

**THE ROLE OF POVERTY – ENVIRONMENT (PEIs) INDICATORS IN  
THE NATIONAL AND LOCAL GOVERNMENT MONITORING FRAMEWORKS  
IN TANZANIA**

**(Taking Stock)**

**FINAL DRAFT REPORT**

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## 1.0 Background

Over the years, the Tanzania Government has acknowledged the importance of the environment in achieving its economic recovery and poverty reduction goals as demonstrated in various key policy guidelines. Such as Environmental policy of 1997, National Environment Management Act 2004 (NEMA Act 2004) and several other sectors specific environmental related policies. Furthermore, environmental challenges have been identified in the country's National Strategy for Growth and poverty Reduction II (NSGRP II), Five-Year Development Plan and 2025 Development Vision. In recent review of the implementation of the NSGRP I, it was evident that major steps have been taken by the government to mainstream environment into national policy process.

There are fundamental causal links between socio-economic activities and the quality of the environment. The high tempo of economic activities has a tendency of undermining the quality of the environment through such processes as pollution, soil degradation, and degradation of wetlands and so on. Degradation of the environment on the other hands has a tendency of undermining the productive capacity of an economy, either through destroying systems that support physical capacities of production or through an increase in the risks to the vagaries of weather or even through undermining human capital through ill-health. It is therefore inadequate to view economic development as a purely socio-economic process; it is a process that is also deeply linked to the environment. Because of this, policies that seek to alleviate poverty (measured by poverty indicators) cannot be much of a success if they do not take into account the environment (measured by environment indicators). For example, promotion of agricultural economy to alleviate poverty will only be effective in the long run if issues of environment such as soil degradation are addressed at the same time.

In the same vein, monitoring of poverty needs to not only focus on the standard economic metrics, but also take aboard the dimensions of environment, because it is possible for economic poverty to be alleviated in the long run only to see such gains being lost because of environmental degradation. To this end therefore it is useful to have a monitoring system that evaluate both the trends of poverty and environment at the same template; the poverty-environmental indicators.

At the same time, effective poverty alleviation must ensure that no group of people are systematically excluded from prosperity. Since women have traditionally been in a weaker position in socio-economic

arrangement, efforts to alleviate poverty will only be effective if it include a special focus on the gender dimensions. This means that the kind of indicators that are useful for monitoring development must take into account poverty, environment and gender.

Apart from, and in some cases because of, these empirical causal links between poverty, environment and gender, numerous national and international commitments have been put in place with respect to poverty alleviations, environmental protection and promotion of gender equity. The Millennium Development Goals encompass the three key dimensions of poverty, environment and gender and Tanzania has signed up for these goals. Other commitments on environmental protections and sustainable management of natural resources include United Nations Conventions on Sustainable Development such as the UN Conference on Human Environment 1972, UNCED 1992, the Millennium Declaration in 2000 and the 2002 World Summit on Sustainable Development (WSSD) which exhorted the international community to integrate global response to poverty and environmental decline. These commitments are only meaningful if practical steps are taken to protect environment, alleviate poverty and promote gender equity. Assessment of the extent that success has been gained in these fronts requires a well crafted system of monitoring and evaluation in which well designed indicators can be used for monitoring.

Poverty, gender and the environment are inter-linked through four main dimensions: livelihoods, resilience to environmental risks, health and economic development. In rural Tanzania, the livelihoods of the majority of the people depend on the extent that the ecosystem is healthy. Thus, deforestation, soil erosion, and loss of biodiversity directly translate into loss of agricultural productivity and thus less food and income. It is also true that the adverse effects of environmental degradation are uneven across the population particularly women. For example, the living conditions of the poor offer little protection from air, water, and soil pollution when compared to ability of the non-poor to cope and mitigate the adverse effects of these environmental problems. In general, environmental conditions affect the opportunities, health, and security of poor people and more so for women and children than men. Besides these effects at the household level, degradation of the environment affects productive sectors (e.g. agriculture, energy, etc.) and social sectors (e.g. outbreak of diseases). Addressing these effects requires indicators to monitors the changes and measure targets.

When developing indicators it is important to recognize that poverty-gender-environment linkages are dynamic and context-specific—reflecting both geographic location and scale and the economic, social, and cultural characteristics of individuals, households, and social groups. In rural areas, poor people are particularly concerned with secure access to and the quality of natural resources - arable land and water, crop and livestock diversity, fish and bush meat resources, forest products and biomass for fuel. For the urban poor, water, energy, sanitation and waste removal, drainage, and secure tenure are key concerns. Poor women regard safe and physically close access to potable water, sanitation facilities, and abundant energy supplies as crucial aspects of well-being, reflecting women's primary role in managing the household. The environmental soundness of growth is critical to the livelihood opportunities of the poor, and countries with similar levels of income and growth can have quite different levels of environmental performance as a result of differing policy, institutional frameworks and implementation capacities.

Ecosystems - such as forests, agro-ecosystems, grasslands, and freshwater and coastal ecosystems (including coral reefs) and the biodiversity contained within them – provide essential “services” that contribute in numerous ways to productive activities e.g. provision of natural habitat for wild pollinators that are essential to food crops; natural predators that control crop pests and soil organisms important to agricultural productivity; watershed protection and hydrological stability, including recharging of ground water tables and buffering of extreme hydrological conditions that might otherwise precipitate drought or flood conditions; maintenance of soil fertility through storage and cycling of essential nutrients; and breakdown of waste and pollutants. When ecosystem functions are impaired, this inevitably leads to a narrowing of livelihood choices and an increase in the vulnerability of the poor.

Pesticide poisoning is a significant health problem among poor farmers in Tanzania and other developing countries. Contamination of food crops with pesticide residues is a growing problem for farmers producing for export markets, as several important markets are tightening their regulations regarding permissible levels of pesticide residues. Both the rural and urban poor, and in particular the women and children are most often exposed to environmental hazards and environment-related conflict, they suffer the greatest losses, and they are in the weakest position to cope and adapt. Most often tensions between diverse interest groups over natural resources can also contribute to conflict and civil strife, in which women and children are the most affected.

Although poverty-environment links were recognized as early as during the 1972 Stockholm Summit on Sustainable Development, they did not feature prominently until the 1990s with the advent of the Poverty Reduction Strategies Papers (PRSP). The contribution of the environment to human well-being in Tanzania, like in many other developing countries, is now explicitly recognized. Indicators are an important tool for assessing and evaluating poverty reduction and environmental sustainability policies, strategies, projects, and outcomes. The rural poor depend upon the use of natural resources for their livelihoods, and any poverty reduction strategy must recognize the need to help poor people to increase the productivity of their exploitation of natural resources while enabling them to manage those resources sustainably.

Poverty reduction cannot be achieved without taking into account the environment and gender. Degraded ecosystems increase hunger, exacerbating risks, diseases and taking children out of school. Efforts to reduce human poverty cannot ignore the role that changes in ecosystems play in shaping human lives. Thus, gender and environmental issues are an integral part of poverty reduction. The challenge is for researchers and policy-makers to understand livelihoods and natural resources issues, and how to respond to them when defining policy, setting targets and budgets. Poverty-Environment indicators play a crucial role in gauging the achievement or lack of achievement in implementation of livelihoods policies, strategies, plans and projects that combine objectives of poverty reduction and environmental conservation.

Under the global PEI initiative, Tanzania developed poverty-environment indicators. And it was through that environmental issues were fully incorporated in to the NSGRP I & II. This provided an opportunity in the identification of poverty-environmental indicators, through its clearly stipulated goals and targets. Furthermore, MKUKUTA monitoring system recognizes the integration of poverty-environment indicators in measuring progress to achieving poverty reduction and environmental management targets. However, most of the indicators mentioned fail to reveal how pressures from new development policies and programmes influence poverty-environment-gender dynamics. Most of the indicators are information-intensive and require a fairly complex information system to support their effective use. Further, gender issues were not explicit in the development of poverty-environment indicators. It is therefore important that clear linkages of poverty, gender and environment are explicit in the development of the indicators.

The dynamics and context-specific of poverty-gender-environment linkages—reflecting both geographic location and scale and the economic, social, and cultural characteristics of individuals, households, and social groups need to be recognized in the development of the indicators. In rural areas, for example, poor people especially women are particularly concerned with secure access to and the quality of natural resources. Some key ecosystem is at risk of extinction, these include coral reefs, freshwater systems, clean air etc that are at risk of fast decline due to pollution, overuse, or other perturbations that reduce biodiversity or that exceed a certain threshold of tolerance. The consequence is that people who depend on these ecosystems may find themselves deprived of essential goods and services in a relatively short time span and unable to cope or adapt.

