

**INTRODUCTION:
PROJECT PURPOSE, GOALS, APPROACH**
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**FIRST WORKSHOP ON
ASSESSING TAXONOMIC NEEDS IN GHANA**
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Introduction

Man has for a long time been interested in his environment including the biological resources, and has therefore tried to give names to the plants, animals and other micro-organisms that he interacts with. He has also given various descriptions to them based on how they look like, their functions, and what uses he could put them to. For example, some of the plants and animals may be considered edible or not edible, poisonous or not poisonous and so on. He also tried to understand how the different plants and animals relate to each other and even, the different forms in which the same organism can appear (variation) in the same area or in different parts of the world.

It is this age old activity that is called Taxonomy, which is defined as the identification, naming and classification of organisms. People who specialize in this activity are called Taxonomists and are usually trained in Universities. Unfortunately this activity has been taken for granted and even in Universities, the subject is no longer fashionable to students. In addition, even though the biological resources are still around us, in most countries, there is simply too little taxonomic expertise to enable sustainable exploitation of this resource. In order to derive maximum benefits, we need to determine what problems or difficulties we encounter in our attempts to use or understand this biological resource in all aspects of our lives, whether directly or indirectly. Taxonomy permeates all aspect of our lives and national development on a daily basis.

The factors that make it difficult for maximum and efficient utilization of our biological resources are what we term the 'Taxonomic Impediment'. The 'Taxonomic Impediment' is therefore defined as: the lack of skills, expertise and facilities that makes carrying out effective assessment of diversity and an understanding of what animals, plants and micro-organisms live in any environment very difficult. The assessment is therefore specifically about the taxonomic needs of non-taxonomists such as conservationists, environmental managers, foresters, ecotourism operators, exporters, quarantine officers and so on.

Understanding the Taxonomic Impediment in a country so that it can be removed can only be done by working with the users of taxonomy in these fields, and identifying their taxonomic needs and the way they use taxonomy. In addition, before the appropriate taxonomic resources can be made available, it is necessary to identify

just what problems and gaps they are needed to meet. To do this, a **Taxonomic Needs Assessment (TNA)** is necessary. So far the majority of taxonomic 'needs assessments' that have been carried out around the world have focused on **Taxonomic Capacity** and not on **Taxonomic Needs** that arise in meeting commitments under the Convention on Biological Diversity. In contrast, the methodology for a needs assessment calls for a focus on the taxonomic problems faced by those managing conservation, sustainable use or access-related work etc, and on the capacity building information requirements that would be necessary to enable these problems to be met.

As a result of this recognition, the United Kingdom Natural History Museum (NHM), which already has some experience in TNA, BioNET-INTERNATIONAL (BioNET) The Council for Scientific and Industrial Research (CSIR) and BioNET-WAFRINET supported by the WSSD Implementation Fund (WIF) of the UK Department of Food and Rural Development (Defra), are working together to carry out a Taxonomic Needs Assessment (TNA) in Ghana in support of biodiversity, conservation and sustainable development. The programme of work of the Global Taxonomy Initiative (GTI) calls for national, regional and global Taxonomic Needs Assessments (TNA). In addition, Ghana, in its third national report to the Convention Biological Diversity (CBD) in October 2005, highlighted the need for a TNA at the national level.

The CBD has three main objectives, which are that:

- Countries have sovereign rights over their biological resources
- Countries must ensure sustainable use and conservation of their biological resources
- Countries must ensure equitable share of benefits derived from the use of their genetic and biological resources

In line with this, the Global Taxonomy Initiative of the CBD was created to combat the 'Taxonomic Impediment'.

Collaborators on the Project

UK. Natural History Museum (NHM)

- Has experiences in TNAs regionally and globally

BioNET -INTERNATIONAL (BioNET)

- Has reputation in biodiversity, conservation and also engage in various intergovernmental processes – CBD, GTI etc.

UK Department of the Environment Food and Rural Affairs (Defra)

- The UK has carried out an assessment of this type, and the support provided by Defra allows the experience gained in the UK to be shared with Ghana, and applied for the first time to a developing country.

