment module of TSED?



## What is happening?

- This VPO study on poverty-environment indicators which includes agriculture
- RDWG have asked ministries to identify challenges and needs to routine data collection
- Agricultural survey will provide baseline data for some indicators

## VPO Study

- Specific objectives are:
  - To determine the different use of p-e indicators from local to national levels.
  - To identify existing data collection systems and surveys for p-e indicators.
  - To propose a core set of p-e indicators for PMS and local level planning.
  - To build national capacity on development and use of poverty-environment indicators
- Tomorrow Dr Sosovele will report

## Purpose of P-E indicators

- These are not environment indicators!
- We want indicators which tell us about poverty and links to environment:
  - Contribution to sustainable economic growth
  - Contribution to peoples' livelihoods
  - Reducing peoples' vulnerability
  - Reduction in ill health

## MDGs

- MDG – Millennium Development Goals
- Present PMS already has integrated many of MDG indicators
- But indicators suggested for MDG7 not all “relevant” for Tanzania
- Need for further work to develop indicators for MDG7 – environment sustainability at national level

## Specific ENR Challenges

- Many sectors – water, health, agric., forestry, fisheries, wildlife, tourism, energy & minerals
- Geographic diversity of environment data in relation to national level indicators
- Lack of environmental data, & technical understanding on indicators linking p and e
- Demonstrate environment links with other indicators (e.g. health, water and sanitation)
- Need to link with GoT for state of environment reporting and on commitments under MEAs.

## More ENR Challenges

- Limiting indicator numbers – tendency for larger and larger data sets
- Hierarchy of indicators – national, local & sectoral
- To agree targets for these indicators
- To provide routine data to measure these indicators
- Indicators should come from your M&E system and PORALG systems
- Also from periodic surveys (e.g. agric. survey)
- Lack of use of data and indicators – particularly at local level

## To Conclude

- Exciting opportunity to develop poverty-environment links in Tanzania:
- On-going PRS Review
- PE indicator study
- Now looking for your help to support this important work thro' this workshop.

## Documents & Contacts

- PRSP and Progress Reports
- Poverty Monitoring Master Plan (PMMP)
- Revised list of PMS indicators
- Tanzania Socio-Economic Database (TSED)
- Poverty and Human Development Reports
- PRS Review Guide
- PRS Consultation Guide
- Most available on-line:
  - [www.tzonline.org](http://www.tzonline.org)
  - [www.tsed.org](http://www.tsed.org)
  - [www.povertymonitoring.go.tz](http://www.povertymonitoring.go.tz)



## Annex 4: A Need for Indicators for Planning and Decision Making presented by Pius Yanda, Institute of Resource Assessment, UDSM.

### A Need for Indicators for Planning and Decision Making

By  
P.Z. Yanda  
Institute of Resource Assessment

#### What are indicators?

- An indicator quantifies and simplifies phenomena
- Helps us understand complex reality
- Tells us something about changes in a system
- An indicator is very much dependent on a particular context (*may be useful in one geographical area and not in the other*)

#### What are indicators? (Cont...)

- Indicators are selected to provide information to support decision making and management.
- An indicator quantifies and aggregates data that can be measured and monitored to determine whether change is taking place
- The indicator needs to help decision makers understand why change is taking place

#### What are indicators? (Cont...)

- Initially many approaches to describing the environment were limited to information describing;
  - environmental quality and quality change,
  - in terms of pollutant load
  - or some other biochemical or biophysical indicator.

#### What are indicators? (Cont...)

- It became apparent that such sectoral approach did not necessarily support the decision maker in better management of the environmentally damaging activity.
- What was required was a framework based on "Cause and Effect"

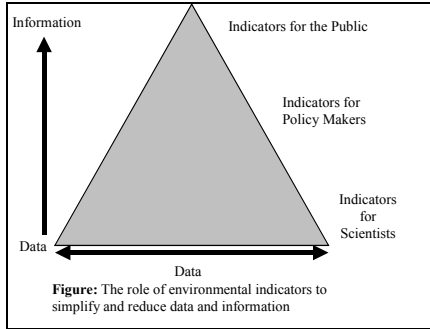
#### Important points to bear in mind when using indicators

- Without good data, based on monitoring, it is not possible to develop indicators
- Performance measures imply that targets a need to be set (i.e something against which performance can be compared)
- Different people living in different places have different values. Indicators must therefore be able to take into account different locations, people, cultures and institutions
- Sets of indicators evolve over time
- Sets of indicators are seldom, if ever, complete
- Measurement of indicators tends to reduce uncertainty, but does not eliminate it
- Indicators can play an important part in the way in which human influences on the environment operate. Changing the indicators will most likely also change the system.



