Module 9 – Linking Integrated Environmental Assessment to Policy

Overview
This module highlights policy responses in the context of IEA and reporting.

In this module, you will learn:

- ☐ Definition of policy

- ☐ Link between IEA and policy

- ☐ Various types of policy

- ☐ Interlinkages and conflicts in policies

- ☐ Environmental policy analysis

9.1   Introduction

The ultimate objective of any IEA and reporting process is to strengthen policy processes and decision making by providing up-to-date and reliable data and information on the state-and-trends on the environment at different levels. Policymakers have access to a myriad of stakeholders and interests, all of whom require the policymaker to either introduce, implement, or enhance policies to advance their objectives in society. The environmental voice is part of the "noise", and it is important that it is delivered in a reasoned manner, is clear and articulates the interests of society as a whole – not just a special interest group.

In keeping under review the state-and-trends of the environment, IEA and reporting inevitably assess the whole foundation and structure of policy processes, and the policies which have been adopted by authorities. The objective is to determine the effectiveness of those policies and to provide options for further action where it is required. Policy response is a key component of both the DPSIR and Opportunities Framework methodologies.

- *Definition of policy:* The word policy is often difficult to define to satisfy different interests. In Africa, policies are both traditional, having been passed down generations; and contemporary, responding to modern forms of governance and evolution. Environmental policies in Africa are therefore a mirror image of the region's people and their different cultures and the way countries have evolved since colonialism and attainment of independence.

   Keeley and Scoones (2003) recently highlighted their own understanding of environmental policy processes in Africa by trying to "prise open the black box of policy-making. The traditional starting point of defining policy is that policy comprises decisions taken by those with responsibility for a given policy area, and these decisions usually take the form of statements or formal positions on an issue, which are then executed by the bureaucracy."

   They, however, acknowledge: "…in practice, policy is notoriously difficult to define." Quoting an unknown British civil servant, Keeley and Scoones (2003) write: "Policy is rather like the elephant – you know it when you see it but you cannot easily define it."

   These statements just about sum up the complexity of policy analysis in IEA and reporting, and the adequacy of environmental assessment reports to effectively provide scientifically impeccable information for the policymakers to make sound policy decisions for the benefit of both society and the environment.

- *Policy as a process:* Policy processes have time and space, and respond to political processes which are bound by other demands and deadlines. It is generally argued that many policymakers often make policy decisions based on pertaining local politics with eyes on the next general election. Therefore, unpopular policies sometimes suffer.

- *Policy as a response:* Responses are understood to be actions undertaken to address an environmental problem. An assessment of the effectiveness of past

and present policies relevant to or specifically designed to improve the environment and the sustainability of resource use should be carried out.

Responses can be either formal environmental policies and mechanisms, or societal developments such as public participation and action, and consumer pressure and movements. Not all of these policy categories will be relevant in Africa at the different spatial levels. Several of these can be used to achieve the same aim, and specific policy responses are never used in isolation. It is up to governments and society to choose which responses or combination of responses will best achieve policy goals. Policy behaviour is strongly influenced by the context of the country and region. Cultural issues, the actual policy mix, historical precedents and the like may all have an effect on how well policy works. Policy analysis must take into account all of these contextual issues.

Effective policy responses depend on "a mix of small-scale, bottom-up solutions and large-scale, top-down solutions: individual steps to manage our shared resources and governmental actions to prevent degradation" (Diamond 2004). Such responses should not be only at the national level but also sub-regional, regional and international. Africa should use its human diversity to strengthen collective advocacy and action, and minimize the obvious differences among its peoples and sub-regions.

- *Policy in IEA and reporting:* Traditional African environmental policy was generally not scientific, being based on taboos, social sanctions, and religious beliefs. Policy formulation was limited to those who set taboo rules, but practice within the existing environmental policy had very wide support and the public felt it owned the environmental policy formulated. Instead of introducing science within the strongly supported environmental practices, colonial and post-colonial African governments had the view that the environment had to be protected from "primitive" decision making. Consequently, much of the public lost interest in using environmental resources within any specific rules of a policy. Integrated environmental assessment (IEA) and reporting introduces the science in environmental policy decision making and seeks to regain the support in environmental practices soliciting for broad public participation in the formulation of environmental policy.

  Within the step-by-step set of questions answered under IEA and reporting (see Figure 9.1), policy assessment answers the following questions:

  o What policies are in place to deal with the current environmental issues and how effective are they? **What is being done about it?** Some effort may have been attempted to formulate environmental policies to influence current environmental conditions. **How effective is (what is being done)?** There may be a lag time before effects are visible.
  o To link up with the first question in the sequence of questions asked in Figure 9.1., we ask: **Do current policies have anything to do with what is happening?** This question enables us to look for weaknesses in existing policies and plan to formulate new policies to improve the environment. Sometimes governments are caught between promoting positive environmental policies (as what they want to do) and being realistic enough about the current

situation and allowing some bad environmental policies, at least temporarily. Policies may affect the environment positively or negatively.

