

**Guidelines for Integrating Sustainability Considerations in Sectoral Policies  
Using the Integrated Assessment and Planning Model**

**Draft Consultancy Report submitted to NEMA under the IAP project**

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# **Guidelines for Integrating Sustainability Considerations in Sectoral Policies Using the Integrated Assessment and Planning Model**

## **Section One Background Information**

### **1.1. Introduction to the Guideline**

This guideline provides easy to follow steps for integrating economic, social and environmental considerations into policies and programs. It includes simple and easy to understand criteria and indicators for integrating sustainability considerations into policies and programs. The guideline also suggests modalities for sharing information among key economic, environmental and social sub-sectors to ensure improved stakeholder consultation and participation. The guideline is modeled around an Integrated Assessment and Planning (IAP) framework.

### **1.2. What is Integrated Assessment and Planning (IAP)?**

Integrated Assessment and Planning (IAP) is an inter-disciplinary approach to planning that combines, interprets and communicates knowledge from various scientific disciplines in such a way that the system-wide cause–effect chain associated with a public project, program or policy can be evaluated for the benefit of decision making. The IAP approach functions by quantifying the economic drivers of change and takes into account a variety of induced changes, including the implications of changes in the environment and human well-being. The approach draws on a range of impact assessment tools to evaluate the environmental, social and economic impacts of policy and planning processes. It also provides policy and decision makers with information necessary for informed decision making.

The IAP approach to planning was particularly promoted during the World Summit on Sustainable Development (WSSD) as a response to the realization that in spite of the recommendations of Chapter 8 of Agenda 21 on “integrating environment and development in decision making”, most prevailing systems of decision making in many countries continued to separate economic, social and environmental factors at the policy, planning and management levels (Muhereza, 2004). It was noted that the continued lack of holistic approach to planning undermined national commitments to meet the Millennium Development Goals (MDGs) particularly those on poverty, health and the environment.

This guideline (and proposed indicators) is aimed at guiding and improving policy/planning processes for better service delivery at the national level. It is hoped that adoption of the planning procedures outlined in the guideline will improve national achievements of the MDGs.

### **1.3. Sustainable Development and Integrated Assessment and Planning**

Sustainable development connotes a development paradigm that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). This paradigm engenders governments to adopt national strategies that integrate and harmonise sectoral economic, social and environmental policy objectives (Muhereza, 2004).

The IAP approach on the other hand, provides the methodology and tools for integrating social, economic and environmental policy objectives by combining, interpreting and communicating knowledge from the three broad sectoral spheres. It tackles the sectoral planning process such that sectoral policy outcomes and strategies take on board sustainable development goals and strike a balance between human activities and the needs of the environment. The approach helps us to gain a better understanding of what is at stake in policy making. It helps us to identify potential risks, and points us to the right way to pursue effective policy objectives leading to growth and sustainable development.

#### 1.4. The Inter-linkages Approach and IAP

Inline with the IAP approach the concept of inter-linkages recognizes the complexities inherent in ecosystem dynamics and their interface with the equally complex social, economic and political dynamics inherent in human development and governance. Interlinkages are interactions between and amongst pressures, and their impacts on ecosystem services and human well-being. The interlinkages approach deals with responses that examine and capitalise on synergies, minimise conflicts and understand and manage tradeoffs. The concept helps policy, legal and institutional actors to deal with complex cross-sectoral issues by stressing the importance of coordination of action across the three relevant dimensions of sustainable development. **Box 1** provides a definition of the concept of inter-linkages while **Box 2** emphasizes the environment-economy inter-linkage.

##### **Box 1: Inter-linkages definition**

The United Nations University (UNU) has defined inter-linkages as ‘a strategic approach to managing sustainable development that seeks to promote greater connectivity between ecosystems and societal actions’. On a practical level, this involves a greater level of cohesiveness among institutional, environmental issue-based, and development focused responses to the challenges of sustainable development as well as the range of international, regional and national mechanisms that share this challenge. The key to developing a strong integrated approach to sustainable development is the identification of the inherent synergies that exist between different aspects of the environment and an exploration of the potential for more effective coordination between sustainable development issues and their responses.

**Box 2: Ecology and Economy Key to Improving Human kind**

The economy is not just about the production of wealth, and ecology is not just about the protection of nature; they are both equally relevant for improving the lot of humankind.

‘...the distribution of power and influence within society lies at the heart of most environment and development challenges. Hence new approaches must involve programs of social development, particularly to improve the position of women in society, to protect vulnerable groups, and to promote local participation in decision making’.

Source: WCED 1987

The inter-linkages concept is critical to building co-operation across institutional boundaries. It can, for example, be used to establish links between departments of meteorology, water and agriculture and build synergy between weather and climate and water availability and distribution as well as water allocation and use. The concept may therefore be applied to the formulation and implementation of integrated land use plans at village, district, regional and national level with nation-wide socio-economic and physical land resources information being at the centre of the planning process (UNEP 2006).

The inter-linkages approach demonstrates the importance of the environment and its sound management to other sectors. It ensures that holistic approaches are taken to problem solving so that advancements can be made in human well-being.

## **Section Two**

### **Sectoral Policies and the Sectoral Policy Cycle**

#### **2.1. Introduction to the Sectoral Policy Cycle**

This section provides a simple definition of sectoral policies. It highlights the key elements and characteristics of policy making and indicates how plans and programs provide the vehicular means for translating policies into action. Sectoral policies are general statements of intention that provide a framework for government decision making. Sectoral policies specify clear privileges and responsibilities of individuals, and impose duties on government, especially by establishing procedural requirements. In those ways, sectoral policies clarify a complex set of management objectives by distinguishing between suggested and mandated behaviors and regulating government and private activities. Plans and programs translate the general sectoral policy framework into actions to achieve policy objectives.

#### **2.2. Sectoral Policies**

Sectoral policies are broad guiding statements that define the mandate and objectives of sectoral agencies. Sectoral policies aim at providing comprehensive, integrated and coordinated frameworks for the management of both human and physical resources towards the sector's objectives.

Sectoral policies usually develop with reasonable order and predictability. Normally, the process begins when an issue is placed upon the governmental agenda, either as a government response to a sectoral issue of public interest or simply, contention.

While successful promotion of issues to the agenda does not imply that sectoral policies will always result, this step initiates the policy cycle.

Sectoral policies are therefore, statements of the general organisational goals and objectives of a sector. They are documents containing proposals and visions for the sector in the form of principles, strategies and planned actions.

Sectoral policies should therefore be;

- **A consensus;** because their development must involve consultations with several stakeholders and user groups. Each of these groups have their interest, and policies provide a compromise between these interests;
- **Processes;** because they take time to develop and involve several coordinated activities. As processes, policies are dynamic. When more information is gathered, policies need to be updated;
- **Tools for action;** as they provide strategies for implementing certain development actions;

- **Commitments to achieve various sectoral objectives;** because policies are agreed and adopted at the highest political level;
- **Guides to sectoral management and development;** because they spell out objectives, principles and strategies as well as provide management guidelines.

### **2.3. Sectoral Plans**

Sectoral plans on the other hand, are detailed documents describing the route, difficulties, traps and side roads that will lead to the achievement of the policy goals/objectives of a given sector or sub-sector. They are detailed situation analyses of the sectors, but focus more on how to move to future objectives.