Poor people are affected by natural resource degradation and biodiversity loss much more than the rich because of their limited assets and their greater dependence on common property resources for their livelihoods. The poor are also more dependent on biomass fuels and less efficient traditional technologies e.g. open fire cooking and heating methods. In addition, poor rural women are disproportionately affected by natural resource degradation and biodiversity loss, as evident by increased time, physical burden, and personal risk women face in travelling greater distances to collect fuel, fodder, and water due to growing resource scarcity or more restricted access to common property areas. This reduces the time spent on income-generating activities, crop production, and household and childrearing responsibilities. Furthermore, the poor in rural and urban areas are facing the burden of disease associated with environmental risk factors. The poor, particularly women and children, are most affected by environmental health problems, and traditional environmental hazards - lack of safe water and sanitation, indoor air pollution, and exposure to disease vectors.

In order to identify the role of environment on poverty reduction including gender dimensions, it is important to outline the Poverty Environmental Gender Indicators (PEIs) and assess how well they are covered in the policy and development strategy plans and their corresponding or associated monitoring frameworks.

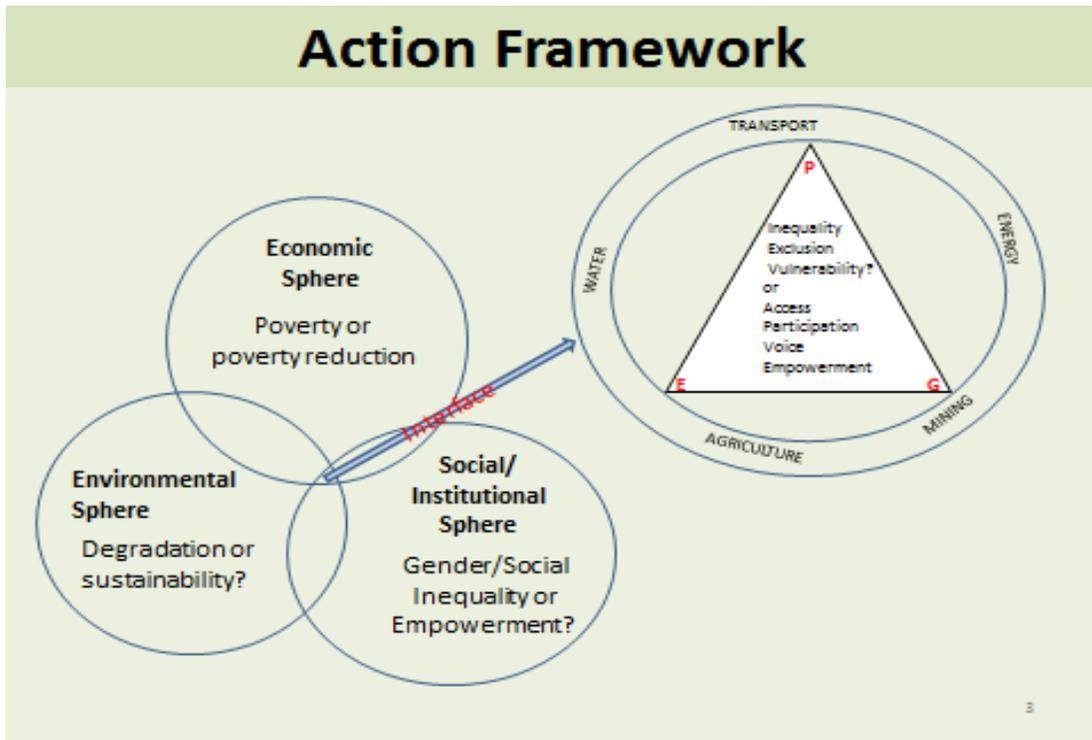
## 2.0 Conceptual Framework

**Understanding the Dynamics of the Gender-Poverty-Environment Links:** It is important to establish a common frame of reference for analyzing gender-poverty-environment links by examining analytical frameworks that provide good practice and project case studies. The development of poverty-gender-environmental indicators, involves the review of various government documents, reports and interview with government officials in MDAs, and LGAs. Furthermore, local communities with particular focus to household utilization of environment, gender roles and poverty profile have useful information to feed in the analysis of the nexus.

The action framework for the gender-poverty-environment interface in the sustainable development sectors is built on the World Bank's three pillars of sustainable development: social inclusion, economic growth, and environmental sustainability. The framework is based on the premise that social, economic and environmental factors interactively affect the livelihood and options of different people – male and female, young and old, rural and urban, minority and indigenous –in different ways. When information about social, economic and environmental conditions and their dynamics are combined, the impact of development decisions on the quality of life of those groups in a specific area, country, or region, can be adequately assessed and addressed. The gender dimension is an important factor that is too often ignored with negative impacts on sustainable development.<sup>1</sup>

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<sup>1</sup> UNDP 2007. Gender Mainstreaming: a Key Driver of Development in Environment and Energy: Conceptual Overview.



The gender-poverty-environment **interface** (the triangle in the upper right) is the area of overlap among the economic, environmental and social spheres. Formal and informal social institutions and power relationships are at the core of the interface, channeling access to the key elements needed for sustainable livelihoods --natural resources, economic opportunities, information, and voice in decision-

#### Social, Economic, and Environmental Contexts and Issues

**Social:** Overcoming poverty is about more than getting economic policies right. It is also about empowering people by creating more inclusive, cohesive, and accountable societies. 'Institutions' include both formal and informal interactions between individuals and groups in society such as water user associations and village forestry committees as well as normative institutions such as common property. **Examples of social issues** gender and other social inequality and exclusion, corruption, poor governance, conflict etc. **Examples of social approaches:** promoting social and gender equality, inclusive participation, empowerment, social mobility and accountable governance.

**Economic:** the system that determines how the limited resources needed to improve peoples' lives is distributed among different social groups. **Examples of Economic Issues:** poverty, global food, fuel and financial crises and associated declines in exports, capital flows, remittances and domestic investments. **Examples of economic approaches:** agricultural growth, trade, fiscal reform, industrial growth provision of services, and efficient use of labor.

**Environment:** the natural resources--both renewable and non-renewable--that make up our surroundings and help people to sustain and better their lives. **Examples of environmental issues include** climate change, air pollution, land degradation, deforestation, water scarcity and pollution, solid and hazardous waste, declining fresh water and marine fish stocks, population pressure. **Examples of environmental approaches** include fostering biodiversity, ecosystem integrity, carrying capacity, clean air and water, managing natural resources.

Source: World Bank Web Site: "What is Sustainable Development?"

making at all levels for women and men in different social groups in the sustainable development sectors (encircling the triangle). In addition to Agarwal's work, there is extensive research on the ways in which the gendered division of labor, property rights, and access to resources, services, technology, economic opportunities, information, and voice in decision making is shaped by those institutions and affects the distribution of the benefits and risks of development programs as well as environmental, economic and social sustainability.<sup>2</sup> The 2000 United Nations Millennium Declaration identifies gender equality and the empowerment of women and girls as among the most effective ways to "combat poverty, hunger and disease and to stimulate development that is truly sustainable."<sup>3</sup>

### Unpacking Poverty, Gender, and Environment Dynamics

The following summary highlights what appear to be key factors, impacts, and problem scenarios associated with of the interaction of gender, poverty, and environment in rural development, the information and analysis is drawn from the research in Ghana and Ethiopia. These are the factors that

<sup>2</sup> For example, World Bank 2002. *Engendering Development Through Gender Equality in Rights, Resources and Voice*. New York, Oxford University Press; UNDP 2007. *Gender Mainstreaming Key Driver of Development I Environment and Energy; Conceptual Overview*.

<sup>3</sup> UN General Assembly. 2000. UN Millennium Declaration, para. 20. UN Doc. A/RES/55/2. UN, New York.

policy makers and program planners need to assess systematically to ensure that positive synergies are promoted without unanticipated negative outcomes related to gender inequality, poverty, and environmental degradation.

### ***Factors Affecting Gender-Poverty-Environment Interface***

- ***Climate change is negatively impacting ecosystems, coasts, water, livelihoods, food, and health.*** These impacts are most acute for those already vulnerable and limited in adaptive capacity due to poverty, geography, gender, age, indigenous or minority status or disabilities.
- ***Poverty drives dependence on natural resources for survival. Increasingly, wealthier groups, sometimes facilitated by state policies, are gaining control over and degrading resources for profit,*** leaving the poor with diminishing options.
- ***Population pressure on diminishing resources exacerbates environmental degradation.*** Families' unmet need for family planning options, limited access to education, climate change impacts are among the factors underlying this.
- ***Time Poverty: natural resource collection tasks have an opportunity cost*** and reduce girls' and women's available time for education, skill development, social, economic and governance activities and economic productivity. Thus they are caught in the vicious cycle of poverty. In developing countries, women spend between two to nine hours per day on fuel wood and fodder collection and cooking activities. Asian and African women typically walk six kilometers per day to collect water.
- ***Institutional exclusionary processes often prevent or constrain women's participation in conservation and other community decision-making*** such as rules of group membership; gender division of labor and time poverty of women; gendered behavioral norms restricting mobility, visibility and voice; social perceptions of women's capabilities, men's control over community structures; personal endowments (lack of personal property and connections; household endowments (caste, class, minority status).