## Importance of Indicators

- Synthesize and simplify the most important information about environment
- Reduce the number of measurements required to give an exact representation of environmental conditions
- Reveal trends and permit comparisons
- Trigger responses when environmental thresholds are approached
- Make information gathering more easily understood by the public, the media, resource users, and decision-makers



## Why do we use indicators for environmental reporting?

- They provide an early warning system of change
- They monitor effectiveness of policy
- They monitor pressure on the environment
- They monitor changes in the state of environment
- They monitor impacts on the environment
- They monitor societal responses to the changes in the state of the environment

## Selection and Development of Indicators

- Indicators should be developed within a framework which organizes and presents the information in a logical manner and ensures that;
  - Simple and robust
  - Policy relevant
  - Analytically valid
  - Cost effective
  - Easily understood
  - Able to use existing data and information where possible

## Pressure-State-Response" (PSR) framework

- A widely used model is the "Pressure-State-Response" (PSR) framework
- The framework merely states that **human activities exert pressures** such as;
  - pollution emissions
  - or land use changes on the environment,
- which can **induce changes in the state of the environment** such as;
  - changes in ambient pollutant levels,
  - habitat diversity,
  - water flows, etc.

## Pressure-State-Response" (PSR) framework

- Society then responds to;
  - changes in pressures
  - or state with environmental and economic policies and programs intended to prevent,
  - reduce or mitigate pressures and/or environmental damage

## Pressure-State-Response" (PSR) framework

- The PRS framework is now widely used but is continuing to evolve
- One of the main problems has been;
  - trying to differentiate between pressure and state indicators,
  - and the need to expand the framework to deal more specifically with the needs for describing sustainable development.
- A development of PSR has been the "Driving Force – State – Response" (DSR) framework selected by the United Nations Commission on sustainable Development.

## Driving Force – State – Response" (DSR) framework

- Driving Force
  - human activities,
  - processes and patterns that impact on sustainable development
- State
  - the "state" of sustainable development
- Response
  - policy options and other responses to changes in sustainable development



**Driving Force – State – Response” (DSR) framework**

- In the DSR framework, the term “pressure” has been replaced by that of “driving force”;
  - in order to accommodate the addition of social, economic, and institutional indicators.
  - the use of the term “driving force” allows that the impact on sustainable development may be both positive and negative as is often the case for social, economic, and institutional indicators.
- However, this model is changing to “Driving Force – Pressure – State – Impact-Response” (DPSIR) Framework.

**Driving Force – Pressure – State – Impact-Response” (DPSIR) Framework**

- (DPSIR) provides an overall mechanism for analysing environmental problems;
  - **Driving force**, such as industry and transport, produce
  - **Pressures** on the environment, such as polluting emissions, which then degrade the
  - **State** of the environment, which then
  - **Impacts** on human health and eco-systems, causing society to
  - **Respond** with various policy measures, such as regulations, information and taxes, which can be directed at any other part of the system.

**The Pressure-State-Poverty-Response Framework**

- There are several frameworks which indicators can be developed and organized,
- The complexity link of resources degradation – poverty links makes it useful to employ a systematic framework,
- The PSPR Model allows us to track the impact of pressure factors on both natural resources and the poor. The model;
  - identifies driving forces that are leading to pressure on natural resources,
  - Tracks the state of the environment,
  - Tracks the poverty impact of degradation,
  - Identifies mechanisms that have been or can be put into place in response.

Signals of Pressure on Forests	Indicators of Impacts		Response Factors
	Forests	Poverty	
Rural population growth rate	Rate of deforestation	Percent of poor households in forest rich regions	Increased access to non-traditional sources of energy
Rural population density	Total area under forest cover	Percent of indigenous people in forest rich regions	Increased access to piped water
Unclear property rights	Rate of forest land conversion	Percent of common lands available for women to collect fuelwood	Strengthened community governance of forest access and use
Increased rural under or un-employed	No. of protected areas	Percent of village lands in commons	No. of forest user groups in the district
Decrease in fallow period		Distance and time to collect fuelwood (by season)	Modernised land registry
Increase in fertilizer price		Distance and time to collect water	No. of land titles granted
Increased export of forest products		Decline in agricultural output because of use of marginal lands	
Increase in timber prices		Percent of households who collect fuelwood	
		Percent of households who collect other forest products	
		Quantity of household consumptions from forest products	



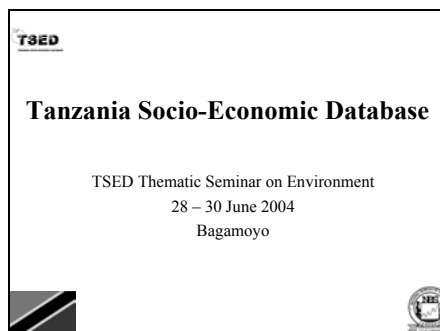
### TSED Seminar

- During the TSED Seminar we shall;
  - Review the existing indicators generated by the project
  - Other related indicators in various institutions
  - Identify gaps
  - Discuss issues pertaining to data exchange, formats, standards, aggregation etc.
  - Propose way forward

Thank you very much



## Annex 5: Tanzania Socio-Economic Database presented by Jane Mwangi TSED Advisor, NBS.



### *Presentation*

- Background
- Why establish a common database
- Objectives of TSED
- TSED and Poverty Monitoring System
- TSED and Environment Data

### *What is TSED?*

- It is an indicator and database administrator system that:
  - Facilitates systematization, storage and analysis of performance indicators
  - Contain tools for the generation of tables, graphs, reports and maps
  - Allows grouping of indicators in different frameworks

