

## ENVIRONMENT POLICY FORMULATION: A SYSTEMS PROCESS IN UGANDA

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### ABSTRACT:

Applications of a systemic approach, promoting coordination, and building institutional capacity in environment policy formulation and implementation are discussed. The main objective was to examine environment policy formulation amidst ongoing tremendous biodiversity degradation. Key stakeholders across ministries were interviewed on current standard policy formulation principles, aspects of a systemic approach, coordination, and present institutional capacity. Results indicated 62% agreed with a multisectoral policy formulation process, though the systemic and participatory approaches were misunderstood. Over 50% of respondents questioned available institutional capacity for formulating and implementing the environment policy. Fifty-seven percent of respondents were dissatisfied with policy coordination within social, political and economic spheres. Conclusions are that inadequate institutional capacity and poor coordination among social, political and economic institutions lead to poor policy implementation and continued biodiversity degradation, thus hindering sustainable development. Recommendations are that i) policy makers be informed on the differences between systemic and participatory approaches; ii) coordination and institutional capacity be taken as important aspects in policy making; and iii) future research should further evaluate the policy implementation process.

**Keywords:** Biodiversity; Environmental Impacts; Sustainable Development; Institutions; Policy; Systems.

## **INTRODUCTION**

### **Development Policy Challenges**

A robust sustainable development agenda requires that the environment is protected at minimal economic costs. Under appropriate circumstances, economic growth and environmental improvement support each other (Blowers, 1997). However, in the drive toward development and modernization, Uganda's natural resources have been over exploited. For example, 80,000 hectares of forest cover are lost in Uganda annually (National Forestry Authority (NFA), 2009). In addition, the former wetlands within Kampala city are current sites of the biggest shopping malls (Garden City, Lugogo Shoprite and Nakumat) or restaurant parks (Centenary Park) (Titeca, 2010). Even more of Kampala's wetlands are lost to urbanization, due to demand for accessible land for industrial building (National Environment Management Authority, NEMA, 2006). The argument here is not about taking a neo-Marxist approach of de-modernization in the face of conservation (Stretton, 1976; Schnaiberg, 1980), and opposing growth. It is about acknowledging need for modernization and sustainable use because Uganda's natural resources like forests, wetlands, lakes, mountain areas and others represent a primary source of survival for many citizens. Importantly, natural resources act as ecological habitats for vast species diversity (National Environment Action Plan, NEAP, 1993), clean fresh water and breeding zones for lake fish, fuel for domestic needs, medicinal herbs, and soil cover/fertility (NEMA, 2006), among other ecosystem services.

Uganda enacted a number of policies to ensure proper natural resource management (NEMA, 2006), including Wetland Policy 1995, Water Policy 1995, Forestry Policy 2001, and Fisheries Policy 2004 all under the umbrella of the Environment Policy 1995. In addition to those, the organic agriculture policy, which is designed to also work hand in hand with the environment policy is still under planning, and has reached national cabinet approval level. However, in the midst of these policies, there is tremendous resource degradation and decline in natural resource services. In areas such as Kalangala District, already more than 10,000 ha of forests on Bugala and Bunyama Islands have been converted to a palm oil project. There are plans for an additional 40,000 ha to be planted to this industrial crop (Kalangala District NGO Forum (KDNF), 2009; NFA, 2008). Such uncontrolled development raises questions about appropriateness of policies that appear to be ineffective in reducing current high rates of natural resources degradation. Several key questions arise that become critical questions for research.

To what degree does Uganda have an adequate policy in place to guide natural resource management? Was this policy formulated to be appropriate for local political governance and economic circumstances? Could lack of a systemic approach and multi-sectoral involvement at all stages be causes of high rates of non-compliance, deforestation and biodiversity loss? This study focuses on the overall national environment management policy situation to study the potentials that agro ecology and holistic strategies have to guide and impact all related environmental policies in the country and how enlightened approaches could lead to sustainable development.

### **Objectives and Hypotheses**

Our main objective is to examine the process of formulating environment policy in Uganda including institutional approach, organizational coordination, and human capacity for this task, as well as the effectiveness of policy in meeting environmental goals.

Specific objectives are to:

i] Determine the extent to which a systemic approach was used in formulating current environment policy and examine the attitudes of key players in the process toward the importance of systems thinking;

ii] Examine the extent to which the environment sector coordinates with social, political and economic spheres, and how effective this is currently in policy implementation in Uganda; and

iii] Establish whether there is adequate capacity in each organization for formulating adequate environment policy and for interpreting and implementing this policy across agency lines.

Based on these three objectives, we designed a research project that would determine whether: i] the environment policy has been formulated by focusing on and implementing a systemic approach; ii] there has been adequate coordination between the environment sector and other social, political and economic spheres of the country and that the process effectively involves a participatory approach; and iii] there has been adequate human and institutional capacity to engage in key issues and with motivation for employing and formulating an effective environment policy.

We present results of a study, which addressed these questions, supported by careful examination of major aspects of policy development in Uganda. The paper is organized into sections on the systemic theory perspective (both meaning and importance); on explaining the development policy approach, effectiveness of institutional coordination and interactions (social, political and economic institutions); on details of methodology employed in this study; and on presentation of results and conclusions, with these leading to policy recommendations.

## **RELATED SCIENTIFIC LITERATURE**

### **Systemic theory perspective**

Systems theory provides a foundation for the analysis of a policy problem in relation to its solution (Jenny and Russel, 2001). Systems theory principles provide guidelines for understanding components of complex systems that should not be separated from each other, for example into different academic disciplines (Ekvardet al., 2014). In the perspective of policy making, a systems understanding calls for effective institutional interactions among all spheres/sectors responsible for the process. Social, political and economic institutions must work together in designing and achieving effective policies. In this perspective, systems are viewed as open, connected and coordinated in all aspects. Every system has components, which function interactively (Ekvardet al., 2014). Such complexity is the nature of ecosystems, as well as human designed systems, and leads to examination of systems, ecological complexity and systems strategies.

Sustainable agriculture for development occurs within broad biophysical, socio-economic, human-managed and natural ecosystems. The human and natural ecosystems are important because they provide current wellbeing and should be designed to provide for the present while not reducing opportunities for future generations to enjoy similar options for using resources (UN, 1988). An ecosystem is a community of biotic (natural biological resources) and abiotic (non-living resources). Biotic resources such as crops, animals, and microbiota interact with abiotic resources such as minerals and chemicals within their environment (CBD, 2004). The interactions of biotic and abiotic resources are reflected in multiple and complex inter-linkages and interdependencies. Interrelated components and processes in natural systems operate to some degree in equilibrium, and any breakdown in one critical component or interaction may disrupt or change parts or whole ecosystems. Natural systems could be a metaphor for human systems, as similar principles could apply to development policies where success appears to

require inclusion and meaningful participation by different institutions and their personnel. From a systemic point of view, meaningful participation could imply that involved stakeholders are able to share freely their views because all are experts within their respective disciplines.