Figure 9.1: The place of policy in integrated environmental assessment and reporting
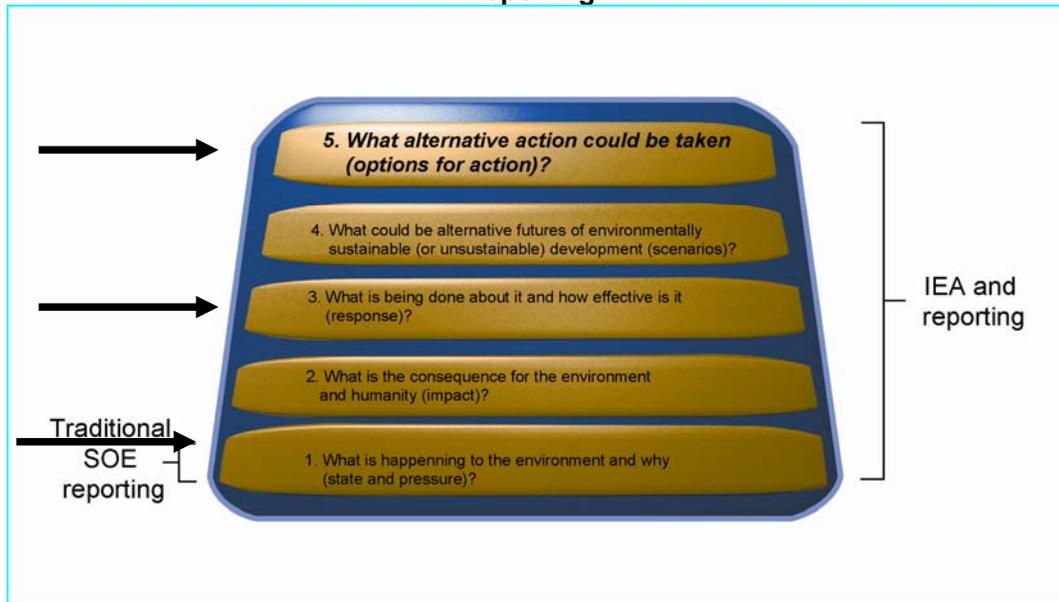
Source: Pinter and others 1999

Figure 9.2 below shows a progression that starts with data collection and as the primary and starting point in a hierarchy, through the creation of indicators and eventually leading to policy formulation at the decision making level. Policy not based on data is likely to be defective.

Figure 9.2: From data collection to policy formulation
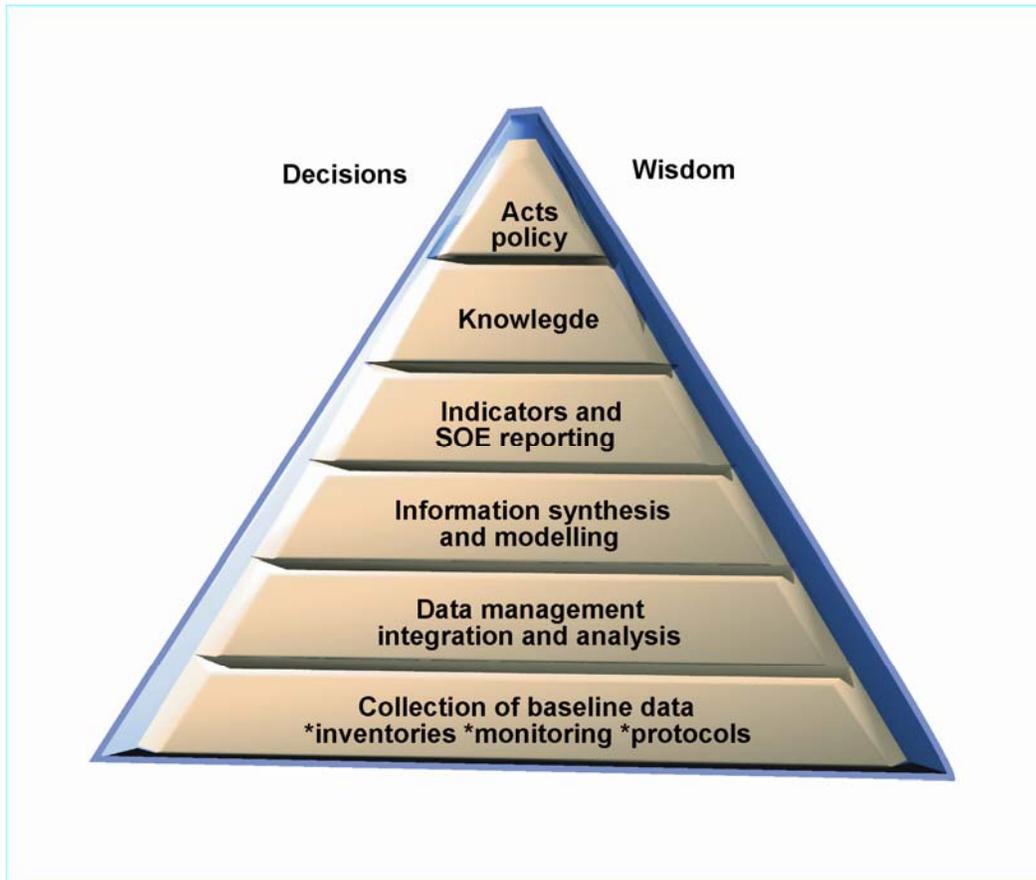
9.2 Types of policy

Environmental policies may be categorized based on how they are formed. Three key types may be:

- *Routine decisions:* The normal process of formulating policies is characterised by routine, deliberate and slow progression of pre-determined steps leading to a decision. Responsibility may be given to a group of people, an institution, or an arm of Government such as a Ministry of Environment to provide leadership in making policy decisions in a specified policy area. A policy is discussed at length by meetings of the relevant committees, councils or other groups of people that may be appropriate.

- *Urgent, reactive policies:* Policies may be formed outside the normal policy formulation process because they are required faster than the normal process would demand. Emergencies like droughts, floods, landslides, sudden outbreaks of diseases, etc. may require immediate attention with policies formulated urgently to react to the situation.

- *The grey zone:* Some policies are not urgently formulated or deliberated upon over long periods. They just evolve and are routinely used as if they are formal policies

though they may not be backed by formal documentation. Policy enforcement agencies or social or economic pressure groups use these policies and expect a set of behaviour patterns stipulated by these policies. Botswana has a grey zone policy that requires government to consult major village councils (*Kgotla)* on any major policy formulated that affects rural life and society. This is not a documented policy and in many cases greatly delays the execution of major policies. However, if the village councils are not consulted, they may refuse to participate in any policy and the Botswana Government will accept their complaints (Mompati and Prinsen 2000).