Sectoral plans address various concerns arising within the sectors. Such concerns may include better governance and improved public administration, improved services delivery, public works and natural resources management.

Sectoral plans describe the existing opportunities, constraints and actions within the sector and help to identify the way forward to achieve sectoral policy goals.

Planners approach the way forward in two ways: (i) they may start completely new activities in their sectors or (ii) simply strengthen already existing ones.

The decision on which of the two approaches (or on what appropriate combinations to take) depends on the situation analyses and policy goals of the sector.

### **2.4. Sectoral Programs**

Sectoral programs involve a number of different, interrelated activities that need to be coordinated and managed together in order to achieve a number of specified objectives.

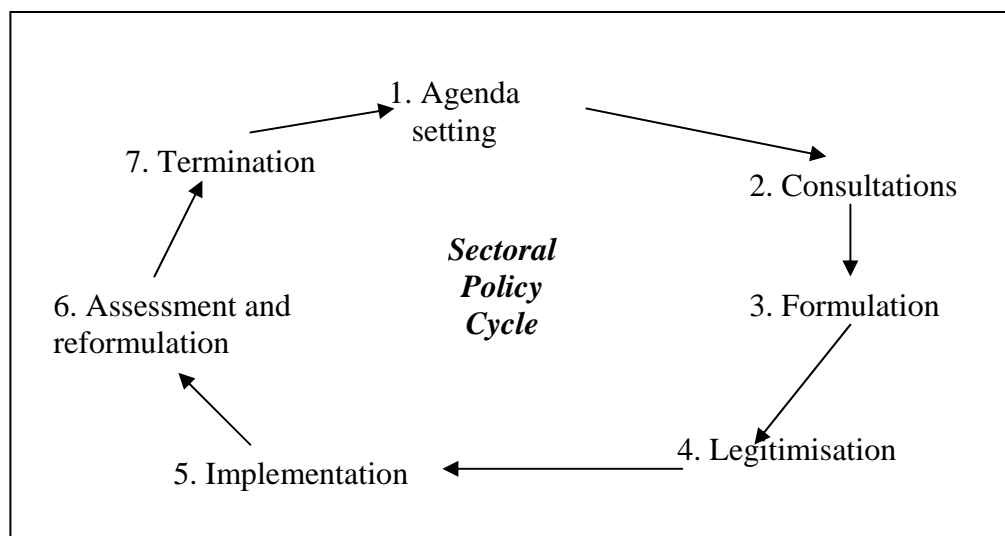
Sectoral programs can also be defined as strategies transformed into actions and;

- involve the investment of scarce resources in the expectation of future benefits;
- involve planning, financing and implementation of activities as a unit;
- have specific starting and finishing times in which clearly defined sets of objectives are planed to be achieved. Usually achievement of those objectives can be measured; and
- have conceptual boundaries, usually geographical and organizational.

### **2.5. Sectoral Policy Cycle**

Sectoral policy formulation involves seven distinct stages or phases, each of which presents an opportunity for integrating economic, social and environmental issues. The phases are: agenda setting; consultations; formulation; legitimisation; implementation; assessment and formulation; and lastly, termination (NEMA, 1998).

### Box 3: Sectoral Policy Cycle



Source: NEMA (1998)

The sectoral policy cycle involves the following key considerations that facilitate the integration of key sustainability considerations.

#### (i) **Agenda setting**

This imparts sufficient importance and urgency to an issue so as to compel government to put it among its priority planned actions (NEMA, 1998). The issue may be critical to poverty reduction, employment or growth.

- It is important to check whether addressing a particular policy issue is in line with government policy on decentralization, environment, gender equity, poverty reduction, employment and growth. Find out if there are conflicts and how policy variances can be harmonized?

Agenda setting helps the policy maker to answer the following questions:

- What will be gained or lost by our action or inaction?

- Who are the stakeholders?
- What are their stakes/interests?
- Do they understand the need for or inaction?
- Do they identify with the decision?

**(ii) The consultative process**

This is the solicitation of people's views on proposed actions and engaging them in dialogue. It is characterized by a two-way information flow: from policy formulators to people and from people to policy formulators;

- This could involve formal studies and public consultations and dialogue.
- While the authority to make decisions is retained by the government agency(ies), interaction with people and eliciting of feedback allows affected persons to influence the decision-making process by raising the issues that need to be considered; design; mitigation; monitoring and management of policies; and the analysis of alternatives.
- Policy formulators should ensure that grass-root and other affected persons effectively participate in the consultations.

Proper consultation is useful as:

- it helps improve understanding of the potential impacts of proposed policies;
- it helps to identify alternative actions or designs, and mitigation measures;
- to improve environmental, social and economic soundness;
- clarifies values and trade-offs associated with these different alternatives;
- identifies contentious issues; and
- establishes transparent procedures for implementing proposed policies; and
- creates accountability and a sense of local ownership during the implementation phase

The consultative process may involve Participatory Rural Appraisal (PRA) exercises. PRA is one of the methods of consultation and baseline data collection that is increasingly gaining prominence in developing countries. Identification of problems may also be based on existing data, where there are databases say on education, sanitation and health, air and water quality, environmental services, agriculture and natural resource use, productivity losses, land conversion, wildlife management etc. In such cases, PRA exercises may only be used to cross-check information.

To ensure the integration of sustainability considerations into sectoral policies, the following issues need to be addressed during consultations;

- What problems do we want to solve?
- Are they health related or food security concerns?
- Do we need to build more health units or increase acreage or intensify agriculture?
- Who are the beneficiaries?
- What are their needs?
- When?
- Are the policy objectives we want to set realistic?

Equally importantly, one needs to find out:

- How the policy will affect society, the economy and environment?
- How the negative social, economic and environmental impacts of the policy will be mitigated and the positive effects maximized?
- What systems need to be set up for environmental, social and economic monitoring of the policy?

### **(iii) formulation and legitimation**

Policy formulation involves setting goals and the formulation of specific plans to adhere to. Legitimation on the other hand, is the investment of authority in the policy to evoke public acceptance. This may be by constitutional, statutory or administrative means like the promulgation of a supporting law or set of regulations.

The issues to consider include;

- Is the policy environmentally positive, neutral or negative? Is it resource neutral? Is there need for a policy impact assessment (PIA) of its social, economic and environmental impacts (using one or more of the analytical tools in Section 3?).
- Look at agricultural modernization for instance. Do we have to expand acreage or use more agro-inputs?

#### **(iv) Implementation**

Implementation is the translation of policies into operational programs.

- Its style largely influences the impacts of policies. Policy implementation involves especially the bureaucracy, whose presence and style shape the impact of all sectoral policies.

To ensure sustainability, the following are important considerations to make;

- Continuously feed back to stakeholders;
- Utilize refined but already existing institutional structures;
- Remain resource saving;
- Use locally available human, financial and technical resources;
- Build local capacity within the beneficiary community. (This also improves policy acceptability, compliance, and the sustainability of implementation).

#### **(v) assessment and reformulation**

This is the evaluation of the social and environmental impacts of the sectoral policies to judge the desirability of their impacts and to communicate the judgments to government and to the public. Policy assessment consequently may lead to reformulation.

- There should usually be a need for an in-built system to collect and manage information to support the iterative assessment and reformulation of policies
- Examination of the impact of policies on the environment, on resource use and other impact areas will enrich this phase.