### **Importance of a systems approach**

Active participants in development who employ systems thinking seek to build understanding of components and complex interactions, then to encourage all actors to use their knowledge to promote a holistic understanding of the ecosystem in a manner that will promote its long-term sustainability. Broad focus on the entire social and natural ecosystems is essential because of an extensive array of eco-services on which human societies depend. Sustainable ecosystems provide utilitarian ecosystem services such as medicine, food and firewood provisioning. They also provide equilibrium, biological integrity and diversity that contribute to additional supporting and regulating services (Daily, 1997; Altieri, 1999).

### **Integrative planning and implementation**

Literature reports (Chandra and Idrisova, 2011; Ostrom and Cox, 2010) emphasize that all relevant sectors must work interactively at planning and implementation, and a useful process is application of systems theory. An approach using systems thinking in development planning and implementation improves inter-sectoral coordination and limits the monopolized implementation of development by a few vested interests that would impede effective natural resource management that will benefit all of society

Sectoral interaction is analogous to the complex operations within a household or community with all their components, needs and functions, which taken together contribute to their sustainability. There are multiple factors, many players involved in biological and socio-economic systems within which natural resource management, and sustainable biodiversity use activities take place. The lack of systemic approaches could lead to misunderstandings of how different agencies and stakeholders in the system adjust and adapt to new environmental conditions. ICSU Belmont Report (ICSU, 2009) and Wolf (2011) highlighted this idea. Both reported the importance of networking among different sectors when addressing and planning in crosscutting issues, and the need to understand environmental sustainability (Amadi, Wordu and Ogbanga, 2015) Challenges of poor coordination, collaboration, participation and implementation of development programmes could be addressed by embracing a systems thinking approach. Chandra and Idrisova (2011) emphasized the need for multi-sectoral, cross-sectoral, inter-sectoral and intra-sectoral coordination, collaboration, and information sharing, as well as providing “participatory platforms... [and] multilevel governance and policy coherence” (p. 1).

Furthermore, in support of the systemic approach and incorporating biological diversity interactions, Ostrom and Cox (2010) elaborated the linkages between natural and human-managed ecosystems, which complicate sustainable governance of the two systems. However, they noted that sustainable governance of natural and human-made ecosystems was increasingly difficult as human populations grow and the levels of economic development as well as complexity increase over time.

Obvious and complex interactions could be cause for a need to adopt a systemic approach that embraces multiple perceptions of development programme planning and implementation. Inclusive whole system planning encourages working with multiple disciplines to share different kinds of knowledge and methods. Interdisciplinarity encourages sharing knowledge within and across disciplines. Both approaches enrich the policy development process. Therefore, it could be necessary for policy planners

and implementers to avoid following the traditional “academic divisions between ecology, engineering and social science...to build simplified models for complex systems” (Ostrom and Cox, 2010; NFA, 2009). In elaborating on the importance of addressing *ecology of food systems*, Francis et al.(2003) articulated the importance of connecting disciplines in production agriculture programmes, insisting that in addition to production and economics the “fields of sociology, anthropology, environmental sciences, ethics and economics are crucial to the mix” (p.99). More than just theory, operational interactions among multiple disciplines were also found to be essential.

### **Complexity of implementation**

Gunderson et al. (1995) and others report that a systems approach to implementing environmentally sound and sustainable development planning is both essential and appropriate for the future, since dynamic systems do not follow simple cause and effect relationships. We need to explore whether Uganda has undergone serious biodiversity degradation due to ineffective planning and inadequate participation in development programme implementation. To embrace systemic theory, people involved in current complex and entrenched national systems may need to thoughtfully reflect on and carefully scrutinize their agencies’ past performance through analysis and understanding of each of the constituent components of the complex system and how they must be viewed together. It is important to learn how central this integration is to systems understanding.

We need to learn from the Uganda situation how achieving integration and success emanates from using knowledge across relevant disciplines at all planning and implementation levels. It is important to assess whether an appropriate goal is to set in motion a process to achieve sustainable systems characterized by:

- i) focus on continued productivity of food and conservation of biodiversity resources, with potentials to include changes in dietary preferences (Garnett and Godfray,2012);
- ii) meeting the growing demand for bio-energy sources while putting priority on food for people (Garnett and Godfray,2012); and
- iii) Adapting to or mitigating climate change in a sustainable manner (FAO, 2011).

In the context of Uganda, we can assess whether this is the most efficient approach for creating systems that are diverse, dynamic and easily adapted to new circumstances (Hoffmaister, 2009). According to Gunderson, Holling and Light (1995) systems are dynamic and interactive, and certainly not linear. Therefore small changes within system components may be amplified through multiple feedback mechanisms, hence the need to consider the scale of management interventions and crosscutting interactions, as well as thresholds for action.

### **Development policy process**

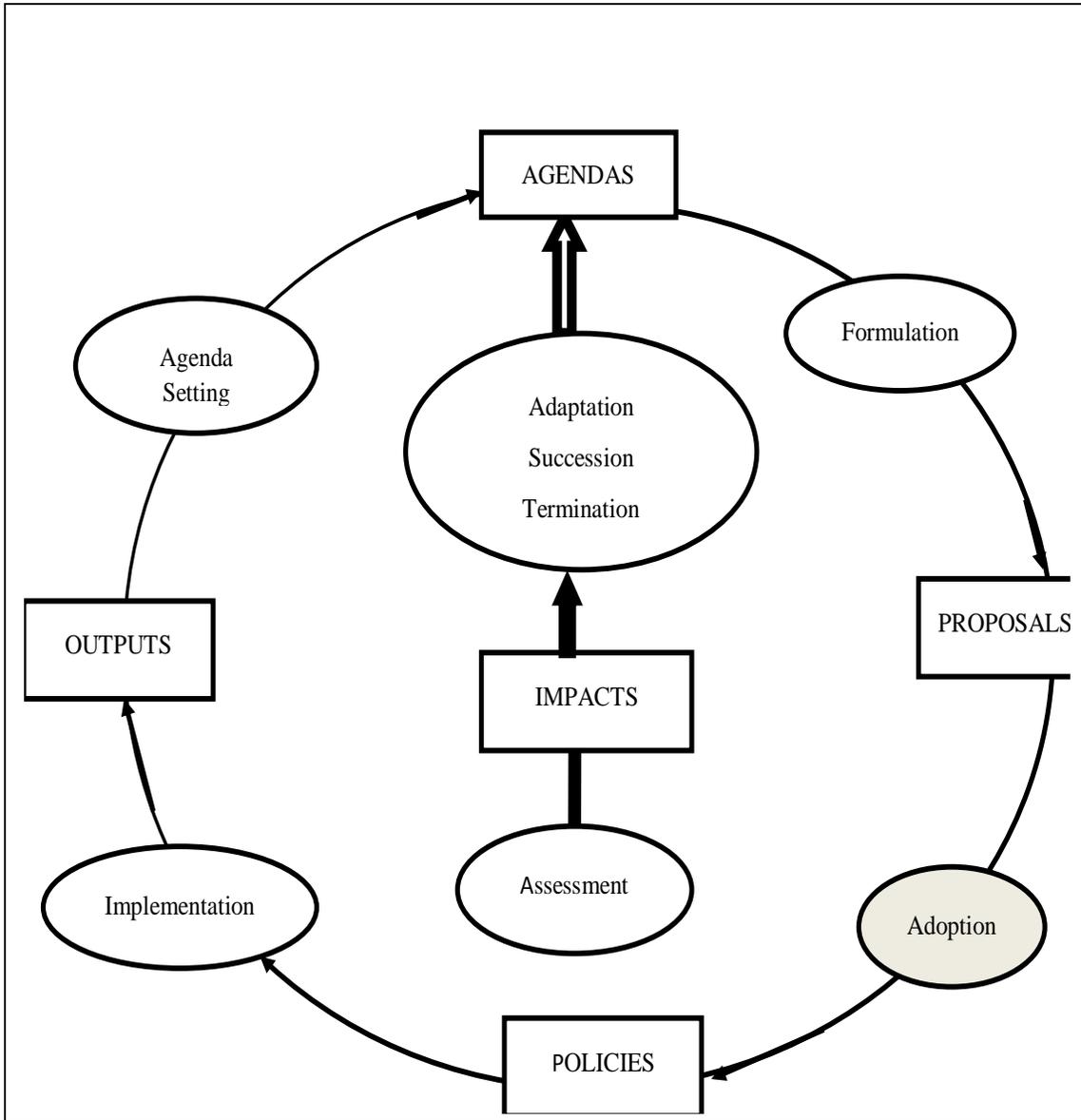
To answer the stated research questions, it is useful to review the standard process used to develop policy, and to contrast this with a potential active involvement model. It is logical to examine results of current policies and projects, as many would argue that “to assess quality of the development policy making process, one must examine a set of its characteristics and the outcomes it achieves” (Hallsworth, Parker and Rutter, 2011; p.4). Obviously, this is not an easy task, since even the best process is susceptible to power relations and dominance of groups with stakes. These are important aspects to assess in due course of the present research. First, we explore the standard process found in policy development in Uganda by reviewing relevant policy documents and other sources of information that included interviews with senior civil servants and ministers as well as stakeholders. The key words here are development policy and process.