### ***Gendered Impacts of the Interface with Poverty and Environment***

#### **Negative Impacts**

- ***Natural resource collection tasks often have a negative impact on women's health.*** To transport firewood, fodder or water, Asian and African women often carry 20 kilogram loads on their heads. Water shortages often lead to an abandonment of hygienic practices due to other

pressing water needs. This results in increased incidence of diarrheal diseases and more demands on women and girls for family health caretaking duties. As of 2000, indoor air pollution, which disproportionately affects women and children, accounted for up to two million excess deaths per year in developing countries, from cancer, respiratory infections and lung diseases.

- ***Loss of biodiversity exacerbates poverty for women and their families.*** Many rural women and their families depend upon non-timber forest products (NTFPs) for income, traditional medicines, nutrition, and seed sources.
- ***Climate change impacts fall most heavily on women*** due to the impact on their livelihoods (more dependent on natural resources); water shortage increasing their burden of collection, and increased burden of care due to increased vector (e.g. malaria) and waterborne diseases (e.g. cholera).

#### **Positive Impacts**

- ***Women often foster biodiversity more than men*** through kitchen gardens with indigenous crops, knowledge and stewardship of natural resources and water.
- ***Women's participation in conservation decision-making enhances sustainable outcomes.*** A study of community forest management in parts of India and Nepal found that groups with a high proportion of women in their executive committee (EC) the principal decision-making body show significantly greater improvements in forest condition in both regions. The beneficial impact of women's presence on conservation outcomes is attributable especially to women's contributions to improved forest protection and rule compliance. More opportunity for women to use their knowledge of plant species and methods of product extraction, as well as greater cooperation among women, are also likely contributory factors.

#### **Problem Scenarios**

Studies examining gender-poverty-environment links in sustainable development projects in Ghana and Ethiopia suggest that the gender-poverty-environment linkages have a greater positive or negative effect in certain situations or problem scenarios which include: climatic shocks, chronic food insecurity, significant inequalities in the distribution of assets, weak and/or corrupt environmental governance, and

dramatic population dynamics (major increases or decreases). Additional problem scenarios are likely to emerge with additional research.

- **Climatic shocks** –exacerbate existing inequalities, destroy livelihoods, increases burden collecting water and fuel wood, breaks up support networks, increased morbidity and mortality
- **Chronic food insecurity**—leads to overexploitation of existing resources and further degradation and spiraling poverty, malnutrition, gender inequalities
- **Significant inequalities in the distribution of assets (land, natural resource access, water)**—diminishing survival options for the poor, women, minorities, overexploitation of resources ,
- **Weak and/or corrupt environmental governance** – overexploitation of resources, conflict over resources
- **Dramatic population dynamics (high population density; depopulation/urban migration)** – excessive population pressure on scarce resources or inadequate labor for rural lively hoods (women and the elderly).
- **Inadequately compensated displacement, livelihood loss due to land acquisition for infrastructure and other development activities** –breaks up support networks, malnutrition, increasing poverty and gender inequality, overexploitation of natural resources.

#### **4.0 The Role of Poverty – Environment - Gender Indicators**

The need for more and better knowledge and information about environmental conditions, trends and impacts on development and poverty and how women are affected differently from men, has been recognized since the Rio conference in 1992. Indicators were deemed useful in simplifying, clarifying and monitoring the complex links between poverty and environment. The degradation of the ecosystem services is an important hurdle preventing developing countries from reducing poverty. As noted in the Millennium Ecosystem Assessment<sup>4</sup>, the degradation of ecosystem services is harming many of the world's poorest people and is sometimes the principal factor causing poverty.

In developing PEG indicators, it is important to understand how poverty manifests or is defined in a specific setting, and try to establish how environmental conditions (reflected by the indicator measures) impact or influence the poverty characteristics including gender dimensions. The identification and integration of poverty-environment-gender linked indicators is part of the PEI mainstreaming approach of supporting and influencing national planning processes and key strategies and plans. And improve on the monitoring systems.

The linkage between poverty, gender and environment underscored in MKUKUTA II and the FYDP suggests that a well-functioning growth and poverty alleviation strategy cannot operate in isolation with sustainable environment and natural resource management and utilization. Since environmental degradation has more severe welfare implications on the poor (particularly women) than on the non-poor, all actors are required to protect the ecosystems that provide food, clean water, energy and shelter as well as sources of income from agriculture, fishing, forestry, tourism, manufacturing and service providing activities. The framework helps to locate the welfare implications and relevant indicators to measure the progress in the targets.

The poverty-environmental-gender relationship is complex and dynamic and difficult to comprehend in all of its dimensions. The key question that is addressed in identifying the PEGIs is that: How environmental factors impact the lives of the poor (particularly women) and poverty reduction efforts. While there are varieties of different ways in which the poor (with gender dimensions) and

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<sup>4</sup>Millennium Ecosystem Assessment (2005), Synthesis Report.

environmental resources are connected, it is of paramount importance to identify the role played by environmental conditions as a determinant of poverty with different gender dimensions.

The better understanding of Poverty-Environment-Gender indicators is crucial for the Poverty Eradication Division (MoF), VPO-Division of Environment, Prime Minister's Office Regional and Local Government (PMORLAG) - Policy and Planning Department and Planning Commission to enrich their future formulation of strategies and programmes on inclusive growth and poverty eradication. Also, it will inform the work of the national bureau of statistics and National Environment Management Council in the production of various reports including the national state of the environment and poverty-environment-gender report; to further improve statistics and strengthen poverty-environment-gender reporting and promote comparability of poverty-environmental-gender statistics and indicators across regions. The relevant poverty – environment - gender indicators are therefore expected to provide the much needed information in developing a monitoring mechanism.

Overall, the relevancy and importance of poverty-environment-gender indicators and integrating them in monitoring framework for the FYDP and Local Government Monitoring Database (LGMD) cannot be over emphasized. The efforts that have been made has increased the chances that the poverty-environment-gender elements of policy documents and strategies are both monitored and evaluated as implementation takes place. The inclusion of poverty-environment-gender indicators may also be linked analytically with public expenditure review on poverty-environment-gender interventions articulated in key policies and strategies.

Specifically, this report presents a review of effort that has been done to mainstream PE indicators in the Five Year Development Plan (FYDPs) and Local Government Monitoring Database, which among other objectives it is used to monitor the District Development Plans. In addition, the report reviews the existing monitoring frameworks, such as MMMP II, and TSED to identify poverty-environment-gender indicator gaps and make recommendations for filling in the gaps and addressing weaknesses.

## **5.0 Mainstreaming of Poverty-Environment-Gender in National Development Frameworks**

### **Q. What has been achieved in Tanzania since mainstreaming of poverty-environment started?**

**Improved monitoring of poverty-environment objectives in Tanzania:** In Tanzania, the Poverty-Environment Initiative has been successful in strengthening and improving the national monitoring and reporting system on poverty-environment objectives. As a result, a new environment statistics module was incorporated into Tanzania's web based Social Economic Database, which helps improving quality of monitoring of the implementation of Tanzania's key planning tool, the National Strategy for Growth and Poverty Reduction (MKUKUTA) and its poverty-environment goals.

In 2005, PEI successfully integrated environmental sustainability targets and indicators into the National Strategy for Growth and Poverty Reduction (MKUKUTA) and its Monitoring System. Environmental concerns were integrated into the Growth and Poverty Reduction, Enhancing Social Services and Improving Governance clusters of the MKUKUTA: 16 out of 96 development targets are related to environment.

In order to support the effective monitoring of progress in the achievement of MKUKUTA Output targets, the Vice President's Office led an inter-sectoral process to identify Poverty and Environment Indicators. This resulted in a comprehensive report on the "development of indicators of poverty-environment linkages" which provides a step-by-step approach to the understanding of the poverty-environment linkages and gives guidance on how to develop poverty-environment indicators.

The report recommended a total of ninety-five indicators at national and sector level to measure progress with regard to poverty and environment objectives and proposed thirty-four indicators for inclusion in the MKUKUTA Monitoring System. The MKUKUTA National Monitoring Review process resulted in the incorporation of 10 of these indicators as part of the total of 60 indicators for the MKUKUTA Monitoring System (2001-2010).