### *Problems*

- Lack of common shared database (for the whole country, available years for a wide range of indicators)
- Lack of a unified dissemination mechanism of national statistics (within Government)
- Limited access to possible web based dissemination
- Limitations of hardcopy publication:
  - Delays in printing, binding and disseminating documents
  - Rigid format limited to set analysis. Additional analysis by users would require re-entry of data and additional time

### *Problems*

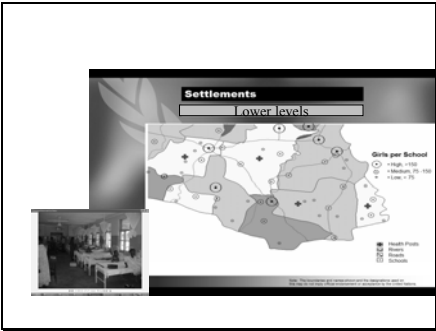
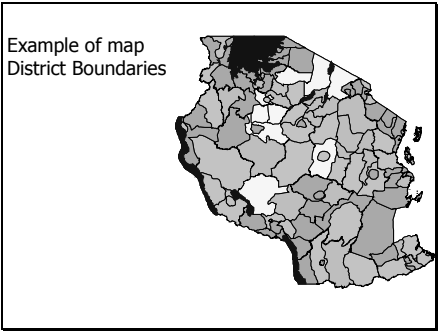
- Potential lack of standardization of indicators, compromising comparability
- Relative difficulty for end-users to utilize available statistics
- Difficulty in managing and reconciling multiple sources for the same indicator

### *Objectives for TSED*

- Enhance availability and timely dissemination of socio-economic data in order to support policy analysis and decision making
- Strengthens the capacity of database management in NBS and supports NBS in its role as exec. Agency
- Provide users with a comprehensive set of indicators that help Govt., donors and other interested people to analyze the situation in Tanzania
- Allows for the monitoring of international, regional and national goals and commitments



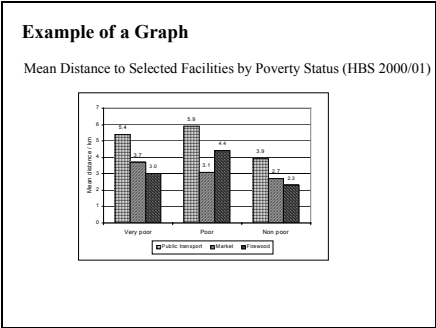




### Example of a Table

Distribution of Households by Energy Source for Lighting and Cooking

Energy Source	Dar Es Salaam		Other urban areas		Rural areas		Mountain Tanzania	
	2000	2001	2000	2001	2000	2001	2000	2001
<b>Lighting</b>								
Electricity	59.2	58.4	20.7	28.5	0.3	1.4	0.4	0.2
Grid electricity	N/A	0.2	N/A	0.2	N/A	0.4	N/A	0.2
Gas	1.5	0.1	0.4	0.1	0.4	0.2	0.5	0.2
Paraffin	48.2	49.4	76.7	69.5	95.2	94.4	89.6	83.9
Coal/oil	0	1.8	0	0.3	0	0.2	0	0.4
Firewood & other	0.1	0.5	0	0.7	3.8	7.1	3.1	0.7
Total	100	100	100	100	100	100	100	100
<b>Cooking</b>								
Electricity	0.7	4.4	4.8	2.4	0.2	0.3	1.5	0.9
Grid electricity	N/A	0.4	N/A	0.3	N/A	1.3	N/A	0.9
Gas (LPG)	N/A	0.4	N/A	0.1	N/A	0.1	N/A	0.1
Paraffin	33.7	43	53.3	6.1	1.4	1	5.2	5
Coal	1.5	0.6	0.3	0.1	0	0	0.2	0.1
Charcoal	52.1	46.2	30.9	53.1	2.3	3.9	10.5	14.2
Firewood	1.2	4.8	45.4	33.1	94.3	93.4	81.5	76.5
Other	0	0.2	0	0.2	0	0	0	0
Total	100	100	100	100	100	100	100	100



### TSED and Poverty Monitoring

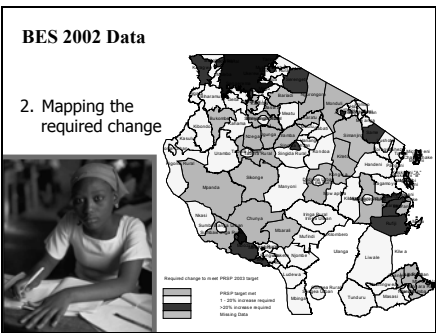
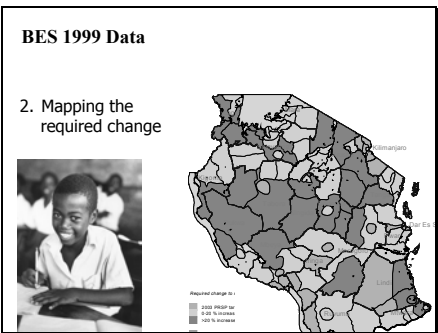
**Planning:**