Policies are general statements of goals which are then narrowed and integrated into courses of action, and can be categorized as macroeconomic (fiscal, monetary), social (education, health, environment, housing, labor, gender, local government), or political (democratization, decentralization). A development policy agenda for any national economy should aim at guiding strategies that support an orderly and appropriate process. Considering that sustainable development must be long term, achieving this goal requires high quality institutions and appropriate policies, such as the environment and organic agriculture policies, in place and operational. This process needs internalizing by public sector personnel who will be in positions for a long time, certainly with a stability that is seldom found in those positions determined by the electoral process.

Policy formulation is a process including the actions recommended to produce a rational and effective policy (Hallsworth et al., 2011; Sutton, 1999). In reality, the policy making process should exhibit high standards of integrity and quality because it is from these policies that major economic, political and social decisions are taken, and all of these impact the sustainability of the ecosystem as well as citizens' wellbeing (Corkery, Land and Bossuyt, 1995). That is a compelling reason for countries to have proper policy processes with robust structures in place for implementing them. The process of policy formulation should be cyclical, rather than linear or static, and is normally formal, often undertaken by government including ministers, civil servants as well as other stakeholders. Uganda is used as a case study to explore challenges in the process.

Hallsworth et al. (2011) describe the importance of having cyclical policy processes, where experiences from previous policies and their results inform new ones. This can be a challenge because in many countries policy makers do not make proper use of existing guidelines and experiences, and thus repeat previous mistakes, or changes in leadership result in loss of 'institutional memory'. In his presentation on public policy making in U.S.A., Cockrel (1997) presented public policy as something difficult to describe and the process as obscure. The author advised that public policy making can be more easily understood if the process is broken down into small parts with appropriate attention to details. Sutton (1999) and Thomas and Grindle (1990) noted linear models as the most commonly used procedures in policy making and described the policy process as rational, balanced, objective and analytical, characterized by sequential and phased decision making. However, as already noted, the linear model is relatively static and may not be an ideal model in the policy making process.

In the real world, an ideal policy making process could be cyclical with eight stages: agenda setting, policy formulation, policy adoption, policy implementation, policy assessment, policy adaptation, policy succession and policy termination as illustrated in Figure 1 (Dunn, 2012). This figure shows the complexity of the policy process expressed as a cycle. The implication of the cycle is an endless inter-linkage of each stage to another. These stages of a policy process could be improved by active involvement of all stakeholders, and should include representatives of all sectors, including civil servants within the social, economic and political spheres (Dunn, 2012). This is referred to as the systemic and multi-sectoral approach in this paper, respecting and building the interconnectedness, interdisciplinary, system-wide, comprehensive approaches to development policy formulation and implementation.



**Figure 1: Cyclical policy process from (Dunn, 2012) with modifications**

We explore the three-dimensional institutional spheres through which proper development of policy formulation and implementation processes should occur: the social, economic and political spheres. Using the Uganda case, there is emphasis on the importance of these three institutional spheres in policy processes. In NEMA (1995), there is an examination of Environment Management Policy basing evaluation on the observation that failure of an effective interconnectedness misleads the policy process. In this regard, substantial information is accumulated and brought to the fore. This includes how not solving challenges of effective institutional interaction in development policy formulation may hinder sustainable use of biodiversity,

and may cause natural resource management strategies to fail, thus retarding sustainable rural development. Gaps between theory and practice in the Environment Management Policy are reported as they influence the search to answer the research questions.

### **Effectiveness of institutional coordination and interactions**

Figure 2 shows an interconnection between economic, political and social institutions that govern economic behavior, shape political and communal behaviors respectively (Wiggins and Davis, 2006; Lauth, 2000; Helmke and Lavitsky, 2006). Since there is an interlinkage among these institutions, their effective interaction calls for a multidisciplinary cooperation between economists and political scientists (Leftwich and Sen, 2010), as well as involving sociologists. However, many times institutions are not functional and fail to fulfill expectations. Multidisciplinary approaches have potential to create effective and inclusive communications to achieve guidelines and rules for sustainable development. In this case, re-organization would require multilevel communication and decentralization of institutions to enhance information flow, combine different types of knowledge for learning, and provide a forum for interactions (Genderson, et al, 1995 cited in Hoffmaister, 2009; Folke, Hahn, Olsson and Norberg, 2005).

Coordination of social, political and economic institutions should lead to sectoral coordination in policy formulation as illustrated in Figure 3. The figure shows policy processes that embrace systems thinking and promote inter-linkages between sectors to deal with crosscutting issues and themes. Sustainable natural resource management is at the centre of sectoral and cross-sectoral coordination. Although various scholars have described the importance of sustainable systems emerging from crosscutting interactions, most countries and their economic advisors have not embraced the systemic approach. In Uganda, efforts to embrace the systems thinking strategy are questionable due to the unclear state of institutions in place or properly oriented to support the most appropriate activities. For example, in an effort to promote modernization of agriculture, Uganda embraced multisectoral thinking but with meager budgetary allocations. Without funds or through misuse, activities did not become fully operational, with one consequence the continued degradation of ecosystems.