In order to improve the reporting on poverty and environment indicators in the MKUKUTA Annual Implementation Progress Report, PEI worked with the National Bureau of Statistics in 2009-2010 to enhance its Socio Economic Database used as the basis for generating the progress report. As a result a new environment statistics module was incorporated into Tanzania's web based Social Economic

Database (TSED) at [www.tsed.org](http://www.tsed.org). This is complemented by an environment statistics publication that incorporates poverty and environment indicators collected from across sectors. PEI has further supported initial efforts by the National Bureau of statistics to carry out its institutional coordination role in feeding environmental statistics from various institutions into TSED. However, this remains a critical area for attention and capacity development.

In 2010, PEI supported the development of the new MKUKUTA (2011-2015) and the review of the MKUKUTA monitoring system with an emphasis on linking environmental sustainability and climate change adaptation to growth and poverty reduction. As a result, MKUKUTA II includes 3 out of 5 goals on environmental sustainability in its growth and poverty reduction priorities. The proposed MKUKUTA monitoring framework also includes 73 indicators of which 15 are related to poverty and environment. The lesson learned from PEI engagement with Poverty and Environment indicators reveals the need for long term engagement in the entire monitoring and reporting cycle including institutional capacity development support to the coordination and reporting of environmental statistics. This includes for the national bureau of statistics the has the overall mandate for ensuring data availability and access as well as participating institutions and agencies responsible for reporting on composite indicators. It also highlights the importance of using simpler poverty and environment indicators rather than complex indicators which require specific data which is not collected at regular intervals.

#### **Q. Where the mainstreaming of poverty-environment has been most successful?**

The overall objective of integrating poverty-environment issues in the monitoring system is to increase the chances that the poverty-environment elements of policy documents and their related strategies and measures are both monitored and implemented effectively.

The mainstreaming has been successful in areas of: *first*, the efforts taken for more than a decade now on environment mainstreaming had impact on changing the guidelines used by government for policy formulation. It adapted a template that required all policies to include cross-cutting issues namely environment, gender and HIV/AIDS. Therefore, during the last decade all policy documents adhere to the template. However, the contents may vary depending on the capacity of the MDAs that drive policy and planning processes in their various sectors. *Second*, linked to the first above, all national overarching development frameworks such as MKUKUTA and MKUKUTA II, Five-Year Development Plan and Sectoral

policies, strategies have integrated poverty and environment. During the last two decades, Tanzania overall frameworks for development have been driven by Vision 2025, which recognizes the environmental concerns. *Third*, a good number of the district plans integrates interventions related to poverty-environment in addressing poverty reduction. However, the quality and level of integration varies a lot from one district to another depending on the priorities and capacity of those that drive the preparation and implementation of the plans. *Fourth*, poverty-environment has been successfully mainstreamed in national budget, sectoral and district budgets particularly in sectors that directly encompass natural resources such as land, agriculture, mining, fishery, water and forest. However, the level resources and quality of budgets that mainstream poverty-environment differ significantly across. And last, but not least, a very good progress has been made to integrate poverty-environment indicators in the established monitoring systems.

#### **Q. Concerns / challenges where the poverty-environment need to improve?**

Despite a notable progress made in mainstreaming poverty-environment in various policies, plans, budgets and monitoring and evaluation there is a very weak system for following up on implementation and reporting. By including poverty-environment indicators in national monitoring and data gathering systems it helps enabling national planning institutions and sectors to include poverty-environment linkages in key policies and strategies, however, the current mainstreaming efforts have overlooked the importance of synergies by not linking adequately with gender dimensions. The conceptual framework presented in earlier chapter offer options for linking poverty-environment-gender in a systematic approach. In addition, strengthening of monitoring and evaluation at sub-national level is needed. Although the framework of monitoring through LGMD is in place its implementation is very weak.

While a national monitoring system helps track progress made against the goals of key policy documents and the implementation of strategies and policy measures, the current status is that poverty and environment are reported separately without linking to one another. The reports generated from the monitoring and evaluation systems are unable to narrate the status and trends for poverty-environment nexus.

The monitoring and evaluation systems that help in identifying where and what kinds of corrective actions may be needed are currently weak in some sectors. The monitoring and evaluation system in sectors such as agriculture and natural resources are extremely weak to give an account of poverty-environment-gender nexus. Despite that some indicators have been identifying but corresponding data have not been collected over time to enable regular assessments of trends in environment status and poverty levels. Therefore, the assessment of poverty-environment-gender status remains weak and inadequate.

Monitoring poverty-environment issues allows policymakers and implementers to demonstrate the impact of policy measures put in place, share lessons learned, make adjustments in policies and guide budget and resource allocation. Monitoring also contributes to a better articulation of policies and measures for poverty-environment issues, and identifies emerging issues to be addressed in future policy documents and related implementation measures. Unfortunately, the implementation of development plans at sub-national level that integrate interventions for poverty-environment-gender has remained weak including lack of enforcement of legal frameworks.

## **6.0 The Snapshot of Poverty-Environment Mainstreaming (Indicators)**

This chapter consists of several Tables that show linkages and where possible indicators for poverty-environment-gender nexus in the context of the Millennium Development Goals, national development frameworks and monitoring systems. Table 6.1, provides a linkages between Millennium Development Goals and environment, showing the key synergies and issues that are essential for achieving the MDGs from the poverty-environment perspective. Table 6.2, provides, an overall picture of mainstreaming environment in the Five Year Development Plan, particularly in the productive sectors. Table 6.3, is about the Local Government Monitoring Database, which provides what indicators are included in the database and they can inform data collection mechanisms and reporting at the sub-national level.

There are also Tables that indicate relationship between poverty and natural resources i.e. Table 6.4, and also health-environment related indicators i.e. table 6.5. Table 6.6, captures the poverty-environment-gender linkages and indicators as per the conceptual framework presented in chapter 2. This table is followed the last Table 6.7 that puts the whole story of mainstreaming together, it includes mainstreaming in MKUKUTA, Five Year Development Plan, Sectoral level mainstreaming, Local Government Monitoring Database and Tanzania Socio-Economic Database. The overall picture painted by these Tables below, testifies the brave efforts that have been done on mainstreaming poverty-environment in Tanzania.

## Poverty-Environment-Gender Tables

**Table 6.1: MDGs and Environment**

MDG	Links to the Environment
1. Eradicate extreme poverty and hunger	<ul style="list-style-type: none"> <li>• Livelihood and food security depend on functioning ecosystems</li> <li>• The poor often have no entitlement to environmental resources and inadequate access to environmental information, markets and decision making</li> <li>• Lack of energy services limits productive opportunities for the poorest</li> </ul>
2. Achieve universal education	<ul style="list-style-type: none"> <li>• Time spent collecting water and fuel wood can reduce time available for schooling</li> <li>• Lack of energy, water and sanitation discourage teachers, physician, extension officers to live in rural areas</li> </ul>
3. Promote gender equality and empower women	<ul style="list-style-type: none"> <li>• Water and fuel collection reduce time of women and girls available for education, literacy and income generating activities</li> <li>• Women do not benefit from equal entitlements to land and other natural resources</li> </ul>
4. Reduce child mortality	<ul style="list-style-type: none"> <li>• Water and sanitation-related disease (e.g. diarrhea) and respiratory infections are the two most important causes of under five child mortality</li> <li>• Lack of clear water and fuels for boiling water contribute to preventable water born diseases</li> </ul>
5. Improve maternal health	<ul style="list-style-type: none"> <li>• Indoor air pollution and carrying heavy loads of water and fuel wood affect women's health, increasing risk of complication during pregnancy</li> <li>• Lack of energy (light, refrigeration) and sanitation limit the quality of health services in rural</li> </ul>
6. Combat major diseases	<ul style="list-style-type: none"> <li>• Environmental health hazards are associated with risk factors (e.g. malaria, parasitic infections)</li> </ul>
7. Ensure environmental sustainability	<ul style="list-style-type: none"> <li>• Keeping the resources base (land area covered by forest, biodiversity, water resources) and regulating energy, carbon dioxide emissions and recycling provides the foundation for the links described in this table</li> </ul>
8. Global partnership for development	<ul style="list-style-type: none"> <li>• Global environmental problems need the participation of the rich countries (that consume more resources)</li> <li>• External debt, unfair terms of trade and predatory investment can increase pressure to overexploit environmental assets in developing countries</li> </ul>