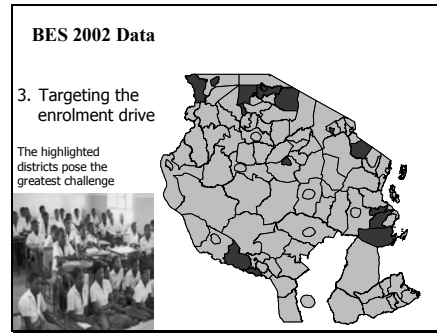
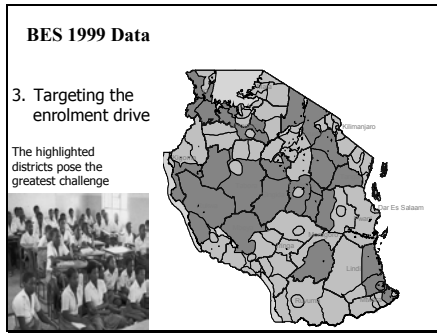
Using TSED to track progress towards PRSP targets

- Example : Primary NER
- Identify districts that need to improve enrolment to meet PRSP target

1. Calculating required change

District	Primary school net enrolment ratio	PRSP Target	Required change in per centage points
1. Lindi Rural	27.4	70	42.6
2. Chunya	33.3	70	36.7
3. Ngongongo	37.9	70	32.1
10. Mtwara	38	70	32
11. Morogoro	38	70	32
12. Simanunguwa	39.5	70	30.5
13. Hai	39.5	70	30.5
14. Kilimo Khasi Rural	39.7	70	30.3
15. Mwanza	39.7	70	30.3
16. Mwanza Rural	40.2	70	29.8
17. Mwanza Urban	41.4	70	28.6
18. Morogoro	41.6	70	28.4
22. Dodoma Rural	42.0	70	28.0





**Starting point for TSED....**

- Hands-on exercises on TSED.....

**Challenges**

- Providing the necessary incentives that ensure sustainability of the current momentum
- Strengthening the link with Local Authorities – linking the databases together
- Ensuring that all parts of the institutional framework remain operational and that there is sufficient communication between them
- Ensuring more active participation of civil society organizations, NGOs and Local Authorities through capacity building
- Promoting use of the evidence produced by the PMS in decision making at all levels

**Starting point for TSED....**

- A log from the various Institutions on:
- -Kind of environment data collected
- -
- Matrix that serves as a dictionary created – provide information on the levels of disaggregation, sources, how often data is updated, how far back in time it is available and definition of the indicator

**Thank You for Listening**



## Annex 6: Application of GIS for Environmental Mapping: a Tanzanian Experience presented by Pius Yanda, Institute of Resource Assessment

APPLICATION OF **GIS** FOR  
ENVIRONMENTAL MAPPING –  
Tanzanian Experience

By  
Pius Yanda  
Institute of Resource Assessment

WHAT IS GIS ?

Most people associate the Geographic Information System (GIS) with map making or cartography.

GIS is much more than map making.

GIS is a spatial database

It integrates spatial datasets

Complex analysis and modeling is possible

GIS KEYWORD

The key word to GIS technology is Geography - this means that the data (or at least some proportion of the data) is spatial, i.e. data that is in some way referenced to a known location on the earth surface

DEFINITION OF GIS

*"In the strictest sense, a GIS is computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, i.e. data identified according to their locations. Practitioners also regard the total GIS as including operating personnel and the data that goes into the system"*

THE STATUS OF GIS IN TANZANIA

There are number of GIS Centres in Tanzania.

Most of them are based in Dar es Salaam.

Almost all the centers are using GIS at the simplest level i.e. computer cartography.

There is little evidence of data integration and analysis,

This is an area where the strength of GIS really lies.

Some GIS Centres in Tanzania

- Survey and Mapping Division
- Geo-Information Centre (UCLAS)
- Institute of Resource Assessment
- Ministry of Agriculture
- Madini Centre – Dodoma
- National Environment Management Council –NEMC
- Tanzania Wildlife Research Institute –TAWIRI. The Centre was until recently under Conservation Information Centre (CIC) based in Arusha
- Dar es Salaam City Commission under Dar es Salaam Sustainable Project (Dar es Salaam)
- SADC Mineral Information Centre SEMIC in Dar es Salaam
- Naliendele Agricultural Research Centre based in Mtwara

A new Centre is being established at Tarangire National Park that will cater for the entire Tarangire / Manyara ecosystem. The Centre is being established in collaboration with the Institute of Resource Assessment with funding from WWF.