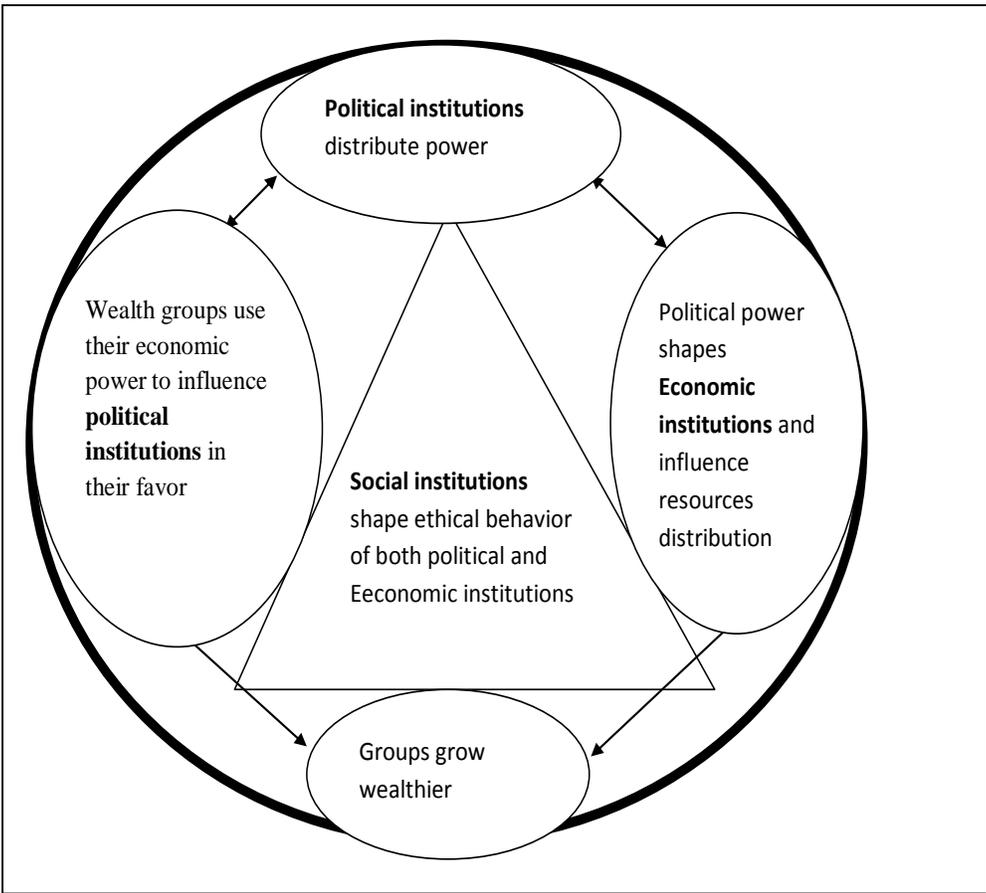
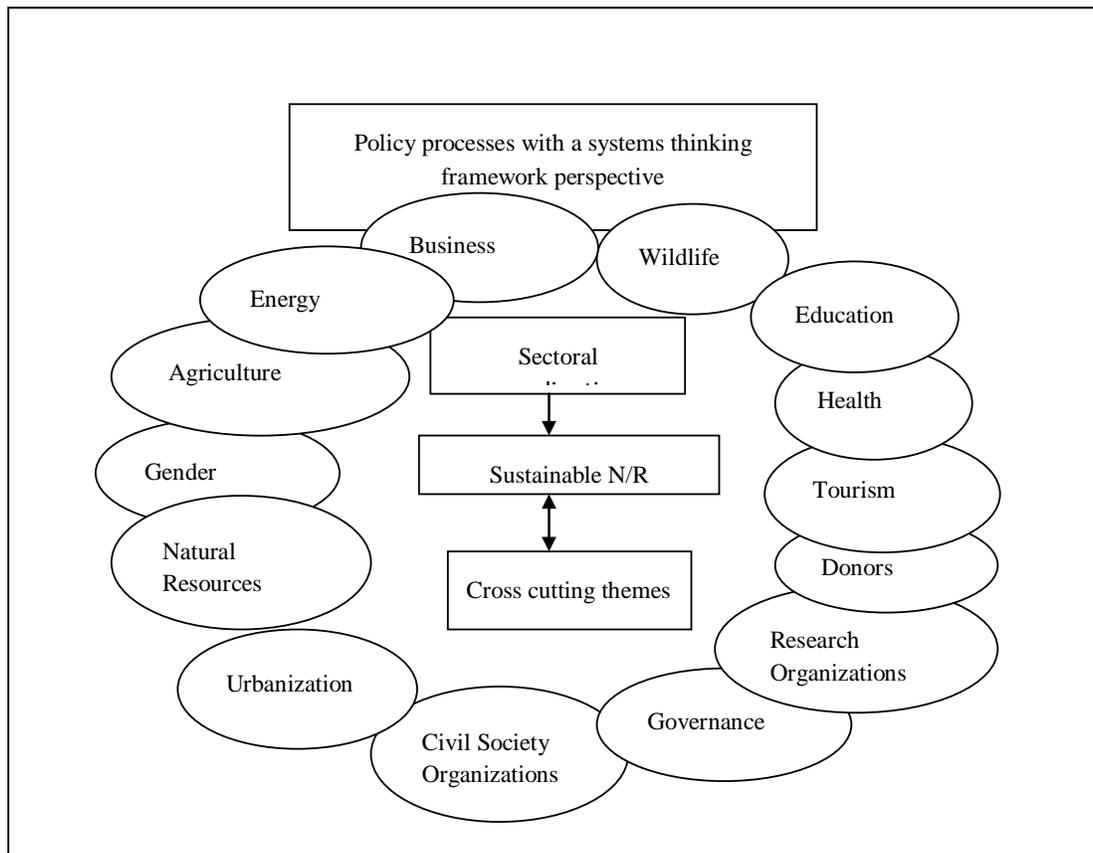


Figure 2: Interactions among social, political and economic institutions (original diagram inspired by IMF (2005))



**Figure 3: Sectoral coordination in policy formulation**

### **Policy development in Uganda**

In Uganda, there are reports on forest ecosystems and agro-ecosystems<sup>1</sup> depletion in resources and their biodiversity degraded. Majority of smallholder farmers are poor, involved in marginal discourse, and have little impact in decisions taken towards natural resource protection (Cashmore and Richardson, 2013; Bond, Viegas, Coelho and Selig, 2009; Mitchell, Clark, Cash and Dickson, 2006). Would it be necessary for researchers, policy makers and civil society organizations to shift from a simple and linear conventional approach to a complex adaptive and systemic approach? The latter calls for co-management and collaborative approaches (Holling, Gundeson and Ludwig, 2002) also referred to as those guided by system-wide<sup>2</sup> or multi-sectoral perspectives. Several scholars (Plummer and Armitage, 2007; Bryan, 2004; Frame, Gunton and Day, 2004) have warned that the systemic approach often ignores power imbalances and exclusion of the general public, yet the approach has been found most appropriate because power imbalances can be improved in the presence of proper institutions.