#### **(vi) Policy termination**

This is the deliberate conclusion or succession of specific governmental functions, programs, policies or organisations. Policy termination however, is such a formidable process that in spite of intentions to the contrary, some sectoral policies may become virtually immortal.

- Nonetheless, environmentally, socially, and economically unsustainable policies should be terminated or thoroughly over-hauled at the earliest opportunity.

Characteristically, however, more policies will continue to change through repeated reformulation and reassessment.

### **Integration**

The policy cycle presents continuous opportunity to address sustainability considerations. Specifically, sustainability issues may be addressed during agenda setting, policy formulation, implementation, assessment and reformulation.

Social, economic and environmental of a policy could be one reason for policy termination.

## **Section Three**

### **Integrating Sustainability Considerations into Sectoral Policies**

*“Managing the development of a country is a complex task, comparable with sending a rocket to the moon or managing a multi-national corporation. The human mind is not able to track all of the interactions among factors involved. Governments, donors, large corporations, and other stakeholders need analytical tools-models—to help evaluate the consequences of alternative policies and actions.” Barney (2005).*

#### **3.1. Introduction Policy Analysis Tools and Approaches**

Policies develop through a number of stages. These stages, from agenda setting through to policy termination, constitute the policy cycle. Policy development is therefore a continuous process aimed at directing, in a positive and contributive manner the activities of an organisation or individual towards a set goal. Policy development involves the choice of alternative ways of using available resources with the aim of achieving particular goals at some time in the future.

The definition below pin-points the key elements of policy development;

- (i) choosing and prioritizing between goals and between different ways of achieving these goals;
- (ii) allocating resources to achieve selected goals.

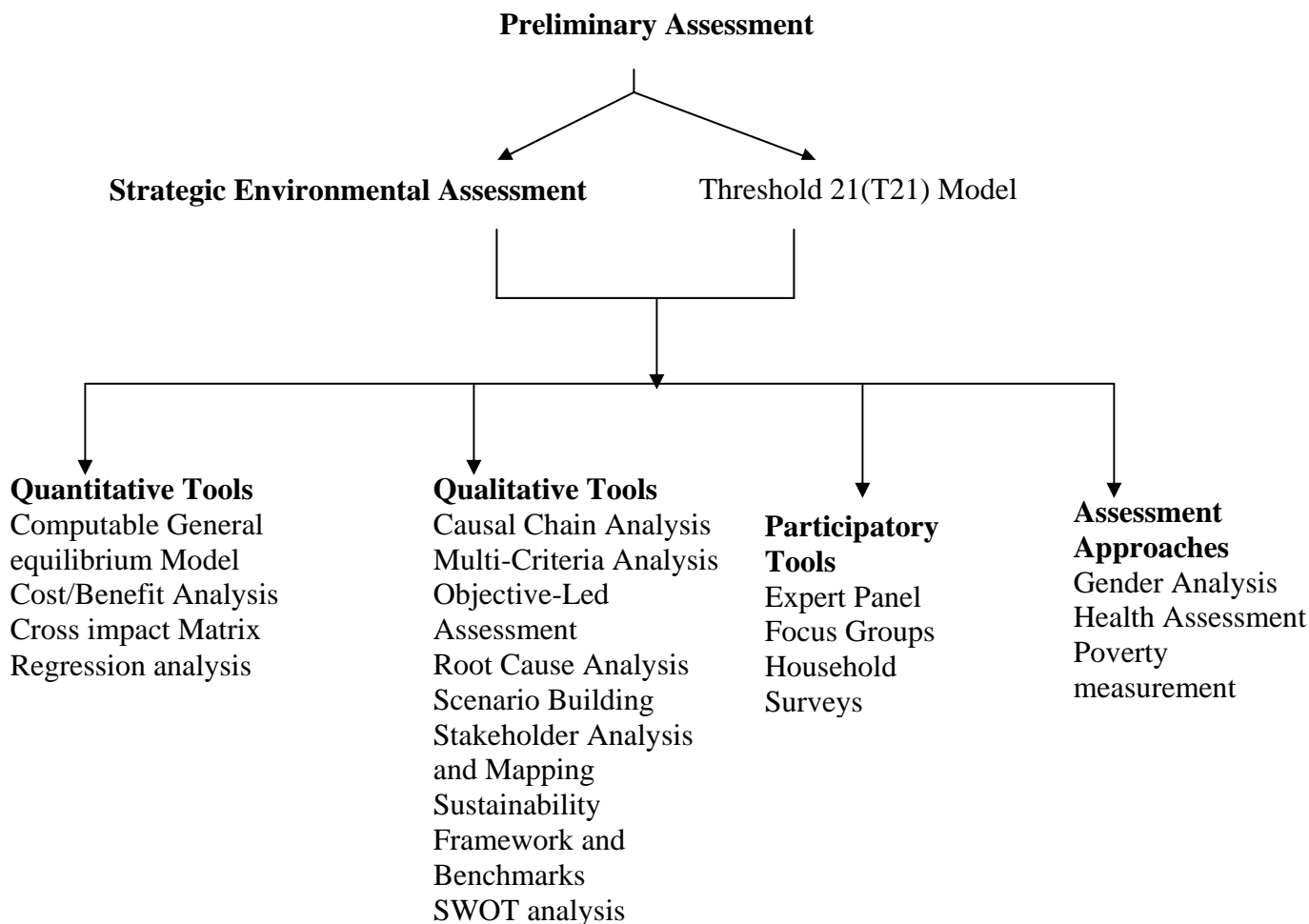
Proper assessment of the links between major environmental, social and economic challenges and their consequences for policy and technology response options and trade-offs is critical to integrating sustainability issues in sectoral policies, plans and programs. Such assessment is also important to identifying success stories and lessons learned. It is also critical to the assessment of the opportunities for technology and policy interventions for both mitigating and adapting to social, environmental and economic change. A number of qualitative and quantitative tools have been developed to fully or partially undertake sustainability assessment.

One promising tool, as far as integrated assessment and planning of policies is concerned is the Threshold 21 (T21) model. This model has been successfully applied in 15 countries across the world. The other tools and approaches include: computable general equilibrium models, cost-benefit analysis, cross impact matrix and regression analysis. The qualitative tools include: causal chain analysis, multi-criteria analysis, objective-led appraisal, root cause analysis, scenario building, stakeholder analysis and mapping, sustainability analysis, SWOT analysis and trend analysis. Participatory tools constitute an important component of the

integrated assessment procedure. Examples include: expert panel, focus groups and household surveys.

Finally, there are also assessment processes, including poverty, health and gender assessments. The purpose; data, cost and time requirements; uncertainty; and the pros and cons of each tool or approach are summarised under each of the broader headings. It is important to note that even though some of the tools described here are commonly used to pursue specific objectives (economic, social and environmental), they can also be used to integrate the different components of sustainable development (UNEP, 2005).

**Figure 1. Hierarchy of Policy Analysis Tools and Approaches**



Source: Adapted from UNEP (2005)

### 3.2 Preliminary Assessment

Preliminary assessment is carried out by applying the Pressure State Response (PSR) framework. The PSR framework is based on the concept of casualty, where human activities exert pressure on the environment and change its quality and the quantities of natural resources, the state. Society responds to these changes through environmental, general economic and sectoral policies, societal response. The latter form a feedback loop to pressures through human activities. In a wider sense, these steps form part of an environmental (policy) cycle, which includes problem perception, policy formulation, monitoring and evaluation.