It is common for grey zone policies to evolve into policies based on routine decisions. Over time, the circumstances under which such a policy is practised may become formalised (see Box 9.1).

Box 9.1: Evolution of a policy: Botswana's Revised National Policy on Destitute Persons

In the 1960's, Botswana's population was almost totally rural (the urban population was less than 4 per cent) and the extended family system was very effective in providing support for members of various communities in need. Although there was no written policy demanding support for destitute persons, this was expected and people who did not assist their relatives could be taken to a *Kgotla* (Village Council) for discipline through various social sanctions. This was a grey zone policy. With increasing urbanization, it became difficult to enforce extended family support. In 1980 a National Policy on Destitute Persons was formulated to provide support for those who needed it especially in times of crisis. In its 2002 revised form. the policy has been more clearly defined, defining a destitute person as one who receives an income of less than P150 (US$31.25) per month. In addition to orphans, elderly people, and the sick, particular attention has been given to those who are vulnerable to environmental changes either of a temporary or a permanent nature. Drought is specifically mentioned and a supplementary directive from the Ministry of Local Government has ordered local governments to construct roads during drought using labour-intensive techniques to create jobs.

Source: Republic of Botswana 2002

The formulation process of the three types of policies are different, but all should be subjected to assessment to see how they impact on the environment, and what gaps may require filling to make them more effective. The assessment should also be holistic, not exempting any type of policy. In particular there would be a temptation to exempt reactive policies as a special category whose impact on the environment need not be scrutinised.

9.3   Policies in hierarchies

Policies may exist in hierarchies where narrowly focused policies are nested within and linked to a series of progressively broader policies. This nested arrangement can exist across many levels of government, both within a country and internationally and has the very important element of streamlining objectives of policies directed at a particular issue. There may be various levels of expectations from those who are affected by the policy. If, for example, a national policy is formulated in support of a globally accepted convention, at the national level violators may be prosecuted and fined while at the

global level there may be a much looser level of expectation from countries that have signed the convention.

Figure 9.3: An example of a hierarchy of nested policies:
from global to local community
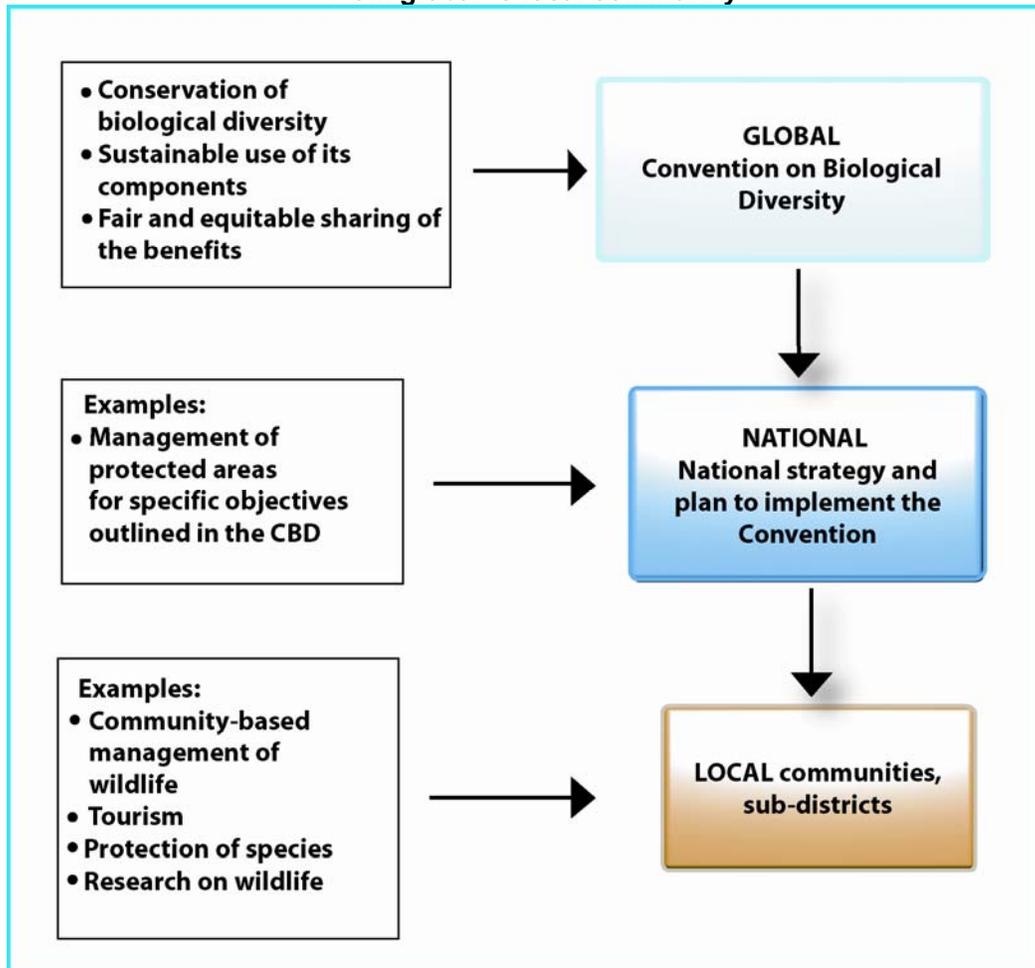
## 9.4 Exercise 9.1: The web of influence of policies on each other

Environmental policies are always interlinked, influencing each other either positively or negatively. In your groups, use the diagram below to show the web of influence of policies on each other. Use thick lines where you think the policies conflict. You may re-arrange the diagram in any way you want. With the experience of each member of the group, let each member try the exercise separately before discussion.