<sup>1</sup>An agricultural system, including humans and plants, also understood as an agricultural ecosystem.

<sup>2</sup>A system of collaboration and coordination for all sectors within and among themselves to take into account crosscutting issues during development policy planning and implementation.

As a way of substantiating the relevance of these theories and their applications, the concrete picture of what happens in the Ugandan policy formulation process provides a contemporary illustration. In the next section; methods used to analyze the policy process in Uganda are presented.

## **METHODS**

### **Scope of the research**

Among development policies, those related to environment are the most crosscutting and have greatest potential impact on biodiversity. The biophysical environment itself is complex with multiple components, yet consideration must be expanded to include the socio-economic sphere, which brings additional complexity. Each constituent component interacts with others, thus a systemic approach to policy formulation is required to bring about some rational order of this dynamic equilibrium. The goal is a formulated environment policy that is relevant to sustainable development and biodiversity conservation. A critical evaluation of Environment Management Policy of Uganda was conducted, including a characterization of the policy formulation process. Also considered was the degree to which the process embraced a systemic approach, with coordination among stakeholders and agencies and consideration of overall capacity provision.

Key stakeholders from institutions in Uganda (Appendix 1) were purposively sampled as respondents, and then open space group discussions and guided interviews were conducted with key respondents. Those surveyed were in the Ministries of Agriculture, Animal Industry, and Fisheries; Environment, Water and Natural Resources; Health; Education and Sports; Industry, Trade, Tourism and Cooperatives; Finance and Planning; and Gender, Labor, and Social Development. Also included were the National Environment Management Authority (NEMA), the National Forestry Authority (NFA), Uganda Wildlife Authority (UWA), and some member organization of the Private Sector Foundation of Uganda (PSFU). These institutions were categorized into eight different clusters or sectors. The number of respondents sampled per sector depended on how many were involved in policy matters, which then provided firsthand information regarding the policy formulation process.

### **Data types and analyses**

To analyze the National Environment Management Policy, a cross sectional survey employing qualitative and quantitative methods was conducted (Sage, 2008). Secondary data were sourced using the policy formulation process model (Springate-Baginski and Sousson, 2002) as a guide. The model provided a description of key elements and processes in policy formulation, and presence of these elements was checked against the National Environment Management Policy 1995. In addition, this development process was analyzed using the method of critical thinking indicators and for general performance as reported (Rossi, Lipsey and Freeman, 2004). Primary data were obtained from a sample of 50 policy makers. Questionnaires were administered covering three major themes: (1) systematic organization and process, (2) capacity of individuals, and (3) social, political and economic coordination. Furthermore, policy formulation and implementation were evaluated by using a set of questions assessed on a five-point Likert scale of (1-5) representing strongly disagree, disagree, not sure, agree, and strongly agree. With qualitative methods, responses were summarized individually for the three themes, and answers to questions falling into each of these themes were evaluated.

In the analysis, a descriptive summary of policy makers' representative sector characteristics, systematic, capacity, social, political and economic coordination aspects was made in Excel using frequency distributions and summary statistics. The

assessment in this section was based on indices generated for each of the characteristics. Choice of adopting a non-parametric approach in the analysis was based on the fact that the indices do not represent real values. Thus, the responses on each of the items were regarded as ordinal outcomes. Data are summarized and presented in tables.

## **RESULTS**

Environmental damage in Uganda has long been a large concern to government and other organizations. When the National Resistance Movement (NRM) came into power in 1986, there was a significant level of degradation, and because of this, the Ministry of Environment was created. Its terms of reference were to coordinate and enhance natural resource management, harmonize the interests of resource users, monitor pollution levels, and advise government on policy and legislative reforms for sound environmental management (NEAP, 1992). In 1991, Government of Uganda launched the National Environment Action Plan (NEAP, 1992), with the NEAP designed to provide a framework for mainstreaming environmental considerations into the country's overall economic and social development. In 1995 the government enacted the National Environment Management Policy (NEMP, 1995), the first of its kind in Uganda's history and one of the landmark developments of the policy process. Here is a summary of core objectives of the National Environment Management Policy which:

- Sets the overall goal, objectives and key principles for environmental management;
- Provides a broad policy framework for harmonization of sector and cross-sector policy objectives, principles and strategies;
- Transforms existing environmental management systems to establish an integrated and multi-sector approach to resource planning and management by creating a National Environment Management Authority (NEMA);
- Promotes positive behavioral and attitudinal changes in perceptions and resource use;
- Provides the basis for the formulation of a comprehensive environmental legal framework;
- Establishes an effective monitoring and evaluation system as well as an environmental impact assessment process and standards mechanism; and
- Provides for an effective information management system to facilitate collection, storage, analysis and dissemination of environmental information, among others.

To assess the effectiveness of the National Environment Management Policy, a review of the policy document included more careful scrutiny and evaluation of its content for consistency with systemic approaches, as described in the following sections. In relation to the core objectives, the principles of the NEMP (1995) listed here demonstrate a systemic approach that is well articulated and which forms the basis for other parts of the policy. The principles will:

- Assure all people living in the country the fundamental right to an environment adequate for their health and well-being;
- Encourage the maximum participation by the people of Uganda in the development of policies, plans and processes for the management of the environment;
- Use and conserve the environment and natural resources of Uganda equitably and for the benefit of both present and future generations, taking into account the rate of population growth and productivity of the available resources;

- Conserve the cultural heritage and use the environment and natural resources of Uganda for the benefit of both present and future generations;
- Maintain stable functioning relations between the living and non-living parts of the environment through preserving biological diversity and respecting the principles of optimum sustainable yield in the use of natural resources;
- Reclaim lost ecosystems where possible and reverse the degradation of natural resources;
- Establish adequate environmental protection standards and monitor changes in environmental quality;
- Publish relevant data on environmental quality and resource use;
- Require prior environmental assessments of proposed projects which may significantly affect the environment or use of natural resources;
- Ensure that environmental awareness is treated as an integral part of education at all levels;
- Ensure that the true and total costs of environmental pollution are borne by the polluter; and
- Promote international cooperation between Uganda and other states in the field of the environment.

This is a robust and inclusive set of principles. A key issue is whether these principles are applied, and that is a central question addressed in this paper.

### **National Environment Management Policy process findings**

The institutional capacity and process of developing the National Environmental Management Policy (NEMA, 1995) has been evaluated through historical records and interviews, and its organization and funding are summarized here. The policy document was established in consultation with stakeholders with full recognition that it would have to be comprehensive and acceptable to all those involved. Thus, for purposes of proper coordination and building necessary institutional capacity, the policy was put in place by a policy committee comprised of all line ministries including the Prime Minister as Chairman, and the Ministers responsible for Natural Resources, Agriculture, Animal Industry and Fisheries [MAAIF], Finance and Economic Planning; Education and Sports, Health, Land, Housing and Urban Development, Local Government; Gender and Community Development, Tourism, Wildlife and Antiquities, and Trade and Industry. This committee provides guidelines, then formulates and coordinates environmental policy. It liaises with the National Cabinet on environment issues, and identifies obstacles to the implementation of the policy and programmes. The policy committee has technical committees and some of them such as Soils Conservation, Pollution, Biodiversity Conservation, and Environment Impact Assessment are in line with objectives of this paper

To ensure proper coordination and grass-roots participation, institutional capacity was addressed by setting up District Environment Committees (DEC) and Local Environment Committees (LEC). The DECs ensure that environmental concerns are integrated in all plans and projects proposed by the district, while the LECs are designed to mobilize people within each area to conserve natural resources through self-help and to restore degraded environments. The LECs also monitor the state of environment in the area such that social-economic activities do not have any significant negative impact on the environment.