Table 6.2: Five-Year Development Plan &amp; Environment

	Key Output/Target 2015/16
<b>Land, Housing and Human Settlements</b>	
Increasing the productivity and efficient use of land	Proportion of households with land certificates (e.g. certificates of title and customary right of occupancy) increased from 5% in 2009 to 10% by 2015/16
Promote an equitable distribution of and access to land	Proportion of planned land increased from 10 percent currently to 20 percent by 2015/16
<b>Hard Infrastructure: Energy</b>	
Develop a reliable, economically accessible and appropriately priced energy supply to facilitate the development of other activities in the economy while ensuring environmental sustainability	Other potential of energy – e.g. geothermal, solar, wind, coal, increasingly used
<b>Water and Sanitation</b>	
To ensure adequacy and reliability of water supply to key production sources	<ul style="list-style-type: none"> <li>• Increase of access to improved sanitation from 50% in 2010 to 80% by 2015 (10million beneficiaries)</li> <li>• Water resources availability for both productive use and environmental sustainability assured by 2015</li> <li>• Basin – level integrated water resources management plans prepared in all basins</li> <li>• Institute participatory climate change adaptation measures at catchment/water user association level</li> </ul>
<b>Agriculture</b>	
<ul style="list-style-type: none"> <li>• Modernization, commercialization, productivity enhancement and climatic resilience</li> <li>• Expansion of irrigation agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• Increase food self-sufficiency for cereals and legumes from 104 percent currently to 120 percent by 2015</li> <li>• Expand irrigation areas from 330,000 hectares at present to 1,000,000 hectares by 2015/16</li> </ul>
<b>Fisheries</b>	
<ul style="list-style-type: none"> <li>• Modernization, commercialization, and productivity enhancement</li> </ul>	<ul style="list-style-type: none"> <li>• Increased employment for full time fishers from the current 170,038 to 200,000</li> <li>• Increased fisheries related employment from the current 4,000,000 to 4,200,000</li> <li>• Involvement of national fishing fleet in the EEZ fishery</li> <li>• Increased seaweed production from the current 8,000 tonnes to 12,000 tonnes (dry weight)</li> <li>• Increased aquaculture fish production from the current 1,200 tonnes to 10,000 tonnes</li> <li>• Increased centres of fish seed production from the current 8 centres to 20 centres</li> <li>• Incidences of illegal/illicit fishing activities reduced by 80%</li> </ul>
<b>Forestry</b>	
<ul style="list-style-type: none"> <li>• Modernization, commercialization, and productivity enhancement</li> </ul>	<ul style="list-style-type: none"> <li>• Increased number of villages (from 2,328 to 2,500) and villagers participating in forest management and forum of collaboration</li> <li>• 50 % of the forest industries using appropriate technologies</li> <li>• 5% reduced degradation and loss of forest biodiversity</li> <li>• Area of forest resources and biodiversity under effective management increased by 10%</li> <li>• Comprehensive REDD baseline information and future projection available, regularly updated and applied in forest management</li> </ul>
<b>Livestock</b>	
<ul style="list-style-type: none"> <li>• Modernization, commercialization, and productivity enhancement</li> </ul>	<ul style="list-style-type: none"> <li>• Calf mortality in the traditional sector decreased from the current 30-45% due to TBD to less than 10%</li> <li>• Mortality among free-range chicken will be reduced from current level of more than 60% to less than 30%</li> </ul>
<b>Industry</b>	
Enhance transformation of the country's production and export structure commensurate with obtaining demand patterns in the domestic, regional and global markets	Total manufacturing employment growing from 120,000 people presently to over 221,000 people by 2015/16
<b>Mining</b>	
To enhance mining sector contribution in the economy	<ul style="list-style-type: none"> <li>• At least 10% of produced basic minerals are processed locally for beneficiation and value addition</li> </ul>

	<ul style="list-style-type: none"> <li>• Employment in large-scale mining increased from 14,000 in 2010 to 18,000 in 2015</li> </ul>
<b>Health</b>	
Increase accessibility to health services, based on equity and gender-balanced needs	<ul style="list-style-type: none"> <li>• To reduce prevalence and death rates associated with Tuberculosis by 50% by 2015/16</li> <li>• To reduce maternal mortality from 578 to 175 per 100,000 live births</li> </ul>

**Table 6. 3: LGMD Indicators for P-E-G**

## LGMD Indicators

Description	
<b>Poverty</b>	<b>Health</b>
%ge of households with bicycle	Number of TB cases per 1000 OPD Patients
%ge of households with iron-sheet roofs or better	Number of cholera cases per 1000 OPD Patients
%ge of households owning a tractor	% TB cases
%ge of households owning an ox-plough	% Cholera cases
%ge of households with a radio	Reported number of cholera cases
Daily manual wage level	Proportion of malaria cases
Number of children < 13 per household	Proportion of deaths due to malaria
% of household without land	Proportion of treated cases of cholera who died
%ge of children 13 or less who are orphaned	Proportion of preventive health/public education activities (IEC, Water and Infant mortality
	Maternal mortality rate
	Under 5 mortality rate
<b>Agriculture</b>	<b>Water and Sanitation</b>
%ge of farming households receiving advice from extension officers	% of LGA budget allocated to water
Number of demonstration plots per 100 farming households	% of LGA budget actually spent on water
Tractor per 100 farming households	% of LGA budget allocated to sanitation
Average number of hectares per farming household	% of LGA budget actually spent on sanitation
Estimated number of cattle	% of households with toilet facilities
Extension officer per 100 farming households	Number of public water supply points
Number of villages receiving food aid	Number of non-functioning public water supply points
%ge of farming households owning an ox-plough	Number of people per functioning public water supply point
% of household without land	Number of people per improved (piped + protected) water supply point
<b>Governance</b>	<b>Land</b>
%ge of council's funds used for development	Number of plot applications annually
%ge of locally generated revenue spent on development	Number of plots surveyed annually
%ge of elected women representatives in the village council	No of plots allocated annually
	Number of houses built in unsurveyed areas
% of households within 400m of improved water points	

**Table 6. 4: poverty-natural resources indicators that affect income, security, and vulnerability of poor people in poor countries**

	Poverty issue	Poverty –environment indicator	Natural resource problems that could influence this indicator
1	Income and opportunity	Percentage of rural population below poverty line	Deforestation
		Rural per capita cereal production	Water scarcity
2		Time spent by household members to collect water and fuel wood	Overfishing
3		Distance walked by household members to collect water and fuel wood	Land degradation
4		Quantity of annual household consumption derived from common land's	
5		Quantity of annual household consumption that is derived from forest products and fisheries <sup>1</sup>	
6		Percentage of irrigated area in total cultivated area by wealth/income categories <sup>2</sup>	
7		Percentage of rural households with adequate water for livestock by wealth/income categories <sup>2</sup>	
8	Food security	Rural per capita cereal production	Land degradation,
9		Percentage of farmers who grow drought resistant crops by income/wealth quintiles	Water scarcity
10		Quantity of household consumption that is derived from forest products and fisheries <sup>1</sup>	Pest outbreak
11		Percentage of rural children under five who are underweight	Natural disasters
12		Percentage of rural children under five who are stunted	Deforestation, Overfishing Land degradation, Water scarcity & Water quality
13		Percentage of rural children under five who are wasted	
14	Vulnerability to natural disasters	Households rendered homeless from floods/hurricanes/cyclones/landslides per year by income/wealth quintiles	Natural disaster
		Percentage of farmers with land on slopes/wetlands by income/wealth quintiles	Deforestation
		Percentage of rural children under five who are wasted	

## Note:

1. Among households that are largely dependent on natural resource with few alternative income/employment opportunities
2. Field tested by DFID research group (DFID 2001)

**Table 6.5: Health-Environment Indicators**

Environmental related illness	Intermediate indicators	Impact indicator
Diarrheal	<ul style="list-style-type: none"> <li>• Access to safe water (private or public)</li> <li>• Access to sanitation (private or public)</li> <li>• Hours/day of available piped water</li> <li>• Time taken/distance involved in collecting water</li> <li>• Disposal practices of children's faeces</li> <li>• Percentage of child caregivers and food prepares with appropriate hand washing behaviour</li> <li>• E.coli/100 ml of water consumed by residents by sources</li> <li>• Persons per room of housing</li> </ul>	Prevalence of diarrhea
Respiratory infections*	<ul style="list-style-type: none"> <li>• Availability of ventilation in cooking area</li> <li>• Children sleeping in cooking area</li> <li>• Percentage of households using clean fuel/improved stoves</li> </ul>	<ul style="list-style-type: none"> <li>• Prevalence of ARI/CRI</li> <li>• Prevalence of chronic lung diseases (COPD)</li> </ul>
Malaria	<ul style="list-style-type: none"> <li>• Proportion of households having at least one treated bednet</li> <li>• Percentage of health facilities reporting no disruption of stock of anti-malaria drugs (as specified by nation health policy) for more than one week during the previous 3 months</li> </ul>	<ul style="list-style-type: none"> <li>• Malaria death rate (probable and confirmed) among target group (under 5 and others)</li> <li>• Number of malaria cases, severe and uncomplicated (probable and confirmed) among target groups</li> <li>• Percentage of patients with uncomplicated malaria getting correct treatment at health facility and community levels, according to the national guidelines, within 24 hours of onset of symptoms</li> </ul>
Broad indicators	<ul style="list-style-type: none"> <li>• Public health expenditures</li> </ul>	<ul style="list-style-type: none"> <li>• Under 5 mortality rate</li> <li>• Disability Adjusted Life Years</li> </ul>

\*Note: The intermediate indicators in this category pertain mainly to indoor air pollution. However, for countries such as China where urban air pollution is likely to grow in magnitude, it would be important to identify intermediate and impact indicators related to outdoor air pollution. Blood lead levels among children is a good indicator of urban pollution.