Some of the Centres have ceased GIS activities

- GIS Centre – Ruaha National Park
- GIS Centre – Tanga Water Office
- Ministry of Agriculture and Food Security – Soil and Land Use Planning Unit

How are spatial datasets generated

- ☞ Remote sensing (satellite images)
  - Landsat
  - SPOT
  - LadaSat
  - Quickbird
  - Ikonos
  - Aerial photograph (digital and analogue)
- ☞ Ground registration with GPS. This can work for small areas such as;
  - soil mapping,
  - water sampling for water quality monitoring

How are spatial datasets generated

- ☞ Import from existing data sets
- ☞ Scanning of maps



### Spatial Datasets available at IRA

- ☞ Administrative boundaries (ward boundaries for some areas)
- ☞ Road network
- ☞ Soils of Tanzania (FAO Product – De Paw),
- ☞ Agro-ecological zones,
- ☞ Rainfall distribution patterns,
- ☞ Soil erosion Hazard Potential in the Lake Victoria Basin
- ☞ Protected areas;
  - National Parks,
  - Game Reserves,
  - Ngorongoro Conservation area
  - Forest Reserves

### Spatial Datasets available at IRA

- ☞ Land use/cover types based on 1995 LandSat TM
  - Aggregates of different land cover types at the regional and district level (ha or %)
  - The output can be tables, histograms, maps, bar chart,
  - The information has been used for detecting changes in land cover/use for selected areas using old and recent images
- ☞ There are high resolution datasets for some areas generated from aerial photographs and SPOT Imagery. Examples are;
  - Tabora Forest Reserves (aerial photographs)
  - Mount Kilimanjaro Forest Reserves (aerial photographs)
  - Pugu and Kazimzumbwe Forest Reserves (aerial photographs)
  - Malagarasi-Muyovozi Ramsar Site (SPOT Imagery)

An Example of GIS application to support decision-making

Land Use / Cover changes in Arusha Region:  
Changes between 1970, 1994/95 and 2000

#### Examples

**Example 1: USE OF LANDSAT IMAGES TO DETECT CHANGES IN LAND USE/COVER**

The source of data in this case is mainly remote sensed data extracted from interpretation of satellite imagery and field observations made during ground truthing

The images are from:  
Landsat MSS (1970),  
Landsat TM (1994/95) and  
Landsat TM 7 for the year 2000

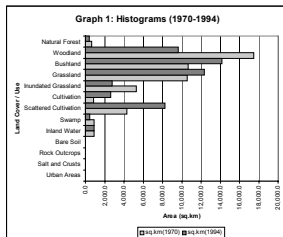
Bands 3, 4 and 5 were combined to produce false color composite.

This combination has previously proved to be useful in other similar studies related to vegetation and land use / cover types.

**Table 1: Land Use / Cover changes 1970 – 1994/95 - 2000**

Land Cover/Use	1970-S		1994/95		2000	
	sq.km	%	sq.km	%	sq.km	%
Natural Forest	1.88	0.6	2.47	0.7	4.8	0.1
Woodland	16.803	49.1	8.590	25.1	8.350	19.1
Bushland	6.187	18.1	7.007	21.5	6.959	14.5
Grassland	3.442	10.1	5.534	16.2	2.632	7.7
Inundated Grassland	4.013	11.7	2.121	6.2	1.490	4.4
Cultivation	1.048	3.1	2.248	6.6	6.424	18.8
Scattered Cultivation	1.466	4.3	7.525	22	11.474	33.0
Swamp	802	2.3	246	0.7	228	0.7
Inland Water	219	0.6	182	0.5	376	1.1
Bare Soil	0	0	1	0	0	0
Salt and Crusts	26	0.1				
Urban Areas	43	0.1	50	0.1	62	0.2
	34,248		34,248		34,248	

**Graph 1: Histograms (1970-1994)**



Changes in Cultivation Between 1970 and 1994

### Challenges

- In few Centres where GIS is applied, there is no doubt that, it is widely used in its simplest form i.e. map digital cartography
- There is a huge potential for using GIS in the management of natural resources and the environment. .e.g....
- Costs involved in generating spatial datasets is relatively high. Who will meet these costs
- How shall we harmonize the methodologies and classification systems of different attributes
- What will be the data sharing mechanisms



Example 2: USE OF LANDSAT IMAGES AND OTHER SPATIAL DATASETS TO MAP SOIL EROSION HAZARD POTENTIAL

### Factors Considered

- Slope Characteristics
- Rainfall Erosivity
- Soil Erodibility
- Land cover/use types

Slope Characteristics

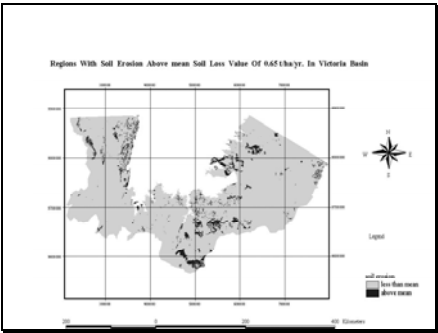
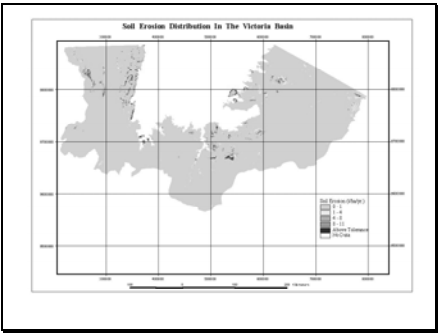
Rating Unit	Slope Class	Percentage	Degrees
1	Flat to gently sloping	0-6	0-3
2	Sloping to moderately steep	6-25	3-14
3	Steep to very steep	More than 25	More than 14