The Policy Committee enhanced the institutional capacity by putting in place a statute that brought into force the National Environment Management Authority (NEMA, 2006), which initiates the process by proposing new environment policies and strategies. It initiates legislative proposals, standards, and guidelines, ensures observance of proper safeguards during planning

and implementation of all development projects, and conducts research. Sources of funds for implementation of this policy are identified, though actual access to funds may be a different situation.

From an analysis of the National Environment Policy, information detailed above clearly indicates that within the policy document there was care of required institutional capacity and coordination in involving social, political and economic institutions. Thus, the process put in place assured proper coordination, participation and facilitation at an early stage. However, two strategies appeared to contradict the multi-sectoral approach and hence rendering the institutional capacity inadequate:

i]Placing the Environmental Impact Assessment oversight function in the National Environmental Management Authority (as approved) but leaving implementation to the relevant line ministries and departments, and

ii]Developing Environmental Impact Assessment capacity and capability in sectoral ministries and departments.

To follow the above strategies, various institutions must interact and operate in a multi-sectoral manner to have adequate institutional capacity, yet this is not the case as clearly indicated by inconsistencies in the policy paper. As an example, in chapter four of the National Environment Management Policy there are sectoral policy goals, objectives and strategies, but information from the policy review indicates that each sector was left to individually tackle issues of the environment, hence abandoning the multi-sectoral approach reflected in the previous policy chapters and weakening the intended strengthened institutional capacity. An exploratory policy analysis revealed that a systemic approach had been followed, that there was adequate institutional capacity in government agencies, and that there was sufficient social, political and economic coordination. Although in the policy document, there was an indication of participation by various stakeholders, later interviews found out that effective interaction seemed lacking and thus less systemic and inadequate institutional capacity. The policy document generally showed that the policy formulation process was multisectoral, that there was sufficient and comprehensive analysis of the current scenario, that the policy was based on existing policy gaps, and that there was involvement of beneficiaries. Thus, according to the policy document there was strong agreement that the policy development process somewhat addressed cross cutting issues.

Regarding institutional capacity, the policy document showed that there was sufficient staff and facilitation in formulating environment policy, though lacked adequate bringing on board other stakeholders. There was disagreement in organizations about whether this policy has been implemented as planned. In terms of social, political and economic coordination, there was agreement that the policy was formulated in compliance with applicable professional and legal standards, and that policies were designed to support and coordinate sustainable activities in relevant spheres of influence in the country. Yet there was disagreement in response to the statement that, “According to existing performance reports, there is satisfaction from stakeholders as far as coordination of environment with social political and economic institutions is concerned”.

### **Stakeholder view of the nature of the NEMP formulation process**

Results of interviews from stakeholders who may have been involved in the formulation of the National Environment Management Policy are reported here. The sample included 11 females and 39 males, and by education, 13 were B.Sc., 27 M.Sc., and 10 Ph.D. degree holders. Nine sector ministries were represented, and the most frequent in numbers of people were Agriculture and Education (11 each) and Natural Resources (15 people); there were six respondents from the private sector. In most offices visited, males were responsible for policy analysis, and these were mostly commissioners within different

ministries and officers in other organizations, indicating an evident gender imbalance in senior positions. None of the women respondents was PhD holder. Level of education is a useful indicator that people in these positions could make informed decisions regarding policy issues. Natural Resources, Agriculture and Education were the most responsive groups probably due to their direct involvement in environment issues. Results of the survey are described here.

i) Systemic approach

Overall, the highest proportion of policy makers agreed that there had been a systemic approach to policy formulation. They agreed that the policy formulation process was multi-sectoral (66%); there was sufficient and comprehensive analysis of the current scenario (54%); the policy was based on existing policy gaps (70%); there were feasible crosscutting issues in the policy (66%); and beneficiaries of this policy were involved in its formulation process (52%). Overall, 62% of respondents agreed that environment policy making included taking a systemic approach.

ii) Capacity

For aspects regarding institutional capacity, half of the people reporting (52%) were not sure if there were sufficient staff involved in formulating this policy, and more than half (58%) were not sure if the policy formulation process was well facilitated. Considering whether environment policy was implemented as planned, a majority of those reporting (70%) disagreed. However, 60 % agreed that the policy had been formulated in compliance with applicable professional and legal standards.

iii) Coordination

Regarding coordination of social, political and economic aspects in the policy, a majority of policy makers (62%) disagreed that the community was aware of the policy. With respect to effective coordination between the environment sector and social, political and economic institutions, a majority (60%) disagreed that this had been achieved. A total of 48% agreed that activities based on the environment policy supported the sustainability of the social, political and economic spheres of the country; 50% of respondents disagreed that according to existing performance reports, there was satisfaction from stakeholders as far as coordination of the environment with social, political and economic institutions was concerned.

**Table 1: Opinions on systemic approach, institutional capacity and social, political, economic coordination and reasons for their respective responses to thematic questions**

<b>SYSTEMIC APPROACH<sup>3</sup></b>				
<b>Qs</b>	<b>% Agree</b>	<b>Reasons</b>	<b>% Disagree</b>	<b>Reasons</b>
1.	68	-It is a requirement, Stakeholders were involved.	8	-Multistakeholder rather than multisectoral, -Some sectors like Defense were not considered
2	54	-Different teams got involved in different activities	14	-Very few staff, emerging issues like E-waste, climate change, conflict resolution were not sufficiently analyzed.
3	70	-By then there were no explicit policies addressing environmental issues	14	-No comprehensive input from various stakeholders,
4	66	-Policy included all factors that could help address key environmental issues, --forestry, water, wetlands acts were integrated in the policy	6	
5	52	-Local, countrywide consultations were done.	28	-Mainly government agencies with limited public engagement, grass root communities were ignored, illiteracy limited involvement

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<sup>3</sup>Theme 1: Systemic Approach

The policy formulation process was multi-sectoral.

There was sufficient and comprehensive analysis of the current scenario.

The policy was based on existing policy gaps

There were feasible cross-cutting issues in the policy.

Beneficiaries of this policy were involved in its formulation process

Table 1 continued

CAPACITY <sup>4</sup>				
Qs	% Agree	Reasons	% Disagree	Reasons
1	32	-Teams divided roles, coordination secretariat was set up	16	-
2	26	-Funded as project	16	-Many stakeholders were not involved
3	14		70	-There is limited compliance with basic environment related needs, -Limited funds, limited staff, no political will, elite capture, overlapping roles mislead policy, no coordination within government line ministries, dysfunctional policy coordination committees.
4	70	-Based on Uganda's commitment to global environmental agreements; earth conference in Rio de Janeiro (1992), policy is within the context of the constitution, a variety of professionals available	10	-

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<sup>4</sup>Theme 2:Capacity

There was sufficient staff in formulating this policy.