Within the PSR framework three broad types of indicators can be distinguished:

1. Indicators of environmental pressures (PRESSURE)
2. Indicators of environmental conditions (STATE)

### 3. Indicators of societal response (RESPONSE)

#### **Environmental context**

Environmental pressures include the wastes, by-products and emissions from the economy. They are generated as products and services are produced and consumed and as natural resources (particularly non-renewable ones) are used in production. Environmental supports include the provision of environmental goods and services such as the creation of natural protected areas or restoration of wilderness areas, and waste management practices, or indirect processes such as the reduction of stress on marginal lands and activities resulting from lower subsidies for heavily polluting fuels (CEC 1999). The state of the ambient environment includes the conditions of the major media, air water, land and biota.

Issues of air quality include outdoor urban and rural air quality and the ambient concentration of common pollutants and toxic pollutants (both organic and inorganic), and global climate change and ozone depletion caused by emission of carbon dioxide and other compounds (CEC, 1999).

Issues of water quality and quantity include basic dimensions of surface and ground water quality such as the levels of biological oxygen demand (BOD), total suspended solids (TSS), nitrates, phosphorous, ammonium, faecal coliform, organic toxics and heavy metals. Also of concern is the effect of displaced sediment, manure, and pesticides on water quality (CEC, 1999). Water quality includes withdrawal and replenishment and treatment of surface and groundwater, and the efficiency of its use for activities such as irrigation and electricity generation.

Impacts on land include overall patterns of land use such as among urban, residential, commercial and industrial uses, and agriculture, forests, natural protected areas and wilderness. It includes issues of soil quality such as organic matter, soil structure, salinisation, desertification, erosion and contamination.

Impacts on biota (living things) include species depletion, the number of threatened and endangered species, introduction of exotic species, loss and fragmentation of habitats, rural to urban conversion of land and the health of forests and grasslands. Impacts on biota also include issues of human health. The health impacts are largely dealt within the social context.

#### **3.2.2 Economic context**

Some impacts on an issue or a sector may be based on long-established patterns of economic activity, notably overall economic growth, changes in technology, fiscal and monetary policy, other trade and exchange rate factors, and domestic activities unrelated to trade (CEC, 1999). There are several ways to categorise and analyse such factors.

Domestic macroeconomic forces are the economic trends that impact an issue or a sector. These include growth and production, demand and consumption, population and income, and prices of a product or service, as these change over time and in relation to goods and services

in the economy (CEC, 1999). Also relevant are inflation, interest rates, and credit as affected by government policy and savings rates, and fiscal policy, including deficits and debt.

International macroeconomic factors may also be relevant. These include exchange rates that determine the relative prices of domestic and international goods, and the current account balances that can lead to macroeconomic adjustment.

Domestic microeconomic factors may also be relevant. These include systems for banking and credit, the size and concentration of firms in an industry and sector, and labour market dynamics.

### **Social context**

The individuals that produce and consume do so only in response to rational market and price incentives, but also as social human beings equipped with a wide variety of preferences embedded in family and communication networks replete with cultural values (CEC, 1999).

Migration domestically and internationally can be both a cause and a result of environmental change, as workers and their families move, temporarily or permanently within a country or to other countries in search of employment opportunities.

Another factor is the presence and strength of civil organisations notably environmental, consumer and nongovernmental organisations (CEC, 1999). Their impact depends also on their resources and the property and other rights they possess. Of particular relevance are the associations and networks through which industry engages in environmental standardisation on a sector or economy-wide basis. These associations may involve a broad range of stakeholders.

A further factor is culture, a dimension of relevance to sectors that are for historical and other reasons, highly valued by a population as an integral part of national life. These social and cultural differences are expressed within political systems that also exhibit diversity.

An important consideration in the social context, is health. Most production activities generate an externality to other resource users at the present time and in future, and even to non-resource users. This externality may lead to exposure to or increased damage to human health from toxic wastes and the costs of healthcare as society response to disease. Some activities may lead to loss of life or a shortened life span.

### **Strategic Environmental Assessment (SEA)**

Priorities in trade assessment are selected based on whether the policy is likely to give rise to significant sustainability impacts (positive or negative). The areas likely to be affected by the trade-related policy are already under economic, social or environmental stress; whether the trade-related policy is likely to make a significant contribution to the cumulative impacts of the new trade policy regime; resources are available and can be used effectively to conduct an integrated assessment; and if useful data is available to conduct the analysis.

The sector-based approach of integrated assessment was used in this study, because it makes it possible to identify, early on in the assessment, the positive and negative effects of the policy under consideration, starting at sectoral level provides the most effective opportunities for collecting empirical data. However, the downside is that the economy-wide impacts are not immediately identified and that important cross-sector links are not captured at the start of the process. The agricultural sector, specifically the coffee sub-sector, fisheries sub-sector and livestock sub-sector were selected. These were selected because of their importance to the national economy, and contribution to export revenues. The agricultural sectors has major direct and indirect relationships with environmental media and natural resources; the agricultural sector provides foodstuffs that a large proportion of the population depend on for their livelihoods; in thus sector we can tell *a priori* that important sustainability issues are attributable to trade related policies; there are significant trade flows in the Uganda's agricultural sector; and the sectors especially the agricultural sector, are constantly at the centre of economic rules as a result of trade-related policies.

### 3.4 Threshold 21 (T21)

According to UNDP (2004), Threshold 21 (T21) is a planning tool that integrates the economic, social and environmental dimensions of a country into a single, comprehensive, transparent, user-friendly analytical framework. Hence, it is suited to the integrated assessment of a sectoral policy. It is a dynamic macro-model based on the systems thinking approach to modelling (UNDP, 2004). The T21 has evolved over the past 20 years gaining from extensive research on systems thinking and dynamic modelling<sup>1</sup>. To date over 15 customised T21 models addressing both the industrialised countries (e.g. the United States and Italy), and the less industrialised countries (e.g. Bhutan, Benin, Taiwan, Tunisia, Guyana, Cape Verde, Mozambique and Malawi) have been created, and several more are under preparation (UNDP, 2004).

T21 is ideally suited to analysing sectoral policies. As yet, there is no other macro model using the methodology of linking the economic activity of a country (such as trade) to important environmental and social concerns and those factors to economic activity (UNDP, 2004). From its practical application from the countries covered, it has been reported that T21 can draw out feedback loops such as that between industrial production, air pollution, health, worker productivity and back to industrial production (UNDP, 2004).

T21 is designed to support an integrated, comprehensive planning process. This means that it not only includes all the necessary components and links, but also features that help users and their partners understand, adjust and discuss the model (Barney, 2005). In other words, the T21:

- *integrates*, economic, environmental and social elements using a systems approach;
- *informs development strategies and policies* by simulating possible impacts of alternative policy choices and strategic options;

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<sup>1</sup> This work has been carried out by the Millenium Institute (MI), a non-profit organisation specialising in computer modelling and development research. The Millenium Institute studied and collected over 400 models and related documentation during this time, and published their findings in several books.