1. Take a real issue in your own experience where one environmental policy is central and is influenced by other policies (e.g. other environmental policies, population policy, immigration policy, agricultural policy, etc.). Put the environmental policy you would like to focus on in the centre (marked "policy")

and fill the other circles with other policies that influence it (and each other). You may add circles if you wish.

2. Draw arrows to show the direction of influence of each policy on the policy at the centre or other policies in your diagram.

3. Let each member make his/her presentation to the group with clear explanations of the web of influence of the policies discussed.

4. The group will then select which of the diagrams to present to the rest of the participants.

Figure 9.4: The web of influence of policies on each other
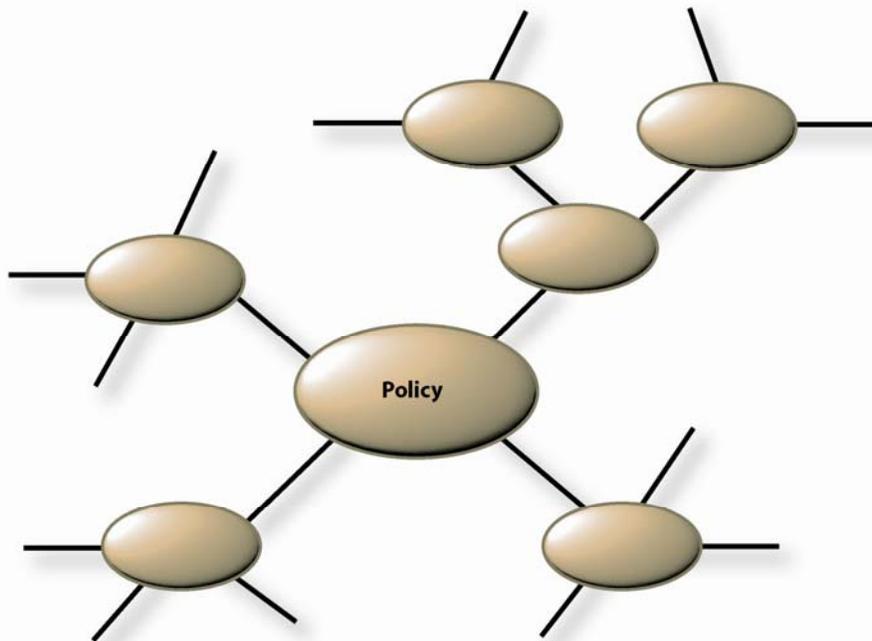
Source: Pinter and others 1999

9.5   Conflicts in policies formulated independently

Integrated environmental assessment (IEA) looks at environmental policy formulation with a holistic approach which has the advantage of revealing potential synergies among policies. In addition, by working on linkages among environmental, social, and economic issues, the approach makes it possible to avoid potential conflicts in the objectives of various policies. Isolated or sectoral policies have a tendency to focus on narrow aspects of issues of interest which may conflict with the overall effort to achieve sustainable development (see Box 9.2).

Box 9.2: Botswana's conflicting environmental policies in the 1970's and 1980's

Botswana is a semi-arid country with a higher potential evapotranspiration than average rainfall. The distribution of rainfall in any one year is critical to agriculture. The country has experienced extreme droughts continuously, some of which have decimated livestock and completely destroyed crops. The brittle environment has encouraged the formulation of policies directed at environmental conservation in planning for the utilization of natural resources.

At independence in 1966, Botswana was greatly dependent on food imports from apartheid South Africa and was eager to reduce this in any way it could. The country decided in the 1980's to promote policies that would move it towards self-sufficiency in food. With the then existing technology used for agricultural production in the rural areas, emphasis was put on clearing new lands for crop production, and sinking boreholes in dryer areas to extend livestock grazing for export. Very little supervision was provided for land clearing and much of the land cleared was left idle.

Furthermore, the demand for food increased as the population grew. Population growth rates were completely neglected with the argument that "for a country as large as France, there was room to accommodate higher population densities", an argument that was completely irrelevant to the balance between the growth rates of population and resources.

There were conflicts in the policies shown below. Land clearance left extensive areas bare for erosion, while livestock grazing in dryer areas resulted in increasing land degradation. A population policy was also required to reduce the population growth rate. These realities were not realized until the early 1990's when a comprehensive National Conservation Strategy was formulated.