Table: Land cover/use types with corresponding conservation values

Rating Unit	Cover Type	Soil Conservation Value
1	Areas with vegetation/tree cover greater than 60%	High
2	Areas with vegetation/tree cover between 20% and 60%	Moderate
3	Areas with vegetation cover below 20% or with herbaceous crops	Low

### Assessment of Soil Erosion Using the Universal Soil Loss Equation (USLE)

- The USLE erosion model was also used to estimate magnitudes of soil erosion in the basin.
- According to this model, total soil loss by erosion is a function of the above factors expressed by  $A = C.K.L.S.R.P$ ,
- where A is soil loss,
- C is vegetation factor,
- K is soil erodibility,
- LS is slope,
- R is rainfall erosivity,



#### CHALLENGE AHEAD

The challenge ahead is to open up new areas in the application of GIS and Remote Sensing in Tanzania.

There are a number of areas that need to be pursued or investigated as for examples

How can one use Remote Sensing and GIS to determine not only general degradation of certain areas but, to go further and characterize species degradation in areas where species are selectively harvested?



**Annex 7: Project on Poverty-Environment Indicators  
presented by Fanuel Shechambo, Institute of Resource Assessment**

**PROJECT ON  
POVERTY – ENVIRONMENT  
INDICATORS FOR TANZANIA**  
By  
ERM (UK), OPM (UK) and  
IRA- UDSM (Tanzania)

**PROJECT DESCRIPTION**

- To develop a set of indicators linking poverty and environment in Tanzania
- To better understand poverty-environment interactions
- To monitor poverty reduction that results from environmental change

**PROJECT OBJECTIVES**

- To assess and determine different uses of P-E indicators from local to national levels
- To identify existing data collection systems and surveys producing or with potential to provide P-E indicators
- To propose a set of key P-E indicators for use by the PMS and local level planning
- To build national capacity on development and use of P-E indicators

**PROJECT CONTEXT**

- Part of VPO Programme (with UNDP support) to integrate environment into PRSP
- Earlier PRSP recognized but did not include a strategy for addressing P-E linkages
- PMS is currently under review

**ACTIVITIES UNDERTAKEN  
DURING INCEPTION PHASE**

- Project started in last week of May 2004
- Initial meeting with the VPO and UNDP
- Team Mobilization
- Meetings with key stakeholders
- Kick-off workshop on 27<sup>th</sup> May 2004

**MEETING WITH VPO and UNDP**

- To clarify objectives of the project
- To gain perspective of where the PRSP review process is and where the project fits in
- Clarify comments on initial ToR



### TEAM MOBILIZATION

- Setting up a project office at IRA
- Series of meetings between IRA and ERM team
- Distribution of tasks between team members

### MEETING STAKEHOLDERS

- Provide deeper understanding of the project context
- Identify key stakeholders and their likely concerns and possible inputs
- Stakeholders met included Environment Division and Poverty Eradication Division; NEMC; NBS; UNDP; UNICEF; REPOA; DFID

### ISSUES RAISED BY STAKEHOLDERS

- Need for consultants work closely with VPO and other key sectoral ministries (e.g. PO-RALG; MAFS; MN&T; MW&LD) for them to have ownership of the process
- Team to familiarize with on-going process of PRSP revision as it has significant implications for the development of indicators
- Take note of the time frame for PRS review in June, July and September 2004

### ISSUES (2)

- Understand institutional set up of the PMS
- Indicator study needs to be conscious of MDG goals
- Consultants to work with working groups
- P-E indicators should not be gender and HIV/AIDS neutral

### Issued from Planning Workshop on 27<sup>th</sup> May 2004

- Wide participation of VPO, sectoral ministries, and NGO's
- Programme included presentation of the study – methodology and work plan
- Two working groups set up to discuss use of indicators, criteria for indicator selection and data assessment criteria

### Issues at workshop (2)

- Links between TSED and SED of PO-RALG need to be recognized.
- Team should not propose another parallel system.
- PMS already has some P-E indicators. Team should analyze underlying concept and methodology to discern linkages between poverty and environment.

### Issues at workshop (4)

- Team should consider different types of indicators – input, process and output.
- For local indicators, team should focus at district rather than region.
- There is need for steering committee to guide the study and help to ensure ownership.
- Working groups brainstormed on uses of indicators, criteria for selection and data collection

### USE OF INDICATORS

- Tracking progress of PRS, sectoral programmes and regional programmes
- Information dissemination and Use to inform policy debates in Government, Parliament, CBO and NGO's
- To enable decisions on allocation of resources by central Govt, local Govt and by donors



### Indicator uses (2)

- To enhance accountability
- To demonstrate links between environmental policies and activities on the ground to assess extent to which they lead to poverty reduction and if not why
- Can be used for feeding information to early warning systems