**Table 6.6: Poverty-environment-Gender linkages & Indicators**

<b>MKUKUTA Indicators</b>	Example of links to Environment	Example of links to Gender
<b>CLUSTER I</b>		
Income poverty incidence reduced (national: from 33.6 percent in 2007 to 24 percent (MDG 19.3 percent) in 2015; rural areas: from 37.6 percent in 2007 to 26.4 percent (MDG 20.4percent) in 2015 and under employment especially in rural areas effectively addressed.	Income generated from natural resources use i.e. employment of the rural majority depend on extraction of natural resources;	Women and men gave different access to the natural use, productive assets and the benefits that accrue from it.
Unemployment reduced from 10 percent in 2008 to 5 percent by 2015).	employment of the rural majority depend on extraction of natural resources	Few women are employed in formal sector and in non-environmental sectors. Many women work in environment related sectors such as agriculture, water, etc.
Working poverty reduced (from 36 percent in 2007 to 20 percent in 2015)	employment of the rural majority depend on extraction of natural resources	Few women are employed in formal sector and in non-environmental sectors. Many women work in environment related sectors such as agriculture, water, etc.
Access to clean and affordable substitute for wood fuel for cooking increased (from 10 percent in 2010 to 20 percent in 2015)	Majority of people depend on fuel wood and other natural resources for cooking and other uses of energy	Women are the most affected when environment is degraded, e.g. deforestation.
Employable skills, particularly for youth, women and people with disabilities enhanced		Few women have formal education and they have fewer opportunities for acquiring and use of their skills for gainful employment.
Food security at household, district, regional, and national levels ensured through increasing food crops, livestock and fishery production;	Climate change threatens food security at national and household level.	Women and children are the most affected by disasters including climate change making food production and accessibility impossible.
Nutrition of infant, young children and mothers promoted	Vegetation those that are important for nutrition, such as vegetable, traditional fruits, etc. are disappearing because of environmental degradation.	Women and children are affected most by nutritional deficiencies than men.
Crop and livestock varieties suited to adverse conditions brought about by climate change introduced and adopted	Climate change negatively affect the crop and livestock development as well as reduction of grasslands, areas for farming and rain seasons become unpredictable.	Women and children suffer most because they are heavily involved in crop production and animal husbandry.
Sustainable utilization of natural resources ensured with benefits to local communities	Unsuitable utilization of natural resource lead to environmental degradation i.e. soil erosion, deforestation, unsustainable biodiversity, etc.	Women depend most on natural resources for their livelihood and when the resources are used properly women tend to benefit more. The reverse is also true.
<b>CLUSTER II</b>		
Universal access for boys and girls to quality pre-primary and primary education achieved (NER to 100 percent for pre-primary and primary)	Time spent collecting water and fuel wood can reduce time available for schooling;	Lack of energy, water and sanitation discourage teachers especially women to live in rural areas
Maternal mortality ratio reduced from 454 per 100,000 live births (2010) to 265 per 100,000 live births by 2015;	Environmental degradation such as air pollution, water contamination, etc. can accelerate maternal deaths.	Maternal deaths are a gender issue affecting women in their life cycle.
Proportion of households in rural settlements provided with improved sources of water increased from 58.7 percent in 2009 to 65 percent by 2015	Water sources such as lakes, rivers and catchment areas need to be protected.	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water in not easily available and accessible.
Proportion of households in small towns provided with improved sources of water increased from 53 percent in 2009 to 57 percent by 2015	Water sources such as lakes, rivers and catchment areas need to be protected.	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water in not easily available and accessible.
Proportion of households in urban authorities provided with improved sources of water increased from 84 percent in 2010 to 95 percent by 2015	Water sources such as lakes, rivers and catchment areas need to be protected. Maintaining of water infrastructure	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water in not easily

	also secures environment.	available and accessible.
Proportion of households in Dar es Salaam provided with improved sources of water increased from 68 percent in 2010 to 75 percent by 2015.	Water sources such as lakes, rivers and catchment areas need to be protected. Maintaining of water infrastructure also secures environment.	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water is not easily available and accessible.
Access to improved toilet and functional hand washing facilities at household and public places, particularly schools, health facilities, transport facilities	Improved toilets, washing facilities at various public facilities help to protect and sustain the surrounding environment.	Women are most affected when these facilities are not readily available according to their needs, which are different from men.
Proportion of population with access to improved sanitation facilities increased	Better managed sanitation facilities are friendly to environment and prevent environment related diseases.	Women require unique sanitation and hygiene facilities. They are mostly affected when sanitation facilities are not easily accessible or available.
Proportion of households connected to the public sewage system increased from 18 per cent in 2010 to 22 percent in 2015		Women require unique sanitation and hygiene facilities. They are mostly affected when sanitation facilities are not easily accessible or available.
Proportion of schools with improved sanitation facilities increased		
Proportion of households connected to the public sewage system increased from 18 per cent in 2010 to 22 percent in 2015		
Solid waste collected in urban centers increased from 47 per cent in 2008 to 85 percent in 2015	Uncollected solid waste is not good for environmental management and sustainability.	Women are mostly affected by solid waste because they spend most of their time at home or in areas where these solid wastes exist.
Planned and serviced urban settlements with functioning town planning procedures, including improved solid and liquid waste management, use of sustainable transport and cleaner energy ensured	Cleaner energy, settlements, and solid and liquid waste has great negative implications if not properly managed.	Women are always affected in one way or another by lack of cleaner energy, poor settlements and solid/liquid waste. It is because; women take care of children, care of sick people, and are responsible for house cleaning.
<b>CLUSTER III</b>		
Equal access to timely justice for all	Right to development, including access to and sustainable utilization of environment / natural resources	Are women and the poor aware of: <ul style="list-style-type: none"> <li>• their right to seek redress through the justice system;</li> <li>• the officials and institutions entrusted to protect their access to justice; and</li> <li>• The steps involved in starting legal procedures?</li> </ul>
Rights of women promoted and protected		<ul style="list-style-type: none"> <li>• Are women and the poor effectively protected by the rule of law?</li> <li>• Do women enjoy the same property rights (particularly to land) as men?</li> </ul>
Crime including domestic and gender based violence reduced		<ul style="list-style-type: none"> <li>• How do women and the poor assess the formal systems of justice as victims, complainants, accused persons, witnesses and jury members?</li> <li>• How effective is the justice system in detecting crimes of domestic violence, convicting the perpetrators and preventing them from re-offending?</li> <li>• Are men and women treated as equals by informal mechanisms of dispute resolution?</li> </ul>
<b>Linkages of MDG Indicators and gender-poverty-environment nexus</b>		
<b>MDG Indicators</b>		
Eradicate extreme poverty and hunger	Livelihoods and food security depend on functioning ecosystems; the poor often have no entitlements to environmental resources and inadequate access to environmental information markets and decision-making	Majority of women are affected by hunger and extreme poverty compared to their men counterparts. Also, children are the victims of hunger and extreme poverty.
Improve maternal health	Indoor air pollution and carrying heavy loads of water and	Air pollution in homes affects pregnant women's, and poor quality of water

	fuel wood affect women's health, increasing risks of complication during pregnancy; Lack of energy (light, refrigeration) and sanitation limit the quality of health services in rural areas	cal lead to diseases that cause maternal health problems.
Promote gender equality and empower women	The availability by distance, quantity and quality of environment such as water, firewood, etc has far fetching implications on people's lives.	Water and fuel collection reduce the time that women and girls might have available for education, literacy and income generating activities; Women do not benefit from equal entitlements to land and other natural resources.
Combat major diseases	Environmental health hazards are associated with risk factors (e.g. malaria, parasitic infections); Disease vector host from wildlife to humans due to environmental degradation	Women and children are the victims of malaria, environmental infectious diseases like diarrhea, and others.
Ensure environmental sustainability	Keeping the resource base (land area covered by forests, biodiversity, water sources) and regulating energy, carbon dioxide emissions and recycling provides the foundation for the links described in this table	Women are involved in sectors and activities that belong to environment. Unsustainable use of land areas, forest, and water sources impact negatively and severely to women's lives.
Global partnership for development	Global environmental problems need the participation of rich countries (that consume more resources); External debt, unfair terms of trade and predatory investment can increase pressure to overexploit environmental assets in developing countries	Environment sustainability is a global good that make women lives better or worse than their counterparts (men). Women benefit less from this global good.