Botswana's conflicting environmental policies in the 1970's and 1980's
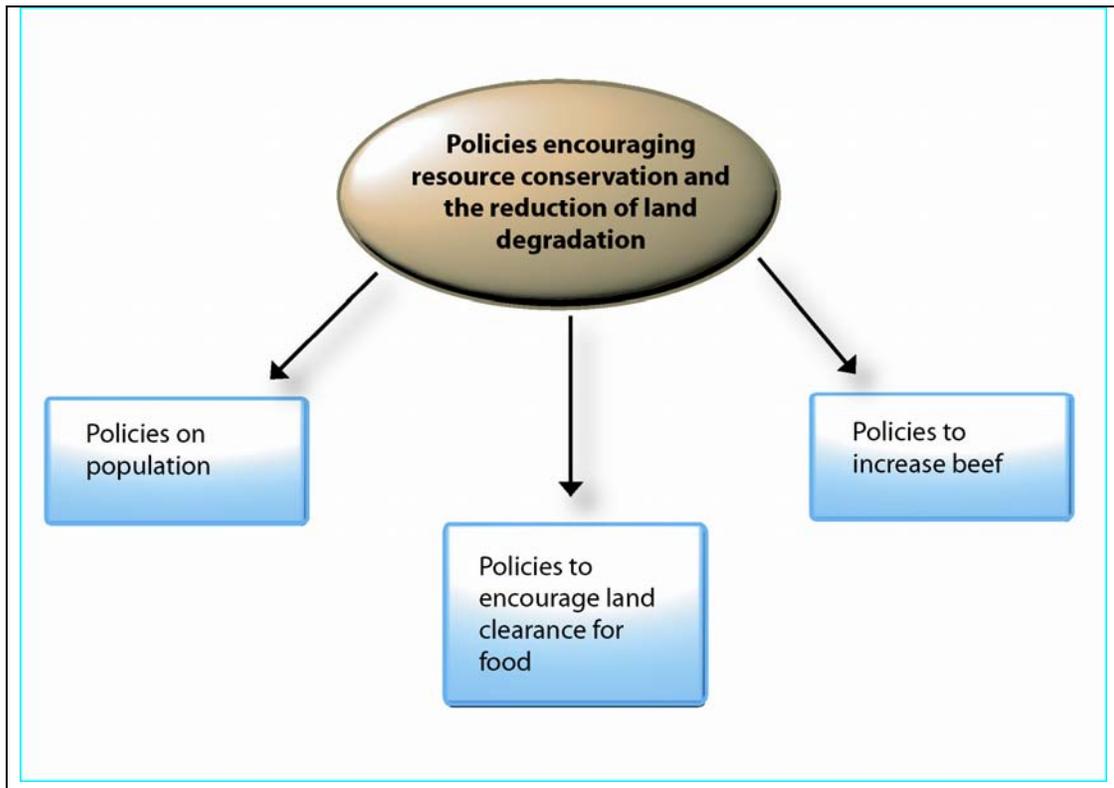
Sources: Republic of Botswana 1978, Republic of Botswana 1975 and Seleka 1999

9.6 Exercise 9.2: Nested and conflicting policies

1. Individually, draw a diagram to show conflicting policies that you are aware of in your country.

2. Individually, draw a diagram that shows nesting of policies by sectors (sub-sub-sectors, sub-sectors, sectors, integrated sectors and so on) e.g. Step 1 - livestock**,** arable farming… Step2 - Agriculture and so on

3. List from your own experience in your country, policies that belong to the three categories discussed in Section 9.2 above.

9.7 Links between policy and environment

Policies provide **rules** by which individuals or groups of individuals in a society are expected to wisely use the **physical environment** within society's **beliefs, values, and ideas** (see Figure 9.6). Some of the rules may restrict individuals' values or provide incentives to modify their beliefs for the greater good. For example, to promote sustainable use of the rangelands (physical environment) a cattle owner may find rules in a policy restricting him/her from overstocking (rule of behaviour) although his/her desire to show that he/she is an important person in the community (value?) is that he/she should have a lot of cattle. Policies are important to guide behaviour based on competing beliefs, values and ideas among individuals in society on one hand, and the principles of sustainable development on the other. By allowing each individual to have only a limited number of heads of cattle, the range can be shared, and overgrazing of the range is avoided.

Competition for the range may be more complex requiring more complicated policies. Part of the range may be set aside as a wildlife sanctuary. Arable farming may expand into part of the range as population increases. This introduces people, groups, and

institutions with different beliefs, value systems and ideas competing for the rangelands. A more comprehensive policy for rule-based behaviour for using the physical environment (i.e. rangelands) may be needed.

Figure 9.6: Three interacting levels of reality
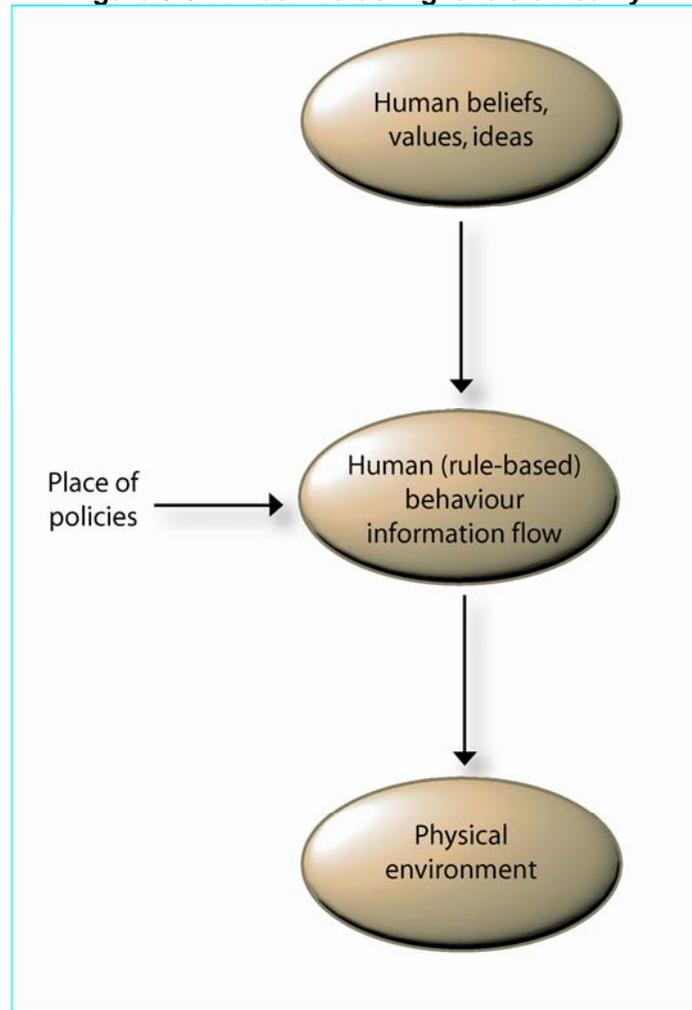
Source: modified from Rotmans and others 1997

It is not always possible to predict what the effectiveness of a policy will be when it is formulated. Human behaviour is unpredictable and to formulate a policy to guide it is just as difficult. Individuals may hijack the policy to their advantage while a combination of policies may completely change the expected behaviour of individuals to patterns of behaviour not expected for any one of the policies. More importantly, a community may consider that a policy is unfair and take every opportunity to undermine its objectives (see Box 9.3).