- *builds and transfers capacity* for a localised on-going process of development analysis and planning through a process of training and partnership based on the technology that is easy to understand, use and adopt;
- *facilitates transparency, participation and consensus building* by engaging diverse external development partners with a common framework and an easy-to-understand interface;
- is *flexible* and can be *customised* to address the unique needs of individual countries through the use of a modular design where existing sectors can be modified or removed and new sectors can be added; and
- *produces outputs for policy documents* such as national development plans (Barney, 2005).

The Standard Template Model (STM) for the T21 includes seven interacting components (*Box 3*). The process of incorporating T21 into the planning process involves several sets of activities that are undertaken more or less in parallel, which involve: conceptualising the core issues; training key staff; institutionalising the programme; and pilot testing and on-going applications.

<b>T21 Standard Template Model Core Components</b>	<b>Box 4</b>
1. <i>The economic core</i> consists of agriculture, industry, industry and services production sectors plus the investment, government revenues and expenditures, relative prices, government, monetary policy, private households and firms, informal economy, and trade sectors.	
2. <i>The technology core</i> consists of the technology sector; factors that affect energy efficiency; pollution reduction and agricultural efficiencies; and education requirement algorithms that link workforce education levels to productivity in the economic sectors.	
3. <i>The social core</i> consists of the population, healthcare, food and nutrition, education and HIV/AIDS sectors, their links to production, and their effects on human development indicators.	
4. <i>The resource core</i> consists of energy supply/demand, landuse, forest cover, and water supply/demand sectors and their links to production health, and the quality of the environment.	
5. <i>The environment core</i> consists of algorithms for calculating green house gas emissions (CO <sub>2</sub> , N <sub>2</sub> O <sub>x</sub> , CH <sub>4</sub> plus So <sub>x</sub> ) and total suspended particulates material (TSPM).	
6. <i>The rest of the world core</i> consists of migration, cross-border pollution, trade and financial flows, resource flows and impacts of treaty provisions.	
7. <i>The indicators core</i> consists of national goals, MDGs, national creditworthiness indicators, human development index (HDI), gender development index (GDI), the ecological footprint, e.t.c.	
<b>Source: Barney (2005)</b>	

### 3.5 Quantitative Tools

Table 11 shows a matrix of some of the quantitative tools. Computable general equilibrium (*CGE*) models are used for analysing the economic effects of policy changes and considerable work has been used elsewhere to develop CGE models that analyse the poverty and social impacts of a wide range of policies including changes in trade policy, asset redistribution and

human capital formation (UNEP, 2005). Approaches have been developed for sectoral evaluations of trade liberalisation in agriculture, fisheries, forestry, mining, processed food and beverages and textile, as well as linking consumption and pollution (UNEP, 2005).

*Cost benefit analysis (CBA)* is a useful tool when deciding the profitability of the proposed project or policy (UNEP, 2005). However, in using CBA, difficulties may be encountered in attempts to value non-economic aspects of environmental and social goods and services such as clean air, good health or unique habitats and species, all important variable that should be considered in an integrated assessment (UNEP, 2005). However, techniques such as total economic value (TEV) for valuing natural resources are available for use.

*The cross impact analysis matrix (CIM)* is used to create and assess different scenarios for development of policy taking into account multiple factors (UNEP, 2005). CIM addresses interdependencies between events and trends by analysing conditional probabilities and examines the interactions of forecasted items (Gordon and Hayward, 1968).

*Regression analysis (RA)* identifies the relationship between two or more factors (variables) and how this relationship can be characterised (UNEP, 2005). However, for RA to be useful, one needs to do at least three things. First one needs to conceptualise which one are the most important variables that for example explain poverty, environmental degradation and the openness of trade. Second you must specify the model required – linear, curvilinear, e.t.c. and the model should include all relevant variables. The third, there is a need for a proper interpretation of the results including the goodness of fit.

**Table 1: Quantitative tools of IAP**

<b>Tool</b>	<b>Purpose</b>	<b>Data, costs and time</b>	<b>Pros</b>	<b>Cons</b>	<b>Risks</b>
Computable General Equilibrium models	General equilibrium refers to a situation where supply meets demand in all markets of an economy simultaneously. A CGE model computes changes in supply and demand in all markets as a result of policy changes before a new equilibrium is reached. The aim is to enable a decision maker to see the overall effects of policy changes on the total economy.	CGE models are data intensive. Challenges remain with respect to the existence of necessary data in the social realm, and even more in the environmental realm. CGE simulations are time consuming and difficult to master. Their usefulness may be limited in situations where deadlines are tight or where capacity (human and financial) constraints exist. Costs particularly depend on the time needed to collect the data and perform the computer simulations, including interpretation of the results.	Comprehensive coverage of effects from a policy change.	Data intensive, time consuming, no consensus on appropriate indicators for many environmental and social variables, and depend to a large extent on the assumptions made in the model.	Some attempt should be made to recognise uncertainty or risk involved in a policy change. This may involve a sensitivity analysis that calculates the impacts of the policy change under different scenarios.
Cost benefit analysis	CBA estimates and compares the equivalent money value of the total benefits and costs associated with a project. It aims to enable a decision maker to determine whether the project is worthwhile. It can be used in IAP's assessment stage. Including environmental and social costs and benefits require special valuation techniques.	CBA does not require a lot of data. To undertake a CBA, there are basically only the values of all possible impacts associated with a policy or project. Challenges remain with respect to valuing non-economic aspects of environmental and social goods and services. Cost and time requirements highly depend on the involvement of non-market goods and services in the proposed policy or project since these goods and services require special techniques for their valuation. If the valuation includes market goods only, the cost and time requirements are low.	Relatively easy to undertake Not much interpretation of the results necessary	Facing difficulties in the valuation of environmental and social impacts Uncertainties associated with discounting over future generations	It is common for a CBA to include a sensitivity analysis, which changes the original assumptions or makes new assumptions in order to test the sensitivity of CBA.
Cross impact analysis	A CIM creates and assesses different scenarios for the development of a policy, taking into account multiple factors. It aims to reveal the likelihood of an event given that various events have or have not occurred.	Data requirements are high - at least 20 to 30 events/trends should be taken into account in order to construct meaningful scenarios. If Delphi questionnaires are used, the process can become quite time consuming. Data collection can also be time consuming.	Multiple events and trends can be thought and analysed together, allowing the identification of enhancing and inhibiting	Quite demanding in terms of data, time, and human resource requirements.	It depends on the time frame chosen for the future scenarios. It can be dealt with by applying sensitivity tests for probabilities.

			developments and policies. It is based on expert consensus.		
Regression analysis	Regression analysis (RA) identifies the relationship between two or more factors (or variables) and how this relationship can be characterized. It aims to enable a decision maker to take necessary actions in order to effect desired changes.	Data requirement is medium to high, but if the data exist (and in adequate format such as in Excel), its transposition into the regression software program is easy. Cost and time requirements are low to medium. The operationalisation of variables can be time-intensive if they still have to be constructed and collected. The specification of the model, the testing of different specifications and the interpretation of the data can be quite straightforward. Access costs to existing databases is often modest.	Widely accepted, can be done relatively cheaply, easy to use software like MS Excel or SPSS, and results are instantaneously available. Rather for ex-post analysis, but it can diagnose past experiences and then inform ex-ante analysis.	Requires knowledge in econometrics and statistical treatment of data. Data have to fulfil certain conditions to allow the application. Quantification of qualitative aspects tends to reduce the multidimensionality of the qualitative phenomenon. Correlation is not causation.	Within RA, the choice of stricter levels of confidence can minimize uncertainty about the extent of influence of a certain independent variable. It should be kept in mind, however, that correlation is not causation: The dependent variable (e.g. number of children born in a city per year) and the independent variable (here, the number of storks living in the surroundings) might be significantly correlated to each other in the RA, but it is implausible that the number of storks has any influence on the number of new human babies. Thus, one should carefully think about the plausibility of the expected causal relationship and whether other or additional variables need to be taken into account.