### APPROACH AND METHODOLOGY

- Develop and use a conceptual framework
- Recognize and understand linkages between poverty and environment in Tanzania
- Ensure strong focus on stakeholder engagement at all stages of the project
- Develop, with stakeholders, criteria for assessing indicators and data
- Work with existing institutional and administrative framework for data collection

### INDICATOR SELECTION CRITERIA

- Relevance to users
- Validity – clear link to issue being measured
- Objectivity
- Simplicity
- Practicality
- Sensitivity
- Measurable

### CRITERIA FOR DATA ASSESSMENT

- Accuracy
- Objectivity
- Reliability
- Systematic
- Ease of collection
- Measurable

### SEVEN TASKS IN 8 months

- TASK A: 1 month
- Clarification on use and purpose of indicators at national and local level
- Methodology and approach
- MILESTONE 1: Inception Report

### TASK B: 2 months

- Review of international and regional research on P-E indicators
- MILESTONE 2: Report on options for purpose and use of indicators

### TASKS C, D, E (2 Months)

- Identification of indicators through
- Data analysis
- Consultations with stakeholders

### TASK F: (1 month)

- Development of indicators
- MILESTONE 3: Report with recommendations



### TASK G: (2 months)

- Test indicators
- Establish baselines
- Assist VPO in dissemination
- Identify data gaps
  
- MILESTONE 4: Final report

### NEXT STEPS

- Complete literature review
- Identify existing indicators and data sets supporting them – a checklist for consulting stakeholders has been prepared and list of stakeholders being worked out
- Prepare report for milestone 2



## **Annex 8: Closing speech**

**CLOSING SPEECH OF  
THE TSED ENVIRONMENTAL THEMATIC SEMINAR  
BY DR. MAGNUS NGOILE, DIRECTOR GENERAL, NATIONAL  
ENVIRONMENTAL MANAGEMENT COUNCIL (NEMC) ON 30<sup>TH</sup> OF JUNE  
2004, LIVINGSTONE CLUB, BAGAMOYO**

**Chairperson,  
Distinguished Invited Guests,  
Seminar Participants,  
Ladies and gentlemen,**

First of all, I would like to express my sincere appreciation for having this opportunity of officiating at the closing of this Thematic Seminar on the Tanzania Social and Economic Database (TSED) focused on the Environment.

I have been told by participants that, over the past two and half days they have engaged in fruitful discussions aimed at establishing and monitoring the development goals for the environment sector and, that the environmental sector and professions will be able to contribute to the monitoring of the new Poverty Reduction Strategy, now under review by the Poverty Eradication Division of the Vice President's Office. Also, because of these kinds of deliberations, the Government will be in a position to prepare its mid-term assessments on the MDG for the Millennium Summit scheduled for 2005.

I am pleased to add that, at the global level, the tool that has designed TSED has been selected as the software to help countries monitor and report on the Millennium Development Goals (the MDGs). Tanzania has a comparative advantage since TSED has been in use for a number of years.

**Chairperson,**

I am aware that the TSED – support to which participants have been discussing over the past two and half days, was developed by the National Bureau of Statistics (NBS), in collaboration with various Ministries and other Government Institutions with assistance from UNDP, UNICEF and DFID, as a mechanism to assist the Government and its development partners in the use of information technology to accelerate the sustainable human development, focusing on key indicators to monitor socio-economic development, including poverty.

I am aware that TSED is an important tool of the Poverty Monitoring System, for storage, manipulation and dissemination of all quantitative information generated by national processes. The database enhances the compilation of high quality data and its rapid dissemination to support important decision and policy making. I believe that, this training Seminar has also built capacities of officers and actors in the Environment Sector in the use of TSED as a tool that would inform policy making.

I am also aware that, in collaboration with UNDP, the Vice President's Office and the National Bureau of Statistics, the NGO, Research on Poverty Alleviation (REPOA) was contracted to



organize a series of training programmes on support the use of TSED and, this Thematic Seminar on the Environment is the third in the series of Seminars that will take place over the next 2 years. The first one focused on Education, and the second on Health.

**Chairperson,**

We are all aware of the fact that the ability of both government and non-governmental bodies at all levels, to design and implement policy measures and strategies for achieving sustainable economic growth and poverty reduction heavily depends upon their capacity to analyze and interpret available data. It is imperative therefore to strengthen the capacity of those involved in policy analysis to use the available data in the most efficient way.

**Chairperson,**

I understand that the broad objectives of the Thematic Seminars are to:

- ❖ Enhance the capacity of policy makers and planners (in Government and Civil Society) to use data for decision-making.
- ❖ Promote awareness of TSED and its potential usefulness in supporting policy making and planning.
- ❖ Promote further analysis of new datasets available from the Poverty Monitoring System of the Poverty Reduction Strategy.
- ❖ Generate outputs which could be utilized for awareness raising and dissemination on various thematic issues related to poverty.

**Chairperson,**

In this Seminar you have focused on Environment. I would like to say to the participants that you are working in the Environment sector, and a wealth of data is available in your institutions, but this data and information is not shared adequately. I believe that issues of information exchange and data sharing have been addressed during the seminar and plans laid to take this forward, especially to make the linkages between the environment and poverty.