Source: MKUKUTA II (2010) and Republic of Kenya (2011), "Poverty and Environment Indicators Report.

Table 6.7: Linkages between PEGIs, FYDP, LGMD and TSED Indicators

MKUKUTA [MMPII]	Indicators	Example of links to Environment-Poverty	Example of links to Gender	FYDP M&E [PROPOSAL]	Sectoral level	LGMD	TSED
<b>CLUSTER I</b>							
	Income poverty incidence reduced (national: from 33.6 percent in 2007 to 24 percent (MDG 19.3 percent) in 2015; rural areas: from 37.6 percent in 2007 to 26.4 percent (MDG 20.4percent) in 2015 and under employment especially in rural areas effectively addressed.	Income generated from natural resources use i.e. employment of the rural majority depend on extraction of natural resources;	Women and men gave different access to the natural use, productive assets and the benefits that accrue from it.	<ul style="list-style-type: none"> <li>At least 10% of produced basic minerals are processed locally for beneficiation and value addition</li> <li>Employment in large-scale mining increased from 14,000 in 2010 to 18,000 in 2015</li> </ul>	<ol style="list-style-type: none"> <li>Proportion of the agriculture budget spent on educating farmers and livestock keepers in best practices for conserving the environment</li> <li>Number of farmers and livestock keepers trained environmental conservation (including access to appropriate extension packages)</li> </ol>	<b>Health</b> <ul style="list-style-type: none"> <li>Number of TB cases per 1000 OPD Patients</li> <li>Number of cholera cases per 1000 OPDS Patients</li> <li>Reported number of cholera cases</li> <li>Proportion of treated cases of cholera who died</li> <li>Proportion of preventive health/public education activities (IEC, water and Hygiene)</li> <li>Infant mortality rate</li> <li>Maternal mortality rate</li> <li>Under 5 mortality rate</li> </ul>	<b>HBS</b> <ul style="list-style-type: none"> <li>Households using other means of garbage disposal</li> <li>Households thrown garbage inside compounds as means of disposal</li> <li>Households using rubbish pit inside compound as means of garbage disposal</li> <li>Households using rubbish pit outside compound as means of garbage disposal</li> <li>Households using rubbish bin as means of garbage disposal</li> <li>Households using toilet of any type</li> <li>Households without toilet facilities of any kind</li> </ul>
	Unemployment reduced from 10 percent in 2008 to 5 percent by 2015).	employment of the rural majority depend on extraction of natural resources	Few women are employed in formal sector and in non-environmental sectors. Many women work in environment related sectors such as agriculture, water, etc.	Total manufacturing employment growing from 120,000 people presently to over 221,000 people by 2015/16	<ul style="list-style-type: none"> <li>The percentage of policies/strategies/programmes and projects subject to an EIA/SEA</li> <li>The number of property transfers (e.g. privatizations) subject to environmental audits</li> <li>The number of land use plans prepared and implemented at district level</li> </ul>	<b>Agriculture</b> <ul style="list-style-type: none"> <li>% of farming households receiving advice from extension officer</li> <li>Average number of hectares per farming household</li> <li>Estimated number of cattle</li> </ul>	<b>Natural resources</b> <ul style="list-style-type: none"> <li>Areas covered by land</li> <li>Tree seedlings planted</li> <li>Land covered by forest</li> <li>Area managed by mandated local institutions for the</li> </ul>

				<ul style="list-style-type: none"> <li>• Number of districts that use mainstreaming guidelines</li> <li>• Number of environmental management systems established and implemented at sector level.</li> <li>• Number of companies that adhere to ISO 1400 standards</li> </ul>	<ul style="list-style-type: none"> <li>• Number of villages receiving food aid</li> <li>• % of household without land</li> </ul>	<ul style="list-style-type: none"> <li>• purpose of conservation</li> <li>• Proportion of land area covered by forest</li> </ul>
Working poverty reduced (from 36 percent in 2007 to 20 percent in 2015)	employment of the rural majority depend on extraction of natural resources	Few women are employed in formal sector and in non-environmental sectors. Many women work in environment related sectors such as agriculture, water, etc.	<ul style="list-style-type: none"> <li>• Increased employment for full time fishers from the current 170,038 to 200,000</li> <li>• Increased fisheries related employment from the current 4,000,000 to 4,200,000</li> </ul>	<ul style="list-style-type: none"> <li>• Increased number of beekeepers (on or off farm)</li> <li>• Increased numbers of villages with land title deeds by 2010</li> <li>• Number of established new markets for locally produced honey within and outside the country</li> </ul>	<p>Water and Sanitation</p> <ul style="list-style-type: none"> <li>• % of LGA budget allocated water</li> <li>• % of LGA budget actually spent on water</li> <li>• % of LGA budget allocated to sanitation</li> <li>• % of households with toilet facilities</li> <li>• Number of public water supply points</li> <li>• Number of non-functioning public water supply points</li> <li>• Number of people per improved (piped + protected) water supply point</li> <li>• % of households within 400m of improved water points</li> </ul>	<p><b>Agricultural</b></p> <ul style="list-style-type: none"> <li>• Districts reported to have food shortages</li> <li>• Food self-sufficiency ratio</li> </ul>
Access to clean and affordable substitute for wood fuel for cooking increased (from 10 percent in 2010 to 20 percent in 2015)	Majority of people depend on fuel wood and other natural resources for cooking and other uses of energy	Women are the most affected when environment is degraded, e.g. deforestation.	<ul style="list-style-type: none"> <li>• Proportion of households with land certificates (e.g. certificates of title and customary right of occupancy) increased from 5% in 2009 to 10% by 2015/16</li> <li>• Other potential of energy – e.g. geothermal, solar, wind, coal, increasingly used.</li> </ul>	<ul style="list-style-type: none"> <li>• The proportion of income from relevant sector-based activity that is set aside and realized by rural communities</li> <li>• Revenue generated from sustainable and participatory utilization of natural resources, e.g. WMA's, TANAPA community development contributions</li> </ul>	<p>Land</p> <ul style="list-style-type: none"> <li>• Number of plots surveyed annually</li> <li>• Number of households built in unsurveyed areas</li> </ul>	<p>Land Housing and Human Settlement</p> <ul style="list-style-type: none"> <li>• Village land use plans prepared</li> <li>• Village land certificates issued (Cumulative)</li> <li>• Property valuation prepared and approved</li> <li>• Certificate of Titles and other legal documents issued per annum</li> </ul>
Employable skills, particularly for youth, women and people with		Few women have formal education and they have fewer opportunities for acquiring and		<ul style="list-style-type: none"> <li>• The proportion of women participating in decision making bodies (water committees,</li> </ul>		

disabilities enhanced		use of their skills for gainful employment.		boards, regional Consultations Units, MoWLD) <ul style="list-style-type: none"> <li>• Average per person, daily provision of water through rural water points</li> <li>• The percentage of rural water schemes managed by beneficiary communities</li> <li>• The number of water basin management plans prepared and implemented</li> </ul>		
Food security at household, district, regional, and national levels ensured through increasing food crops, livestock and fishery production;	Climate change threatens food security at national and household level.	Women and children are the most affected by disasters including climate change making food production and accessibility impossible.	<ul style="list-style-type: none"> <li>• Increase food self-sufficiency for cereals and legumes from 104 percent currently to 120 percent by 2015</li> <li>• Expand irrigation areas from 330,000 hectares at present to 1,000,000 hectares by 2015/16</li> </ul>	<ul style="list-style-type: none"> <li>• Average per person, daily provision of water in urban areas</li> <li>• Number of operating hours of water resource</li> </ul>		
Nutrition of infant, young children and mothers promoted	Vegetation those that are important for nutrition, such as vegetable, traditional fruits, etc. are disappearing because of environmental degradation.	Women and children are affected most by nutritional deficiencies than men.	<ul style="list-style-type: none"> <li>• Increase of access to improved sanitation from 50% in 2010 to 80% by 2015 (10million beneficiaries)</li> </ul>	<ul style="list-style-type: none"> <li>• The percentage of households in urban areas connected to a sewerage facility (septic tanks etc.)</li> <li>•</li> </ul>		
Crop and livestock varieties suited to adverse conditions brought about by climate change introduced and adopted	Climate change negatively affect the crop and livestock development as well as reduction of grasslands, areas for farming and rain seasons become unpredictable.	Women and children suffer most because they are heavily involved in crop production and animal husbandry.	<ul style="list-style-type: none"> <li>• Expand irrigation areas from 330,000 hectares at present to 1,000,000 hectares by 2015/16</li> <li>• Comprehensive REDD baseline information and future projection available, regularly updated and applied in forest management</li> </ul>	The percentage of households in slums areas/informal settlements with access to hygienic garbage disposal facilities disaggregated by gender, district and type of institutions		
Sustainable utilization of natural resources ensured with benefits to local communities	Unsuitable utilization of natural resource lead to environmental degradation i.e. soil erosion, deforestation, unsustainable	Women depend most on natural resources for their livelihood and when the resources are used properly women tend to benefit more. The reverse is also true.	<ul style="list-style-type: none"> <li>• Increased number of villages (from 2,328 to 2,500) and villagers participating in forest management and forum of collaboration</li> </ul>	<ul style="list-style-type: none"> <li>• Number of public sanitation facilities (at markets/bus stands) per capita per district</li> <li>• Number of districts implementing programmes to promote hygiene</li> <li>• Percentage of schools teaching</li> </ul>		