(Pro's - main advantages and Cons-main constraints in use and results)

### 3.6 Qualitative tools

*Causal chain analysis (CCA)* identifies significant cause-effect links between a proposal and its economic, social and environmental outcomes in a qualitative manner (UNEP, 2005). Kirkpatrick and Lee (2002) used CCA successfully to illustrate its usefulness in analysing agricultural liberalisation. CCA is particularly useful in analysing a single trade agreement, such as removing all import duties.

*Multi-criteria analysis (MCA)* appeared in the 1960's as a decision making tool to compare alternative projects (UNEP, 2005). The tool allows several criteria to be taken into account simultaneously in a complex situation (UNEP, 2005). MCA involves five steps, namely: identifying the investment criteria; analysing the relative importance of the criteria (weighting); analysing the performance (scoring); multiplying weights and scores for each of the options to arrive at their overall scores; and analysing sensitivity to changes in scores or weights (UNEP, 2005).

*The objective-led appraisal (OLA)* is used to evaluate the consistency of a proposed policy or project with its planned objectives. OLA involves the following steps: identifying and reviewing the relevant objectives; selecting criteria and indicators; reviewing consistency of the proposals with established objectives; and reviewing the attribution of the proposed scenarios to established objectives.

*Root cause analysis (RCA)* is a structured investigation that aims to identify the true causes of the problem, and the options or actions necessary to eliminate them. RCA has been successfully used by WWF to explore how different factors driving biodiversity loss work at different scales, and how they are linked to one another and to biodiversity loss (UNEP, 2005). In this study RCA was used for different sub-sectors of agricultural trade. *Annex 3* is an illustration of RCA for agricultural sub-sectors in the context of trade. Essentially, RCA looks at the problem, the direct causes or symptoms, indirect causes and the root causes. The steps in RCA involve: defining the main problem; analysing the direct causing activities of the problem; analysing the underlying causes and root causes; and identifying alternative options (UNEP, 2005).

*Scenario building* is a process of designing hypothetical situations that incorporate the most uncertain and important driving forces affecting future development in a given sector or territory (UNEP, 2005). Scenario building tries to answer the following questions: what are the driving forces? What does one feel is uncertain? What is inevitable? And how about this and that scenario? Essentially scenario building follows the following eight steps:

- Identifying the focal issue or decision;
- Key forces in the local environment;
- Driving forces;
- Rank by importance and uncertainty;
- Selecting scenario logics;
- Fleshing out the scenarios;
- Implications; and
- Selecting the leading indicators and synopsis (UNEP, 2005).

*Stakeholder analysis and mapping (SAM)* is particularly an essential input to gender analysis and poverty analysis. SAM recognises that stakeholders are people, groups or institutions with specific rights and interests in an issue or sector, and related power of knowledge and skills (UNEP, 2005). SAM can be a social study in itself or a quick approach to gain useful insights. Some of the basic steps involve:

- Drawing up a stakeholder table;
- Analysing the relationship between stakeholders;
- Analysing power relations; and
- Drawing conclusions on appropriate response.

*Sustainability framework and benchmarks (SFB)* present indicators and benchmarks to enable measuring of sustainability performance assessing impacts of policies against a reference framework (UNEP, 2005). SFB requires having concrete indicators and benchmarks. In general, SFB enables decision makers to identify problems, track trends, set priorities, understand policy, trade-offs and synergies, target investments, and evaluate policies and programmes. The steps in the SFB involve: designing a sustainability framework, evaluating options, and establishing sustainable indicators for monitoring (UNEP, 2005).

*Analysis of strengths, weaknesses, opportunities and threats (SWOT)* aims at raising key issues for consideration in assessing the current situation (UNEP, 2005). It can be used in an IAP's preparation stage when contextual information is provided (UNEP, 2005). The tool highlights key internal issues (strengths and weaknesses) and key external issues (opportunities and threats) that should be considered in the planning. A SWOT profile can be generated and used as the basis for goal setting, strategy formulation and implementation. SWOT offers a useful tool in participatory discussions and is generally more effective if it engages stakeholders with different viewpoints.

*Trend analysis (TA)* involves the analysis of the variation in data or values over time with the major purpose of extracting information about changes in time, and where possible expressing this quantitatively (UNEP, 2005). It can be used in IAP's preparation stage when basic data and contextual information are generated and presented (UNEP, 2005). TA involves six basic steps namely: identifying critical issues, parameters or indicators; identifying time series based on existing data and information visualising the trends; analysing time series; and analysing causes of the trends (UNEP, 2005).

**Table 2: Qualitative tools of IAP**

<b>Tool</b>	<b>Purpose</b>	<b>Data, costs and time</b>	<b>Pros</b>	<b>Cons</b>	<b>Risks</b>
Causal chain analysis	CCA identifies significant cause-effect links between a proposal and its economic, social, and environmental outcomes in a qualitative manner. It aims to enable a decision maker to consider the chain of effects that may be triggered by his or her decision. It can be used at IAP's assessment stage.	They depend on the depth and scope of the effects to be traced and the extent to which the cause-effect links must be proven.	CCA is flexible with respect to depth and scope of analysis and thus can meet the varying analytical needs.	There is a danger of not well-grounded drawing of cause-effect links and overloading the analysis with potentially negligible factors.	Whether this tool is able to address uncertainty depends on the degree of ambiguity in establishing cause-effect links and feedback loops (theoretically and empirically).
Multicriteria analysis	MCA evaluates alternative options against several, often conflicting, criteria, and combine the separate evaluations into one overall evaluation. It can be used to identify a single most preferred option, to rank options, to short-list a limited number of options for subsequent detailed appraisal, or simply to distinguish acceptable and unacceptable options.	Data requirement depends whether the chosen MCA approach operates with expert judgments only or if it incorporates qualitative predictions. Cost and time depend on the complexity of the chosen approach to MCA.	<ul style="list-style-type: none"> <li>• Taking into account different criteria at the same time, which is impossible with the usual decision making process based on only one criterion;</li> <li>• If accepted by wider community, may be used to bring together the views of different stakeholders;</li> <li>• Open and explicit – the scores and weights are recorded, providing a basis for external audits. Also open to analysis and change if they are felt inappropriate;</li> </ul> <p>May facilitate communication with decision maker and sometimes with the wider community.</p>	<ul style="list-style-type: none"> <li>• By presenting quantitative information (aggregated scores), it may create a false impression of accuracy even though application of MCA heavily depends on value judgements;</li> <li>• Disputed MCA may direct public discourse on the proposal towards ineffective discussions on how were weights of criteria established and how was performance of each option against these criteria measured;</li> <li>• Does not facilitate consensus on very controversial decisions;</li> <li>• Results may be manipulated by those who master the techniques.</li> </ul>	MCA can handle risk and uncertainties through sensitivity testing that can show how results in uncertain performance of a concerned option will affect the final results of MCA