Council for Scientific and Industrial Research (CSIR)

- Mandated Scientific Institute for research and sustainable development of Ghana

BioNET-WAFRINET - Ghana.

- Sub-regional Country representative of BioNET.

Purpose and Project Outline

The Ghana assessment is intended to achieve the following:

- To provide the Government of Ghana and key stakeholders with a **clear analysis of the taxonomic needs** of priority biodiversity-related sectors in the country
- This information can then be used to **integrate taxonomic priorities into government policies**, and will enable help in-country taxonomic institutes to target their work on identified needs.
- The information gathered will be used to produce a report that will serve as a **basis for Government, taxonomists, end-users of taxonomy** and funding bodies to prioritise decisions on taxonomic **information development and provision**.
- A report on lessons learned from the assessment, and a best practice manual, will be circulated nationally, regionally and globally.

Assessment Focus

The project would assess the taxonomic needs of the following priority sectors of the economy:

- Ministry of Food and Agriculture
- Ministry of Forestry, Lands and Mines
- Ministry of Trade and Industry
- Ministry of Local Government, Rural Development and Environment

Mode of Assessing Needs

Two main tools would be used in assessment of user needs. These are:

- a. Questionnaires
- b. Interviews

Questionnaire

The first part will collect information on the organization, department, company units, divisions etc. including their status, and among other things the numbers of staff who use or apply biological resources. The next part will focus essentially on what taxonomic products the organization uses or needs. In this regard there may be questions on whether the needs are available or not, the source of resource or in their opinion, the sustainability of the resource.

Interviews

The interview sessions will focus on both current and future needs. Information on taxonomic sources, the kind of taxonomic knowledge, or the preferred form of the information, e.g. names of species, images, field guides etc.

Assessing Existing Taxonomic Knowledge about National Biodiversity and its Availability to users

For this part the following among others will be used.

- a. Existing reports, specimen data in collections, literature review pertaining to Ghanaian biota.
- b. Documents of scientific Associations e.g Ghana Science Association, Ghana Academy of Arts and Sciences etc.
- c. Documents in various Ministries, research institutions etc.

Assessing Available Taxonomic Infrastructure

Three broad categories will be concentrated on as follows:

- **Collection facilities**
 - Museums, herbaria, zoos, botanical gardens, seed banks etc. Other aspects include quality of facilities: cabinets, supplies, research space, curatorial office etc.
 - Information on security of the collection against pests, fire, flooding,
 - Information availability and access to it in the form of databases, catalogues etc. are required for the Taxonomic Needs Assessment.
 - Budgetary support, communication infrastructure including long term planning

- **Libraries**
 - Universities, Research Institutes. Agricultural research institutes and stations, Medical Research Centres
 - Extent of holdings
 - Communication capabilities
 - Numbers and kinds

- **Technical and management support**
 - Laboratory facilities.
 - Categories of human resources
 - Computing facilities
 - Research equipment (microscopes, vehicles, cameras etc)

Assessing Available Human Resources Supporting Taxonomy

Good quality human resource to support taxonomic work is critical in achieving CBD, GTI and country goals. In addition, since no country has all the taxonomists it needs or taxonomic expertise in all groups, assessment of current human resources in the light of country needs and goals is required. Such data could be useful in informing prospective students, trainees and funding agencies. The following information will therefore be useful in evaluating capacity.

- Professional research staff in each taxonomic institution (curators, research scientists)
 - Numbers, ages, taxonomic coverage, status etc

- Support staff
 - Collection managers, technical staff, students, undergraduates and postgraduates, parataxonomists, collectors, interns, volunteers, financial support etc.

- Capacity for education and training in taxonomy
 - Education or training available (course titles, content, coverage)
 - Level of education available (Bsc, M.Sc. Ph.D etc)
 - Facilities for training
 - Prospects for employment

Apart from evaluating national taxonomic human resource, countries could assess human resource at the international level that may have relevant role in building in-country capacity. Critical areas of needed information include:

- List of in-country specialists working on foreign countries
- List of foreign taxonomists working in-country
- List of foreign taxonomists experienced in relevant groups
- Availability of training opportunities in foreign countries

There would be discussions in syndicated groups, case studies and perceptions of participants.