The policy formulation process was well facilitated.

The environment policy is implemented as planned.

The policy is formulated in compliance with applicable professional and legal standards.

Table 1 continued

<b>SOCIAL, POLITICAL, ECONOMIC COORDINATION<sup>5</sup></b>				
<b>Qs</b>	<b>% Agree</b>	<b>Reasons</b>	<b>% Disagree</b>	<b>Reasons</b>
1	18	-	62	-Limited dissemination and education on the policy, -Illiteracy of majority, poor reading culture, policy objectives not interpreted for the community to understand and appreciate the policy.
2	22	-Environment courses integrated in university curriculum	60	-Contradiction in action, political influence and politicians' cheap popularity, greed of economists, Vertical coordination nonexistent, unwillingness from management authorities, continuous conflicts, more focus is on development, sectors not well versed with policy.
3	48		36	-The spirit of the policy is applicable though not followed well, rampant wetland encroachment and deforestation, gross violations of the policy, unequal treatment
4	18	-Regular state of environment reports	50	-Forest degradation, reports are theoretical, -people are mostly interested in physical impact rather than process

#### Summary of survey results

Quantitative results from the survey are shown in Table 1, along with notes from respondents who provided reasons for their specific responses. The statements to which people responded are listed in footnotes after the table. Comments from respondents add information and a rich dimension to the results, as well as providing a qualitative basis for interpretation of results and formulation of recommendations.

Based on results in Table 1, it was concluded that a multi-sectoral/systemic approach to the environment policy formulation was perceived by respondents, and yet the actual process lacked in coordination and people with adequate capacity to accomplish the goals.

Results indicated that majority of respondents disagreed with coordination of social, political and economic spheres, and several reasons given, that exhibited continuous conflicts within respective sectors. This easily results in agencies not being fully

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<sup>5</sup>Theme 3: Social, Political, Economic Coordination

The general community is aware of this policy.

There is effective coordination between the environment sector and social, political and economic institutions.

Activities based on the environmental policy support the sustainability of the social, political and economic spheres of the country.

According to existing performance reports, there is satisfaction from stakeholders as far as coordination of environment with social political and economic institutions is concerned.

involved in policy processes. However, coordination of the policy formulation process is key to effectiveness of the systemic approach and implementation of policies. Thus, if stakeholders are selected based on availability and brought together without serious consideration of sector representation and their full involvement, then their contribution to the process is impaired, hence inadequate coordination and institutional capacity to effect the desired systems approach to policy formulation. In addition, if normal facilitation is obscure, then people are not easily satisfied. Results indicated that many respondents were not sure of the institutional capacity that was devoted to facilitating the formulation of the environment policy, thus, the contradiction between findings based on documentation, which earlier showed availability of appropriate capacity, and on the ground interview findings. Implementation of a multisectoral and systemic approach is complex, and in the case of the NEMP the aspect of participation was confused with a multisectoral and systemic approach, even though in documents the multisectoral and systemic approach was indicated as having been applied. This is a clear manifestation of inadequate institutional capacity and lack of coordination.

Respondent opinions from different sectors for the three themes summarized and presented in Tables 2, 3 and 4. Those who responded in the Natural Resource and Trade sectors agreed with the availability of institutional capacity to the policy formulation process while other sectors (Private Sector, Health, Agriculture, and Education) were not sure. The Gender Ministry disagreed with availability of enough institutional capacity to ensure a coordinated multisectoral and systemic approach. Furthermore, apart from the Natural Resource and Health Sectors, which scored 50% and 38%, respectively, there was generally a high concern by other sectors (Gender, Agriculture, Trade, Finance, Private Sector) about the lack of coordination of the formulation process. Apart from respondents in Gender, Trade (TRD) and Health sectors, who were not sure, respondents in Agriculture, Natural Resources (N/R), Education (EDUC), Finance and Planning (FIN&PL), and Private Sector agreed about the systemic nature of the environment policy. This could be due to the fact that they are the key sectors related to environment issues and their participation must have been seriously considered. Few respondents disagreed with the current existence and application of the systemic approach.

Table 2 shows responses to questions on the systemic approach: percentage responses from key sectors (Agriculture=AGRIC; Natural Resources= NR; Gender and Disability=GENDER; Trade, Table Tourism and Industry=TRD; Health; Education and Sports=EDUC; Finance and Planning=FIN&PL; Private Sector=PSF) on the overall capacity theme.

**Table 2 Responses to questions on systemic approach**

Responses in %	AGRI C	N/R	GENDE R	TRD	HEALT H	EDUC	FIN&P L	PSF
<b>Strongly agree</b>	5	8	0	0	13	13	0	0
<b>Agree</b>	23	61	0	50	25	21	25	13
<b>Not sure</b>	43	8	50	42	50	36	50	58
<b>Disagree</b>	20	19	50	8	13	16	0	6
<b>Strongly disagree</b>	9	3	0	0	0	14	25	4

Table 3 shows responses to questions on capacity; percentage responses from key different sectors (Agriculture=AGRIC; Natural Resources = NR; Gender and Disability=GENDER; Trade, Tourism and Industry=TRD; Health; Education and Sports=EDUC; Finance and Planning = FIN&PL; Private Sector=PSF) on the overall coordination theme.

**Table 3 Responses to questions on capacity**

Responses in %	AGRIC	N/R	GENDER	TRD	HEALTH	EDUC	FIN&PL	PSF
<b>Strongly agree</b>	11	3	0	0	0	5	0	4
<b>Agree</b>	14	47	25	15	38	16	0	4
<b>Not sure</b>	25	5	0	31	25	32	50	42
<b>Disagree</b>	37	29	50	46	13	30	25	42
<b>Strongly disagree</b>	2	16	1	25	8	25	25	8

4 shows responses to questions on social, political, and economic coordination; percent responses from key different sectors (Agriculture=AGRIC; Natural Resources = NR; Gender and Disability=GENDER; Trade, Tourism and Industry=TRD; Health; Education and Sports=EDUC; Finance and Planning = FIN&PL; Private Sector=PSF) on the overall systemic theme

**Table 4 Responses to questions on social, political and economic coordination**

Responses in %	AGRIC	N/R	GENDER	TRD	HEALTH	EDUC	FIN&PL	PSF
<b>Strongly agree</b>	20	38	0	20	0	17	0	0
<b>Agree</b>	43	60	20	20	50	40	100	20
<b>Not sure</b>	27	0	80	53	50	19	0	13
<b>Disagree</b>	7	2	0	7	0	20	0	27
<b>Strongly disagree</b>	3	0	0	0	0	4	0	10

Given that the NEMP formulation process was reported as multi-sectoral but lacked in coordination and institutional capacity, it should be questioned whether inadequate institutional capacity and coordination affected the subsequent implementation of the policy, and its impact on grass-roots activity in sustainable use of biodiversity resources by development programmes.