Objective-led appraisal	: OLA evaluates consistency of a proposed policy or project with its proclaimed objectives. OLA is an appraisal method that aims to ensure that relevant objectives (in the case of IAP those would be sustainable development objectives) are considered at all stages of the policy process. It can be used when the objectives of the target for assessment are questioned, when alternatives are compared against established objectives, and when specific actions are evaluated.	Data needs depend on whether or not OLA defines the proposed contributions of a policy or project to established objectives through qualitative statements (expert judgments) or quantitative predictions (forecasts). OLA can be performed by one expert within one day or through comprehensive stakeholder consultations that define objectives and review their incorporation in the policy or project in question.	<ul style="list-style-type: none"> <li>• Enable early reviews;</li> <li>• Early opportunity for discussing objectives;</li> </ul> Can break consultations into more easily manageable separate discussions on proposed objectives and implementation arrangements	<ul style="list-style-type: none"> <li>• Quality may be significantly limited by ill-defined objectives;</li> <li>• Poorly defined objectives, if directly used as the main reference points for the appraisal, will generate poor or misleading results;</li> <li>• OLAs offer only a preliminary analysis, which does not capture all the specific effects of proposed actions.</li> </ul>	Could be addressed through discussion of possible uncertainties in a policy's or project's expected contribution to the objectives.
Root cause analysis	RCA is a structured investigation that aims to identify the true causes of a problem, and the options or actions necessary to eliminate it. It is seldom properly done and often considered an academic exercise, as it does not directly lead to solutions. However, knowing the root causes and the actors involved is an essential starting point for designing sustainable solution strategies. It can be used in IAP's preparation stage when the target for assessment is described. Specifically, when examining the objectives of a project, programme, or policy, RCA can be used to analyse whether it addresses the root	Most information can be acquired through expert consultations and workshops. Cost is low, but a minimum level of consummations is required. <ul style="list-style-type: none"> <li>•</li> </ul>	Simple, and yet provide important insight, and can be used simultaneously to raise awareness and involve stakeholders.	May become an academic exercise, as the list of possible root causes is potentially very long.	NA.

	causes or mere symptoms of a problem. RCA can also be used when recommendations need to be justified for their potential to address the root causes.				
Scenario building	Scenario building is a process of designing hypothetical situations that incorporate the most uncertain and important driving forces affecting future development in a given sector or territory. This tool can be used focusing on developing and describing alternative scenarios.	Data requirement depends on whether or not scenario offers qualitative information (stories) or quantitative predictions (forecasts). Cost and time depend on the complexity of data gathering and analytic techniques chosen. It can range from qualitative methods (e.g. rigorous stakeholder consultations) to complex model-based techniques.	<ul style="list-style-type: none"> <li>Scenarios provide a simplified version of reality against which to test ideas and explore consequences. The development of scenario also provides a way of creating a shared understanding of complex systems among those that work in them. This shared understanding can be of great value as an aid in collaboration.</li> </ul>	<ul style="list-style-type: none"> <li>Requires relatively high levels of technical skill for their construction and interpretation.</li> <li>Quality of the analysis resulting from scenario is no better than the model itself and the data on which it is based. Careful testing and validation are necessary to avoid conclusions or actions based on a flawed model.</li> <li>Scenarios may involve complex mathematical operations or graphic images that are hard to understand and explain to non-technical audiences. A well-designed interpretation and presentation must accompany explanation of scenario to non- technical audiences and policymakers.</li> </ul>	This technique directly addresses uncertainties.
Stakeholder analysis	Stakeholders are people, groups, or institutions with specific rights and interests in an issue or sector, and related powers, knowledge, and skills. SAM identifies and analyses stakeholders to enable decisions on who to involve in	The requirements are small.	<ul style="list-style-type: none"> <li>SAM is a well-established approach frequently used;</li> <li>Various tools and schemes exist for portraying the results of a stakeholder analysis in a visible and simple manner;</li> </ul>	<ul style="list-style-type: none"> <li>Every classification of stakeholders may be criticised, there is no perfect fit;</li> <li>Conflicting interests and power relations may be too sensitive to assess or</li> </ul>	Power relations may be difficult to judge

	a addressing particular issues. It can be used when key stakeholders need to be identified. It is also an essential input to gender analysis and poverty analysis.		<ul style="list-style-type: none"> <li>One can get good preliminary insights with limited time;</li> </ul>	<p>discuss;</p> <ul style="list-style-type: none"> <li>One can easily spend too much time on SAM; SAM does not provide any solutions; More detailed information requires social or cultural expertise</li> </ul>	
Sustainability framework benchmarks	Sustainability frameworks present indicators and benchmarks to enable measuring of sustainability performance and assessing impacts of projects and policies against a reference framework. To be practical, general sustainability principles must be translated into concrete indicators and benchmark. Generally, sustainability frameworks can enable decision-makers to identify problems, track trends, set priorities, understand policy trade-offs and synergies, target investments, and evaluate policies and programmes. In IAP process, SFB can identify existing sustainability frameworks, assist in developing these, and evaluate options and assess subsequent trade-offs against established frameworks.	Variable according to the scientific focus and whether consultations and research are extensive or simplified.	<ul style="list-style-type: none"> <li>Sustainability frameworks are one way of putting sustainability into practice;</li> <li>Design of a sustainability framework through a participatory process enhances awareness;</li> </ul> <p>There are many new initiatives and examples for inspiration, within private and public sector and at different levels of scale.</p>	<ul style="list-style-type: none"> <li>A sustainability framework is just a decision-support tool, without any obligation;</li> <li>The focus is on quantitative measurements, while some sustainability issues are difficult to measure;</li> <li>Threshold values and bottom-lines are extremely difficult to define;</li> </ul> <p>Many systems tend to be system-oriented instead of performance-oriented.</p>	May be covered in the sustainability framework
SWOT analysis	What does SWOT do is self-explanatory. It aims to raise key issues for consideration in assessing the current situation. It can be used in IAP's preparation stage when	Data requirement is small, as it depends largely on personal knowledge. SWOT can be done quickly by one person or as a rapid appraisal that involves a	<ul style="list-style-type: none"> <li>SWOT reduces a large quantity into simple overview of key issues that could be considered.</li> </ul> <p>SWOT is a useful tool for obtaining various viewpoints on</p>	<ul style="list-style-type: none"> <li>Tendency towards oversimplification.</li> <li>Does not explain why strengths and weaknesses occur and whether there are any linkages between them.</li> </ul>	By examining future opportunities and threats, SWOT highlights key future uncertainties.