Box 9.3: Changing impacts of wildlife management policies at the community level in southern Africa

Many countries in southern Africa have had policies on illegal poaching of wildlife in animal sanctuaries. Illegal was defined to mean "hunting without a licence bought from a relevant Department" usually from the capital city. Tourists were attracted to visit various wildlife sanctuaries where they hunted big game for sport, but the local people who hunted wildlife for subsistence generally had problems getting permission to hunt and, if caught, were liable to prosecution. The policies had little impact for many reasons among which were:

- The local people had not participated in the formulation of the policies and considered them unfair.

- Enforcement of the policies was difficult. In spirit, it seemed as if the local policemen and magistrates sided with the rest of the local people.

With increasing populations on the outskirts of wildlife sanctuaries, banning hunting by the local people as a conservation measure had failed. New wildlife conservation policies have been drawn up and introduced in a selected number of local communities in wildlife sanctuaries with the participation of the local people in Botswana, Zimbabwe, Namibia and Zambia, aiming at making local communities appreciate the value of wildlife by putting them in charge of managing it as their own resource from which they reap benefits. Although the widespread impact of these community-based wildlife sanctuaries is still being evaluated there are many cases where it has been found to have changed societies' attitude to wildlife conservation.

Source: Child 1995 and Mukute 1994

9.8   Exercise 9.3: The impact of policy on issues

1. Divide into groups of three or four. From your own experiences, let each member of the group select two real issues in his/her country and discuss them together with major policies that were formulated to influence each. Of those discussed, select one successful and one unsuccessful policy from all those presented in the group for presentation to the rest of the participants.

2. Use the diagram below to assist you to prepare your presentation. You may want to draw a simplified diagram on a transparency before the presentation. Skip some of the steps if you do not know how they were carried out in the real issue.

Figure 9.7: Policy intent and expected impact
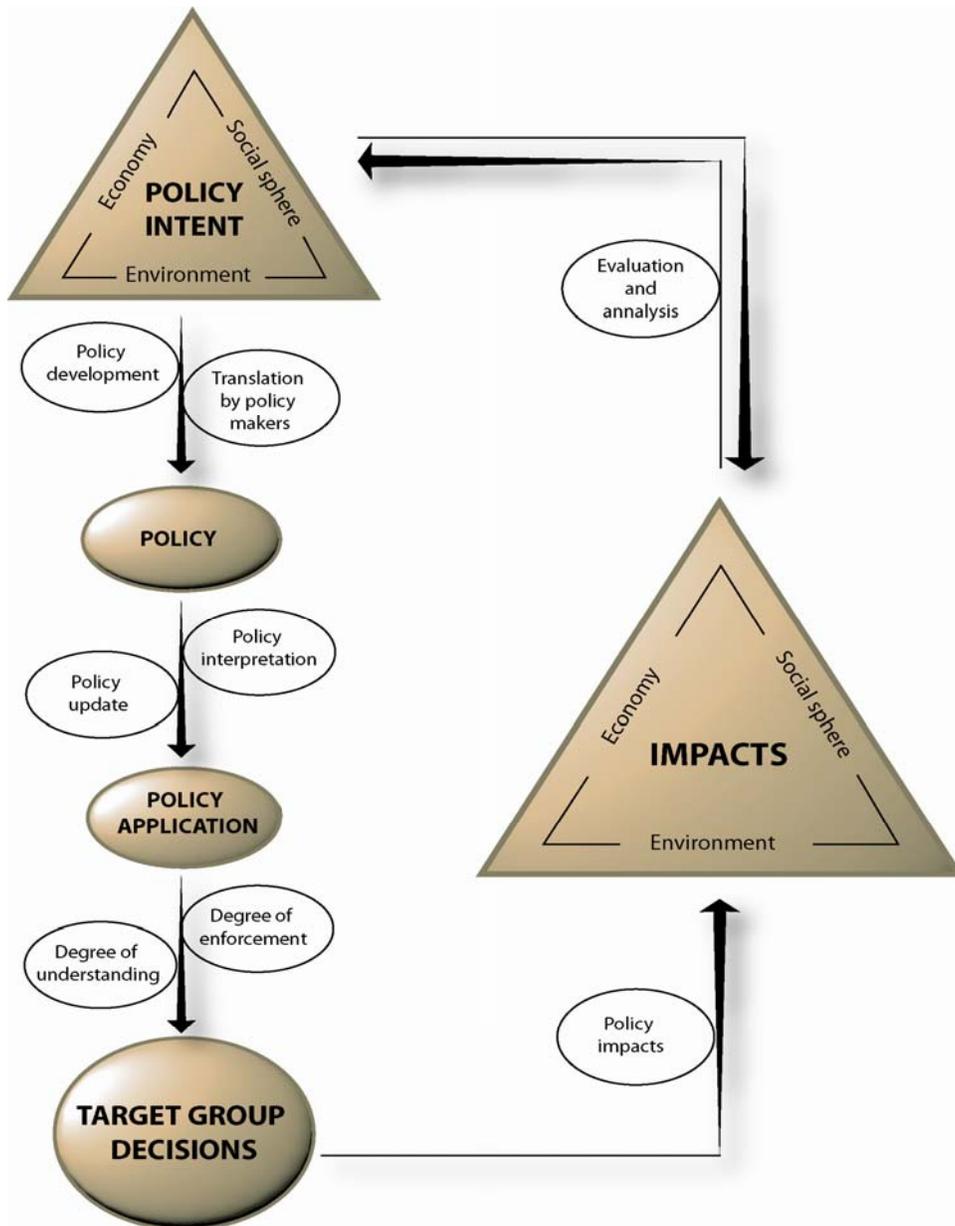
Source: Modified from Pond 1996 in Boyle, Kay and Pond 1996

