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## **APPLIED PERIOD**

(October 2006 to December 2006)

at

**Institute of Forestry Economics**  
Albert-Ludwigs University  
Freiburg, GERMANY



**Topic:**

### **THE ECOSYSTEM APPROACH UNDER CBD AND SOCIO-ECONOMIC MONITORING**

- Supervisor  
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By:

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## What I am going to present?

- Briefly about the University of Freiburg;
- About my Institute of Forestry Economics;
- About MSc EF, its aims and objectives;
- Applied Periods and its goals;
- About CBD and its working;
- Ecosystem Approach and its evolution;
- Structure and Functioning of EA;
- Briefly about the Project I worked with;
- My contribution in the Project;
- Lastly Conclusion and my views on AP.

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## Brief introduction about the University

- In the year 1457, Archduke Albrecht VI of Austria (to which the city then belonged) founded the university of Freiburg;
  - In 1818 Grand Duke Ludwig of Baden provided funding for the continuation of the university;
  - In thanks, the university's name was changed from the **Albertina** to **“Albert-Ludwigs University”**;
  - This University of Freiburg is among the oldest universities in Germany and has a rich tradition.
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### It has total of eleven facilities

1. Faculty of Theology
2. Faculty of Law
3. Faculty of Economics and Behavioral Sciences
4. Faculty of Medicine
5. Faculty of Philology
6. Faculty Humanities
7. Faculty of Mathematics and Physics.
8. Faculty of Chemistry, Pharmacy and Earth Sciences.
9. Faculty of Biology
10. **Faculty of Forest and Environment Sciences**
11. Faculty of Applied Sciences.

### Institutes and Department under Faculty of Forest and Environment:

1. Institute of Soil Sciences and Forest Nutrition
2. Institute of Forest Utilisation and Work Science
3. Institute of Forest Botany and Tree Physiology
4. **Institute of Forest Economics**  
Department of Forest Economics and Forest Management Planning  
Department of Remote Sensing and Landscape Information Systems
5. Institute of Forest and Environment Policy
6. Institute of Forest Zoology
7. Institute of Cultural Geography
8. Institute of Physical Geography
9. Institute of Hydrology
10. Institute of Landscape Management
11. Meteorological Institute
12. Institute of Silviculture
13. **Institute of Forest Growth**  
Department of Forest Growth  
Department of Forest Biometry
14. Co-operating Institution, Fire Ecology Working Group.

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## **Brief about the Institute of Forestry Economics**

The institute is headed by Prof. Dr. Gerhard Oesten, assisted by Ms Weidner Angelika and Ms Hettich Susanne as secretaries and is having 21 members as researchers including some external staff.

### **Its aim:-**

**“Studying economics of forestry” is the main object of research, teaching, continuing education and practical scientific consulting and its main scientific works includes:-**

- Working on interaction between “Forest Enterprises and Society”
- Working on “Sustainable Management of Enterprises”
- Research on “Institutional Change and Resource Utilisation”
- Examination of “International Forestry” i.e. transnational environmental problems and questions.

### **The current projects at the Institute are:-**

1. **WaReLa**( Water Retention through land-use);
  2. **ZUFO** (Future Markets of the Forest-Timber-Chain);
  3. **The EA under CBD and Socio-Economic Monitoring.**
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**MSc European Forestry**: is a **2-year double-degree programme**, co-organized by the 6- European Universities.

**Mission:**

- To provides academic education in forestry focusing on the international dimension of **sustainable forest management** issues;
- To provide a whole range of **new challenges and demands** for policy and management at the national, European and international level;
- To focus **on international dimensions of forest resource management and utilization**, supported by a sound understanding of the ecological conditions and their dynamics in Europe.

**Curriculum** is so designed to meets the needs of:-

- National and international forest/nature management agencies and governmental bodies;
  - National and international research institutions;
  - International forest enterprises and timber, paper, and pulp industries;
  - Internationally active NGO's.
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## Applied period and its goals?

- For the students to apply their skills and knowledge gained throughout their student and working life;
  - The main aim of AP is to work and learn as a part of a team in an organization/institute so that both **the student and the host organisation get maximum benefits** from the coursework;
  - To know how an organisation/institute is operating in National, European and International level;
  - To know about the business culture, values, team working, projects and organization management;
  - To carry out the evaluation of the host organisation and
  - To submit a report on the work done at host organisation as well to the university of Joensuu along with PowerPoint presentation at both places.
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Topic:

THE ECOSYSTEM APPROACH  
UNDER CBD (Convention of Biological Diversity)  
AND  
SOCIO-ECONOMIC MONITORING

Introduction to CBD



**Biodiversity**:- is a contraction of biological diversity and it “means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part, this includes diversity within species, between species and of ecosystems.”

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## The convention on Biodiversity (CBD)

- It is one of the key conventions among three signed at the 1992 Earth Summit in Rio de Janeiro;
- It was negotiated under the auspices of the UNEP;
- It was opened for signature on June 1992 at UN Conference on Environment and Development (UNCED) and entered into force on 29 December 1993 and have 187 countries (by August 2003) as Parties;
- It is a legally binding convention under UN system;
- The CBD Secretariat is located in Montreal, Canada.

### **The three objectives of the convention are:**

- I The conservation of biological diversity;
  - II The sustainable use of its component and
  - III The fair and equitable sharing of the benefits from the use of genetic resources.
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## How Does The Convention Work?