	contextual information is provided.	large number of stakeholders. •	the current situation and can be used in participatory processes.	<ul style="list-style-type: none"> <li>• Classification of external factors as opportunities or threats is somewhat arbitrary - the same point may feature both as strength and as a weakness. For example, 'increased exports' may be presented as a strength and 'reliance on exports' as a weakness.</li> </ul>	
Trend analysis	Trend analysis is a basic requirement for any assessment or planning exercise. It is "an analysis of the variation in data or values over time, with the major purpose of extracting relevant information about changes in time, and where possible expressing this quantitatively". It can be used in IAP's preparation stage when basic data and contextual information are generated and presented. It can provide data and information to support the application of other tools in IAP's assessment stage, such as forecasting and scenario development. Trend monitoring is a related tool aimed at systematic collection of data on well-defined indicators, to assess progress and raise awareness on undesirable changes.	Data requirement depends whether the trend lines and analysis makes use of large data sets and statistical analyses or operates with expert judgments mainly. Cost and time requirements depend on the extent of data sets and time periods for which series are developed.	<ul style="list-style-type: none"> <li>• Trend analysis is a basic tool that can be used in a simple and qualitative manner;</li> <li>• Trend lines can be a powerful awareness-raising tool;</li> <li>• Trend analysis can structure a large set of available data and information;</li> </ul> <p>Trend analysis can raise awareness on the need for proper monitoring.</p>	<p>Extrapolation and forecasting of trend lines is not reliable, but in most cases done;</p> <ul style="list-style-type: none"> <li>• Statistical analyses are tedious, yet necessary in many cases to draw firm conclusions;</li> <li>• Trend lines are often established based on poor data sets, without mentioning the uncertainties involved;</li> <li>• Variable methods used to collect data are a major problem in establishing trends;</li> </ul> <p>Expert judgements on trends should be backed by quantitative data, because human memory is unreliable.</p>	<p><b>Uncertainties:</b> Uncertainties may be expressed through expert judgements. Results of data analysis may be compared with expert judgements.</p>

Source: UNEP (2005)

### **3.7. Participatory tools**

*Expert panel (EP)* is a form of organising expert opinion and aims at synthesizing complex information and providing a vision or recommendation for future possible topics (UNEP, 2005). EP is particularly appropriate for issues that require highly technical knowledge or are highly complex and require synthesis of experts from different disciplines (UNEP, 2005). An example is the assessment of Uganda's biodiversity attributes, and the rate of loss and its social implications. For EP to be useful, the composition of the team of experts must be carefully balanced.

*Focus groups (FGs)* is a form of organising a planned discussion among a small group (4 – 12 persons) of stakeholders facilitated by a moderator. This tool is often referred to as Focus Group Discussions (FGDs) and is particularly useful when participants' reasoning underlying their views is of interest (UNEP, 2005).

*Household surveys* are commonly used in Uganda. These surveys can be anything from a short feed back from an intensive one-on-one in-depth interview such as the 2002 Household population census. The surveys can be in form of questionnaires and interviews. Selecting the type of survey to be used is a critical decision, often guided by: population and its accessibility; sampling, question, bias and administrative issues (UNEP, 2005).

### 3.8. Assessment approaches

*Gender analysis (GA)* considers the relationship between men and women, their access to resources, their roles and activities, and the constraints they face (UNEP, 2005). Policy agenda setting, formulation and implementation should remain cognizant of gender disaggregated issues/indices. There are different types of gender analysis and gender assessment tools the most well known is the Harvard analytical framework (UNEP, 2005). The steps involved include: defining the activity, describing the access and control profile; analysing of influencing factors; and the assessment itself.

*Health analysis (HA)* has been variously used to mean different things. First, HA may mean an assessment of a population's health status. Second, it can mean an assessment of the health impact caused by polluting activities. Thirdly, it can mean an approach to assess the linkages between the environment and health. In attempting to assess the linkages between the environment and health, it is recommended the following eight steps drawn from the UNEP-WHO joint Health-Environment initiative (HELI) are used:

- forming an inter-disciplinary core team;
- scoping the issues of assessment;
- identification of key stakeholders;
- validation by stakeholders of the initial scoping;
- health assessment methodologies;
- valuation of impacts and responses;
- stakeholder dialogue and validation; and
- communication and delivery of the results (UNEP, 2005)

**Table 3: Assessment approaches of IAP**

Tool	Purpose	Data, costs and time	Pros and cons	Risks
Gender analysis	Gender analysis considers the relationships between men and women, their access to resources, their roles and activities, and the constraints they face. It reveals the different patterns of involvement and activities that women and men have in economic, social and legal structures. The aim is to enable decision makers to understand the different effects that public projects, programmes, policies may have on men and women because of their different situations. It can also be used in the assessment stage to evaluate the gender effects of various options and make recommendations that integrate gender issues.		<p><b>Pros:</b> Practical and can be done in a participatory manner. A distinction is made between access to and control over resources. Can be easily adapted to a variety of settings and situations.</p> <p><b>Cons:</b> Some gender issues may be highly sensitive. Risk of oversimplification based on a superficial ‘tick-the-boxes’ approach to data collection. May give a rather static picture without reference to changes over time in gender relations.</p>	
Health assessment	HA may mean a few different things to different people. First, it can mean an assessment of a population’s health status. Second, it can mean an assessment of the health impact caused by polluting activities. Third, it can mean an approach (not a tool per se) to assess the linkages between the environment and health – the focus of the description here. HA aims to enable decision makers to arrive at decisions based on comprehensive knowledge about health issues.	Data requirements are medium to extensive – depending on the scope of the HA and the extent of qualitative data (which is often less available and potentially harder to generate) that is demanded by the chosen analytical tools. The whole procedure outlined in step 1-8 will be quite demanding in terms of human, temporal and financial resources. This becomes even more severe when the existing data is insufficient for the agreed upon analytical framework.	<p><b>Pros:</b> Highly participatory and a strong focus on process.</p> <p><b>Cons:</b> Probably high time and costs requirements for the whole HA process.</p>	It can be dealt with the application of sensitivity tests.
Poverty measurement	Poverty measurement is the first step for any decision-maker who seriously wants to reduce		<p><b>Pros:</b></p> <ul style="list-style-type: none"> <li>• An essential tool to gain insight on</li> </ul>	

and analysis	poverty. Data can then be used by decision-makers to know what the situation is, to understand the factors determining the situation, to design interventions best adapted to the issues, to assess proposed policies against poverty impacts, and to set a baseline and measure change. It can be used when contextual information is provided and the assessment stage when the poverty effects of the policy in question are analysed and alternatives are developed.		<p>basic social and economic conditions;</p> <ul style="list-style-type: none"> <li>• Easy to do in a participatory manner;</li> <li>• Both quantitative and qualitative methods are available;</li> </ul> <p>A large amount of experience and literature available.</p> <p><b>Cons:</b></p> <ul style="list-style-type: none"> <li>• Data from household surveys form the basis of poverty analysis, but are time consuming to collect and generate unreliable data if not undertaken with great care;</li> </ul> <p>Concepts like vulnerability are difficult to measure.</p>	
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**Source: UNEP (2005)**

## **Section Four**

### **Conclusion**

#### **4.1. Concluding Notes**

This set of guidelines aims at identifying and proposing a number of issues that must be kept in mind while developing policies that take care of environmental, social and economic parameters of development. The guidelines take policy makers through brief descriptions of the cycle of policy formulation, implementation, monitoring and evaluation. The approach aims at ensuring that no opportunity is missed to integrate sustainability considerations throughout the policy cycle.

The set of guidelines is also intended to improve existing capacity in policy formulation across the sectors. It presents new ideas regarding sustainability assessment and also resource management, including prudent allocation of financial, human and technical resources, and should therefore improve overall performance of sectoral policies.

Since many existing policies, plans and projects were developed in the absence of a national environment policy and awareness, there is a formidable task to assess the impact of these policies and plans on the environment. It is hoped that these guidelines will be found useful as a reference document and planning tool in this respect.

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