9.9   Environmental policy analysis

The most critical part in linking policy to the environment relates to evaluating what policies currently exist, where such policies fall short of meeting what is required in promoting sustainable development, and what new policies are needed to plug the gaps. Policy evaluation and analysis is part of a continuous and cyclical process by which policy may be improved. It provides a basis for adjusting existing policy and/or adding new policies to existing policies as socioeconomic priorities and environment al conditions change. Some policies may achieve their objectives within a given time,

while others may fail to perform due to mistaken perceptions when they were formulated and may need adjusting.

There are many methods of performing policy evaluation and analysis. The one outlined below has three steps:

Step 1 - Identify and list current environmental policies and legislation

- Study which of the available policies are relevant to the issue of interest. For example, if the issue is land degradation, the relevant available policies will include those on population growth, livestock stocking rates, opening up of new lands for arable cultivation, etc.

- Determine which of the available policies will be included in the analysis. Look at the major issues of concern (environmental, economic, or social) and decide which of the available policies have direct impact in driving these concerns. The shrinking of mountain forests may be one of the key issues where it has:

   o health implications through its potential impact on water quality and availability,
   o economic implications because it is a major earner of hard currency,
   o biodiversity and social implications for mountain forest communities as some ecological systems are permanently changed, etc.

   In this case, include in the analysis key policies that are relevant to this issue.

- Identify policies to include in the analysis in a holistic view. The range of potential policies to have impact on the environment, positively or negatively, will go beyond what may seem obvious. In the example stated above, policies to create jobs in mountain communities will be relevant to mountain deforestation.

- Note that causes and solutions to environmental problems can lie outside the domain of the environment and environmental policies.

- Select only a manageable number of the most relevant policies since the range of policies with environmental implications is very broad

- Decide on a consistent criterion for selecting policies to include in a current environmental policy analysis. Pinter and others (1999) have given the following set of suggestions to include in a criteria

   o Relevance for the public and decision-makers
   o Link with key environmental priorities
   o Affecting the health, income and well-being of a large number of people
   o Importance of policy responses to an environmental situation that is:
      - physically severe
      - changing rapidly
      - irreversible

- Do not neglect the importance of the country's international obligations in selecting policies to include in the analysis. Some of these may put limitations on what may seem simple at the local or national level.

- Policies that have the following characteristics should also be given priority for inclusion in the analysis:

  o Potential for policy to cause disruption or conflict either in environmental issues or socioeconomic activity
  o Potential for providing an easy and feasible solutions
  o Uniqueness of current policy initiative for the region

The relative importance of the suggested criteria above will depend on the individual circumstances of the key issues in the environment, and the socioeconomic situation.

Step 2 - Identify performance criteria for the selected policies

By the end of Step 1, you would have a manageable number of key policies and you have to develop criteria to evaluate their performance. The criteria used may range from very general and descriptive to very specific and quantitative. The following are good examples of criteria for evaluating policy performance:

- *Threshold*: a value in a key variable may be identified as a point beyond which an environmental system may become self-sustaining. If a mountain forest ecosystem is being destroyed through deforestation, ecologists may identify and try to target a certain percentage of canopy cover through reforestation that will be sufficient for the forest ecosystem to start a "self-healing" process. The assessment to show the success of the selected policy in such a case would estimate how close the results of the policy are to achieving the threshold. Alternatively, and probably more true to life, there may be a point in a key variable below which change may be considered irreversible and the assessment criteria for the success of a policy would be based on how successful the policy has been in moving the ecological system away from the point of irreversible damage.

- *Benchmark*: the evaluation of the performance of a policy may be based on its relative performance when compared to the known best cases under similar circumstances.

A well formulated policy should have its performance criteria developed at its formulation. For example: a reforestation policy may target a certain acreage of reforestation within a specified period; a clean water supply policy may target a certain percentage of the population being within a given distance of a clean water stand pipe within a given number of years. These targets will be the yardstick against which the performance of a policy would be evaluated. There are cases when:

- the indicators provided are not directly related to environmental issues; e.g. with trade, economic or industrial policies. Some of these policies may have extensive impacts on the environment. An economic policy to increase disposable income might have no environmental indicators, although its impact on environmental issues might be more important than that of many environmental policies.

- the cumulative impact of individual policies may exceed the original individual impact given in the indicators of a single policy. The cumulative impact of various issues may be positive or negative. Their total influence on human choice is impossible to foretell even under integrated environmental assessment.

Step 3 - Evaluate selected policies

The evaluation of the performance of a policy is carried out on the policies selected in Step 1 using the criteria determined in Step 2. Each evaluation should be unique for any one environment based on the combination of the choices of these two. This section shows how important it is to select appropriate indicators. The evaluation is made to assess where and when policy change may be required to improve policy performance. Different sets of indicators will illustrate different aspects of policy performance on the same issue. The recommendation to initiate policy change may similarly be based on the indicators originally selected. This stage also shows the importance of having appropriate stakeholders in IEAfrom an early stage to participate in the assessment.

Ideally, expectations of policy performance should be outlined at the policy formulation stage and these would be useful in guiding the evaluation by comparing actual performance with what was expected (see Figure 7.4). However, not achieving the original expectations may only mean that some key components of the policy need to be changed. Adjustment in policy is one of the objectives of policy performance evaluation. It may therefore useful to change input variables to achieve what was originally expected, change the level of effort, or change expectations. Policy performance evaluation could also be used to retrace what should have been expected with the original inputs and level of effort.