	biodiversity, etc.		<ul style="list-style-type: none"> <li>• 50 % of the forest industries using appropriate technologies <ul style="list-style-type: none"> <li>• 5% reduced degradation and loss of forest biodiversity</li> <li>• Area of forest resources and biodiversity under effective management increased by 10%</li> </ul> </li> </ul>	<p>hygiene education as part of their curriculum</p> <ul style="list-style-type: none"> <li>• The percentage of households with hand washing facilities</li> </ul>		
<b>CLUSTER II</b>						
Universal access for boys and girls to quality pre-primary and primary education achieved (NER to 100 percent for pre-primary and primary)	Time spent collecting water and fuel wood can reduce time available for schooling;	Lack of energy, water and sanitation discourage teachers especially women to live in rural areas		<ul style="list-style-type: none"> <li>• Number of pollution permits issued per year by industries and other large scale enterprises</li> <li>• Number of industries and enterprise adhering to environmental standards</li> <li>• Number of water samples tested meeting the Tanzanian Water Quality Standards</li> <li>• The number of water bodies with turbidity values above the Tanzania temporary standards</li> </ul>		
Maternal mortality ratio reduced from 454 per 100,000 live births (2010) to 265 per 100,000 live births by 2015;	Environmental degradation such as air pollution, water contamination, etc. can accelerate maternal deaths.	Maternal deaths are a gender issue affecting women in their life cycle.	<ul style="list-style-type: none"> <li>• To reduce prevalence and death rates associated with Tuberculosis by 50% by 2015/16</li> <li>• To reduce maternal mortality from 578 to 175 per 100,000 live births</li> </ul>	<ul style="list-style-type: none"> <li>• The number of water bodies with fluoride levels above the Tanzania temporary standards</li> <li>• The number of water bodies with bacterial contamination levels above the Tanzania temporary standards</li> </ul>		
Proportion of households in rural settlements provided with improved sources of water increased from 58.7 percent in 2009 to 65 percent by 2015	Water sources such as lakes, rivers and catchment areas need to be protected.	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water is not easily available and accessible.	<ul style="list-style-type: none"> <li>• Increase of access to improved sanitation from 50% in 2010 to 80% by 2015 (10million beneficiaries)</li> <li>• Water resources availability for both productive use and environmental sustainability assured by</li> </ul>	<ul style="list-style-type: none"> <li>• Number of environmental audits undertaken for industries that have not had EIAs done on them</li> <li>• Number of approved agriculture and chemical in use</li> <li>• Quantities of unused industrial and agrochemicals properly disposed off</li> <li>• Number of operational</li> </ul>		

			2015	<p>programmes to monitor noise, automobile and indoor pollution</p> <ul style="list-style-type: none"> <li>• number of operational programmes to monitor industrial effluents and agricultural chemicals</li> </ul>		
Proportion of households in small towns provided with improved sources of water increased from 53 percent in 2009 to 57 percent by 2015	Water sources such as lakes, rivers and catchment areas need to be protected.	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water is not easily available and accessible.	<ul style="list-style-type: none"> <li>• Basin – level integrated water resources management plans prepared in all basins</li> <li>• Institute participatory climate change adaptation measures at catchment/water user association level</li> </ul>	<ul style="list-style-type: none"> <li>• Rainfall reliability and variability leading to incidents of droughts and floods.</li> <li>• Number of functioning environmental management systems established at district levels</li> <li>• Percentage of land area affected by refugee-related disasters</li> <li>• Number of districts adopting floods management systems</li> <li>• Number of urban districts with up-to-date urban development plans</li> <li>• Number of people adopting drought tolerant crops</li> <li>• Number of livestock keepers adopting drought abetting strategies</li> <li>• Functioning early warning systems in place (Need to have early warning systems to capture both man-made and natural disasters).</li> </ul>		
Proportion of households in urban authorities provided with improved sources of water increased from 84 percent in 2010 to 95 percent by 2015	Water sources such as lakes, rivers and catchment areas need to be protected. Maintaining of water infrastructure also secures environment.	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water is not easily available and accessible.		<ul style="list-style-type: none"> <li>• Proportion of sector budgets spent on soil conservation, forest and aquatic ecosystems conservation</li> </ul>		
Proportion of households in Dar es Salaam provided with improved sources of water increased from 68 percent in 2010 to 75 percent by 2015.	Water sources such as lakes, rivers and catchment areas need to be protected. Maintaining of water infrastructure also	Women are responsible for fetching water; they use more water for hygiene purposes than men. They are mostly affected when water is not easily available and accessible.				

	secures environment.					
Access to improved toilet and functional hand washing facilities at household and public places, particularly schools, health facilities, transport facilities	Improved toilets, washing facilities at various public facilities help to protect and sustain the surrounding environment.	Women are most affected when these facilities are not readily available according to their needs, which are different from men.				
Proportion of population with access to improved sanitation facilities increased	Better managed sanitation facilities are friendly to environment and prevent environment related diseases.	Women require unique sanitation and hygiene facilities. They are mostly affected when sanitation facilities are not easily accessible or available.				
Proportion of households connected to the public sewage system increased from 18 per cent in 2010 to 22 percent in 2015		Women require unique sanitation and hygiene facilities. They are mostly affected when sanitation facilities are not easily accessible or available.				
Proportion of schools with improved sanitation facilities increased						
Proportion of households connected to the public sewage system increased from 18 per cent in 2010 to 22 percent in 2015						
Solid waste collected in urban centers increased from 47 per cent in 2008 to 85 percent in 2015	Uncollected solid waste is not good for environmental management and sustainability.	Women are mostly affected by solid waste because they spend most of their time at home or in areas where these solid wastes exists.				
Planned and serviced urban settlements with functioning town planning procedures, including improved solid and liquid waste management, use of sustainable transport and cleaner energy ensured	Cleaner energy, settlements, and solid and liquid waste has great negative implications if not properly managed.	Women are always affected in one way or another by lack of cleaner energy, poor settlements and solid/liquid waste. It is because, women take care of children, care of sick people, and are responsible for house cleaning.				
<b>CLUSTER III</b>						
Equal access to timely justice for all		Are women and the poor aware of: <ul style="list-style-type: none"> <li>• their right to seek redress</li> </ul>				

		<ul style="list-style-type: none"> <li>through the justice system;</li> <li>the officials and institutions entrusted to protect their access to justice; and</li> <li>the steps involved in starting legal procedures?</li> </ul>				
Rights of women promoted and protected		<ul style="list-style-type: none"> <li>Are women and the poor effectively protected by the rule of law?</li> <li>Do women enjoy the same property rights (particularly to land) as men?</li> </ul>			•	•
Crime including domestic and gender based violence reduced		<ul style="list-style-type: none"> <li>How do women and the poor assess the formal systems of justice as victims, complainants, accused persons, witnesses and jury members?</li> <li>How effective is the justice system in detecting crimes of domestic violence, convicting the perpetrators and preventing them from re-offending?</li> <li>Are men and women treated as equals by informal mechanisms of dispute resolution?</li> </ul>	•	•	•	•

## **7.0 Recommendations:**

- From the stock taking exercise, it is recommended that a booklet that puts everything together in terms of poverty-environment-gender indicators be developed and published. And training materials under the PEG indicators should be developed to increase (quantifiable) knowledge of the poverty-environment-gender linkage and monitoring.
- With 2012 census data made available and HBS 2012 in addition to environment information, it is possible to develop poverty-environment-gender reports / maps using these data in addition to monitoring frameworks such as MMMP II, LGMD and TSED.
- The next phase of PEI 2014 – 2017 will be focusing at sub-national level; it is recommended that some capacity development activities for integrating poverty-environment-gender in district development plans and their monitoring systems should be included in the project support. And scaling up advocacy and awareness on poverty-environment-gender linkage through evidence-based indicators and reports particularly at sub-national level.