Addressing poverty-environmental linkages lies at the heart of the current discussions addressing issues of growth and poverty reduction in Tanzania. The country's natural resources are the foundations of the economy and provide the majority of the population with livelihoods, and their degradation will have a far-reaching impact on the people's livelihood. It is therefore imperative that we work towards achieving the integration of environment into the PRS process. Part of this effort is to ensure that information on poverty-environment linkages is used in our policy-making processes.

I am therefore pleased to learn that during the seminar you have discussed these aspects of the Environment and worked to develop the Environment module in TSED to reflect its importance. It is also crucial that Environmental monitoring indicators be developed to be used in the same way as socio-economic indicators.

I know that the use of GIS as spatial database for developing environmental indicators has been emphasized during this Seminar. Further more, issues related to access of datasets in various databases in Institutions has also been deliberated upon.



I look forward to seeing the benefit of your increased capacities in the work that you produce on behalf of our country.

**Chairperson,**

I am aware that VPO has commissioned a study to help develop a set of indicators linking poverty and environment in Tanzania that can be used to understand poverty-environmental interactions and to monitor poverty reductions that results from environmental change. This and other on-going initiatives like the poverty mapping will go a long way in informing the public on the importance of sustainable utilization of natural resources.

**Chairperson,**

Let me hasten to add that there is a need to remind planners and the public at large on the use of statistics in planning and in their day-to-day activities. It is very clear to all of us that we cannot contemplate any objective planning for social and economic development without looking at the available information and especially statistical data to justify such plans. These seminars, I believe, will go along way to enhancing statistical literacy and further instill the importance of evidence-based decision making.

It is my hope that all institutions present here will continue to support the National Bureau of Statistics in improving TSED and consequently enable the sharing of information with a wide range of stakeholders. Let me also, at this juncture, challenge our researchers to revisit existing environmental data sets for rigorous analysis for the purpose of informing policy. I have no doubt that, as more data and information becomes available and accessible to a wider cross section of users and stakeholders, the possibility of diverse conclusions, at times confusing or even misleading to audiences, will decline.

**Chairperson,**

I wish to conclude this closing address by congratulating the organizers, VPO, NBS and REPOA and UNDP, who funded the Seminar, for undertaking this very important initiative. Let me once again take this opportunity to express my sincere thanks to them for inviting me to deliver this closing address. It is my sincere hope that all participants have benefited greatly from the contributions and deliberations of the Seminar.

With these remarks, I now declare the TSED Thematic Seminar focused on the Environment, officially closed.

**Thank you again for your attention.**



## Annex 9: Evaluation

A total of 28 evaluation forms were submitted.

### Logistics:

	Bad	Acceptable	Good	Excellent
Accommodation	1	3	19	6
Facilities	0	1	13	9
Hall	0	3	15	9
Sound	1	4	14	9
Catering	2	9	13	4

The participants generally expressed satisfaction with the accommodation and services. A few individual comments for future improvement were made:

- ❖ Water pressure in the rooms was found to be low
- ❖ Full accommodation should be offered to avoid having to go into town in the evenings.
- ❖ One guest had no hot water for the duration of their stay
- ❖ One participant found the hotel dull and suggested Millennium as an alternative venue
- ❖ The conference room was found too dark
- ❖ Morning tea should be self-service

### Seminar: materials and topics.

	Bad	Acceptable	Good	Excellent
Handouts	1	1	14	7
Presentation material	0	0	15	11
Relevance of TSED to daily activities	0	0	9	13
Group work composition	0	0	12	12
Group work topics	0	3	12	9
Intro to PRS	0	0	13	13
P-E linkages	0	0	13	13
Environmental reporting framework	0	0	15	11
Intro to TSED	0	3	19	6
TSED hands on session	0	1	13	14
GIS	0	3	15	8
P-E indicators study	0	2	17	8
Briefing on group work	1	0	17	8
Discussions	0	2	15	12

Out of the 28 respondents, 26 found the topics covered in the seminar relevant. Only 2 respondents felt that there was not enough time for discussion.



Participants found the handouts and presentations materials good. The group work and the various TSED sessions were also well received. Comments for improvements include:

- ❖ Training should go beyond the invited ministries, departments and institutions
- ❖ Materials should be provided to participants in soft and hard copy formats
- ❖ One participant found the handouts too sketchy based on the slides.

**TSED:**

	Bad	Acceptable	Good	Excellent
Usefulness	0	3	12	11
Software user interface	0	2	18	8

All of the respondents found that at the end of the seminar they could easily access the database. Generally the participants found the TSED very good, but there were several detailed suggestions for improvement which were emphasized in addition to the issues mentioned during the workshop:

- ❖ The TSED structure should expand the environment module
- ❖ Most useful part of the system is the analysis part, which allows users to make different analyses of the data in the database
- ❖ Indicators should be updated gradually
- ❖ More data related to PRS is required
- ❖ Missing datasets should be filled in
- ❖ Spatial analytical capabilities need to be improved
- ❖ Classification of rural and urban datasets should be separate.



## Annex 10: Participant List

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