Figure 9.8: Linking expected and actual policy performance
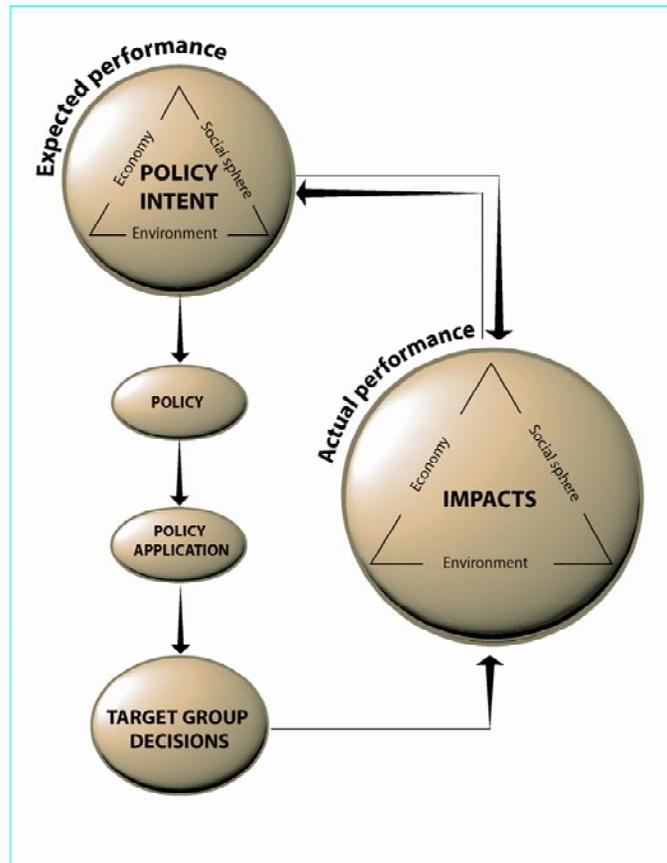
Source: Pinter and others 1999

9.10   Action impact matrix

Real life policy performance evaluation is very complex because of the multiplicity of influences of policies on each other. As these influences occur, people's choices change unpredictably. Some simplification may, however, be made by using an action impact matrix (AIM) that shows some of the more direct impacts of policies on each other. An example of such a matrix is given in Table 9.1.

Table 9.1: Simplified example of an action impact matrix

Action/Policy	*Main objective*	Effect on key sustainable development issues			
		Land degradation	*Air pollution*	*Resettlement*	*Others*
Macroeconomic and sectoral politics	Macroeconomic and sectoral improvements	Positive effects because of removing distortions; negative effects because of remaining constraints			
Exchange rate	Improve trade balance and economic growth	(-H) (deforest open areas)			
Energy pricing	Improve economic and		(+M) (energy		

	energy use efficiency		efficiency		
Others					
Investment Projects	Improve efficiency of investments	Investment decisions made more consistent with broader policy and institutional framework.			
Project 1 (Hydro dam)	Use project evaluation (cost-benefit analysis, environmental assessment, multi-criteria analysis, etc)	(-H) (inundate forests)	(+M) displace fossil fuel use)	(-M) (displace people	
Project 2 (Re- afforest and relocate)		(+H) (replant forest)		(+M) (relocate people)	
Project N					

9.11   Exercise 9.4 - Current policy analysis for your selected country (modified from Pinter and others 1999)

In your groups, you have carried out some analysis on a country you selected from those you have data on. Read this whole exercise and decide whether you will carry it out on the same country or you will select one of the other countries from one of the members of the group. Hopefully, you would have enough data to do it on the same country.

Your assignment is to analyse environmental policy in the country of your choice in the group and its implications on sustainable development.

- Choose one of the environmental conditions that has been identified as an issue for the country you select in your group. This will be the heading of your AIM in the Table on the next page.

- List three pressures that contribute to this environmental issue.

- Determine three policies that could have given rise to this issue and determine the original intent of these policies – probably quite different from their actual impact on the environmental issue you chose!

- In the fourth column, write down the effects each policy has on the issue you selected.

- Consider the effects of each policy on two other key environmental issues of your choice.

Present your results to all participants and discuss.
Go back to your groups to finish the second part of this exercise

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Action impact matrix (AIM) for policy analysis
Issue…………………………………………………………………

Pressures contributing to the environmental issue	Action policy	Original policy intent	Environmental issue selected	Second environmental issue	Third environmental issue
Pressure 1	Policy 1				
Pressure 2	Policy 2				
Pressure 3	Policy 3				

Back in your groups, address the following questions:

- Draw conclusions about the success or failure of the policies you selected for analysis regarding the broad goal of sustainable development in the country you selected. Let the trainee from the country selected provide leadership on this discussion. What should be done differently in the future? Use the table below to help you organize your evaluation.

  Note: A full assessment might include sustainable development criteria and performance indicators. We are only looking for general impressions in this exercise.

- When you have completed the table, discuss the social issues and values implicit in the policies that are revealed in this discussion.

Again, make your presentation to the rest of the participants.

Policy evaluation regarding sustainable development goals for country your team selected

	Overall performance (goal: sustainable development)	Major successes or failures regarding the goal	Priority action for future

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Policy 1			
Policy 2			
Policy 3			
Policies as a group			

9.12 Study/discussion questions

Q: Explain how the stage of policy formulation in IEA and reporting shows the importance of having the right indicators?

A:

_____

_____

_____

Q: State one example from your own actual experience when the performance of a policy was poor because of poor data sources.

A:

_____

_____

_____

9.13. References

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