## **DISCUSSION AND RECOMMENDATIONS**

Research results from interviews generally show that the environment policy formulation process was designed to follow a systemic approach, although in reality in its actual formulation there was minimal inclusion of multisectoral representation stakeholders. It should be noted that the systemic approach is not mere inclusion/participation of stakeholders, but requires meaningful interaction of those concerned with functional social and political as well as economic institutions. Consequently, we reject the hypothesis that the environment policy has been formulated by focusing and implementing a systemic approach. Further, the presence of indifference and disagreements from the private sector, gender and trade ministries raised concern as to whether the formulation of the environment policy was consistent with the systemic approach. Some respondents were confused about distinguishing between the systemic approach and the participatory approach. One potential reason for this confusion was that stakeholders involved in the formulation consultative process were not selected based on their representative sectors, but on regional distribution. Sectors found in agreement were those that relate more to the environment, yet those left out and who disagreed with the application of the systemic approach, such as the private sector, have a large influence on the performance of the environment and their opinions and support are essential to the process.

Interpretation of our research results is well founded in the literature. Holmes (2011) presented an idea of the ‘whole of government approach’ which respects democracy, where citizens participate in policy making, and where all players support the idea of having all sectors involved in policy formulation processes. Ostrom (1990) and Cleaver and Franks (2005) described the importance of nested institutions where *bricolage* is a dynamic process in which local people’s voices are heard in the wider arena. Various scholars acknowledged the importance of humans’ interactions in harmony and behaving in ways expected within their social, Economic and political spheres (Leftwich, 2006; 2007; North, 1993; Ostrom, 1990; Cleaver, 2002). In the same line of thought, Townsend and Pooley (1995a) encouraged ideas promoting models of cooperative and co-management of resources, which start from planning through implementation of natural resource management policies.

Concerning capacity applied to formulation of the environment policy, many concerns were raised. The fact that only the Natural Resources and Trade sectors agreed with ‘adequate capacity’ may explain why the ‘systemic approach’ was also lacking, and also explains absence of enough institutional capacity and coordination between the political and economic spheres. Only two sectors, Natural Resources and Health acknowledged existence of some coordination. Both lack of institutional capacity and poor coordination were seen as potential implementation bottlenecks, confirmed by a majority of respondents (70%) who indicated that policy was not implemented as planned. Therefore, results lead to rejection of the hypothesis that “there was coordination between the environment sector and social, political and economic spheres of the country”, and the hypothesis that “there was enough capacity in the relevant agencies for formulating environment policy”. In line with lack of coordination, the qualitative data highlight many concerns from respondents. These include gaps in implementation such as limited compliance with basic environment related needs, dismal implementation for solving environmental degradation, inadequate funds and staff to facilitate implementation, lack of political will and excessive political intrigue, short-term economic *vis-a-vis* sustainable environment preferences, poor coordination within government line

ministries, and presence of dominant discourses for self interests, hence reflecting the inadequacy in institutional capacity. Many of these concerns appeared to result from ineffective relations between social, political and economic institutions, which could be a symptom of inadequate capacity and competition for scarce government resources to support positions and programmes. According to Bryant and Bailey (1997), uneven distribution of environmental goods causes a lasting effect on the political and economic progress of a country.

Poor coordination and inadequate institutional capacity result into ineffective implementation. Poor implementation of environment policy is a major concern, because this deficiency in the system fosters continued biodiversity loss especially of tropical forests species, low agriculture output, lack of sustainable food production, and hence increased food insecurity and food sovereignty at both local and national levels. The European Spatial Development perspective raised similar concerns (EUC, 2009; EUC, 2006; UNGA, 2013; Walz and UweSyrbe, 2013; UNDP, 2012).

In conclusion, it will be difficult to achieve sustainable conservation of biodiversity unless there is proper coordination and adequate institutional capacity which should lead to a clear understanding of how to follow a systemic approach in planning and implementation of policies, including the organic agriculture policy which also emphasizes issues of biodiversity and natural resource management. Considering the magnitude and importance of biodiversity in most developing countries, where a majority of people depend on natural resources for survival, there is tension between different user groups for consumption and development purposes. Romero et al. (2012) argued that tensions between conservation and development provide opportunities to negotiate trade-offs and identify synergies. Important tools to promote synergies in sustainable natural resource management include meaningful, effective and fair negotiation through policy processes during both formulation and implementation of programs among social actors; participatory and adaptive governance and transparent politics; information exchange; and market development including transparency in economic development.

It is agreed that effective interactions and coordination among social, political and economic institutions are important for creating a formal dialogue, which promotes transparency in the policy formulation and implementation processes, as well as efficient dissemination of information from the respective economic, legislative and social sectors (Sen, 2003). Moreover, the effective interactions among these sectors create less collusive behavior, and promote harmony within social, political and economic settings, and builds strong institutional capacity to apply a systemic approach to both policy formulation and implementation. In only this way, environmental protection and poverty reduction can be enhanced as a local institutional process (Bastiaensen, Deherdtand D'Exelle, 2005). Systemic thinking and multi-sectoral approaches embrace critical interactions essential to the process, where different sectors within social, economic and political settings are able to work hand in hand to formulate policies and implement them for sustainable development.

Thus, our preliminary research has established that environment policy in Uganda was not formulated as desired through a multisectoral and systemic approach and not implemented as planned, implying that the systemic approach could be lacking during policy implementation. Our results revealed a gap between theory and practice. Therefore, there is a need to dig deeper to identify the role of effective coordination and adequate institutional capacity in successful implementation of environment policies, and expose bottlenecks in the process of recognizing the systemic nature of environmental programmes and their design. Essential to policy development is an appreciation of how government decisions impact biodiversity and set the stage for positive actions in the field. Based on these findings, it is first recommended that while formulating policies, stakeholders

should embrace a systemic approach that recognizes the holistic character of policies related to natural resource management and sustainable development, that they are enlightened on the differences between systemic and participatory approaches to avoid confusion of the two, thus facilitating meaningful interactions in policy processes. Second, it is recommended that coordination and institutional capacity in all forms are included as important aspects in policy making, because the lack of these elements results in failure to apply a systemic approach and hence leads to policy implementation bottlenecks. Third, further research on implementation of environment policy is essential to determine effects of the prevailing policy implementation process, and how this in turn affects biodiversity, especially in the natural forest tree agro-ecosystem. Thus, if natural forest ecosystems are well managed and biodiversity is conserved as a result of good policy formulation and implementation, all agro-ecosystems, including organic agriculture, shall be more likely to perform well and attain the long-term goals of natural forest tree biodiversity, sustainability in food systems and conservation of resources. Environmental sustainability is required as a means to achieve the sustainable development agenda 2030. Achieving environmental sustainability is possible through effective implementation of environmental policies and programmes that are inclusive in their development and accepted by a wide group of key stakeholders.

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Figure 4: Map of Uganda



<http://www.worldatlas.com/webimage/countrys/africa/ug.htm> Cited on 26/08/2016