**The Conference of the Parties (COP)** is the governing body of the Convention and meets every two years:

- To review the progress in the implementation of the convention;
  - To decide on the work programme to achieve its objective;
  - It is also the forum for the adoption of amendments or protocols to the convention;
  - The decisions of the COP are legally binding agreements;
  - It is supported by SBSTTA.
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## **SBSTTA** ( Subsidiary Body on Scientific, Technical and Technological Advice )

- Whereas the COP is the political forum, SBSTTA is meant to give scientific advice which is politically applicable;
- It reports regularly to (COP) on all aspects of its work and advices;
- The recommendations of SBSTTA are important source for the discussion and the decision making process at COP;
- It meets several months prior to each COP;
- The Earth Negotiations Bulletin has covered each COP, SBSTTA.

## **The Clearing-House Mechanism (CHM) :**

- To ensure the worldwide exchange of information related to the convention of biological diversity-a network known as clearing house mechanism was established.
  - The secretariat's CHM is: <http://www.biodiv.org/> and CHM of the European Community is: <http://biodiversity-chm.eea.eu.int/>
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## What is Ecosystem approach?

The ecosystem approach is “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”.

**Thus, the application of the EA will help to reach a balance of the three objectives of the Convention.**

## Evolution of concept of Ecosystem Approach by COP

2. COP in its **second meeting**, held in Jakarta, Nov. 1995, adopted the **EA as the primary framework** for action under the Convention.
  4. COP in its **fourth meeting** held at Bratislava, Slovakia, May 1998 stressed (SBSTTA) **to develop principles and other guidance** on the EA, taking into consideration Malawi workshop on EA on Jan.1998 and to report to the **COP at its fifth meeting**.
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6. COP in its **6th meeting** held at the Hague, Netherlands, April 2002 recognizes:

- The necessity to apply the EA in **national policies and legislation**;
  - The importance of **developing regional guidelines** to apply EA;
  - Requests the Executive Secretary SBTTA- **To continue the collection, compilation and dissemination of case-studies** and lessons learned and to report prior to 7th meeting of COP;
  - The need and so, directed the United Nations Forum of Forests, to convene a meeting of experts **to compare the EA with SFM**, and develop proposals for their integration;
  - To develop proposals for the **refinement of the principles and operational guidance** of the EA on the basis of case-studies and lessons learned.
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7. The **seventh meeting** of the COP at Kuala Lumpur, Malaysia, February 2004 welcomed:

- The **implementation guidelines and annotations** to rationale;
- The development of a **web-based “sourcebook”** for the EA, accessible through the **clearing house mechanism**. The sourcebook will include a database of case studies searchable by biome/eco region and sectors.

8. The **ninth meeting** of COP is going to be held in **Germany on May 2008**.

**Ecosystem**: “means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.”(Definition as per article 2 of convention)

This definition is in contrast to the Conventional definition of "**habitat**" does not specify any particular spatial unit or scale

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- Thus, the term "**ecosystem**" does not, necessarily, correspond to the terms "**biome**" or "**ecological zone**", but can refer to any functioning unit at any scale;
  - The **EA requires adaptive management** to deal with the complex and dynamic nature of ecosystems and the absence of complete knowledge or understanding of their functioning;
  - **Measures may need to be taken even** when some cause-and-effect relationships are not yet fully established scientifically;
  - The EA does **not preclude other management and conservation** approaches rather, integrate all to deal with complex situations;
  - **There is no single way to implement the EA**, as it depends on local, provincial, national, regional or global conditions;

So, **there are many ways in which EA** may be used as the framework for delivering the objectives of the Convention in practice.

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## The EA within the structure of CBD

### CBD Objectives

Conservation of biological diversity  
Sustainable use  
Equitable sharing of benefits

### Central tenets of the EA

5 – Conservation of ecosystem structure and function  
6 – Balance and integration of conservation and use

#### **Design Directives**

3- External ecological effects  
6- Limits of functioning  
7- Appropriate scales

#### **Governance Directive**

1- Societal choice of Objectives  
2- Decentralisation  
12- Involvement of sectors of society and scientific disciplines

#### **Management Directives**

8- Long term objectives  
9- Adaptive management  
11- Pluralism of knowledge and its accessibility

**4-Economic context:** Reduce distortion, align incentives;

SOURCE: Flitner et al.2006



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## PROJECT I WORKED WITH

Project Title : - **The EA under CBD**  
and  
**Socio-Economic Monitoring**

- Author or responsible: Prof. Dr. Gerhard Oesten and Dr. Michael Flitner,  
organisation Institute Of Forestry Economics.
  - Project status : Ongoing
  - Project start date : 09-2006
  - Project end date : 08-2008
  - Funding source : BMU (Federal Ministry for the Environment, Nature  
Conservation and Nuclear Safety)  
GERMANY.
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## My job in the project

- To **Search of all case studies pertaining to EA** under CBD and
  - To study all the case studies thoroughly and to find out the following parameters with particular **thrust on socio- economic criteria's/ indicators**:
    - i) Focus of the study;
    - ii) Is there a specific part of the study on monitoring and/or indicators?
    - iii) What was monitored or proposed for monitoring?
    - iv) Are there any socio-economic indicators mentioned or elaborated?
    - v) Further remarks if any.
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• **In total 42 case studies pertaining to ecosystem approach have been found.**

As my job was mainly to see whether any work of **socio-economic monitoring** has been done or not besides above listed parameters in the said case studies. I will mention here only **10 case studies** which have done something about socio-economic monitoring.

1. First I will take, particularly case study “Title- Biodiversity, Landscapes and Ecosystem Services of Agriculture and Forestry in the Austrian Alpine Region - An Approach to Economic (E) Valuation Austria” which says about:-

- **Copy right on nature** except for studies and private use---and proposal for certain copyright fees to international fund (**GEF**) for funding of protection and conservation of biodiversity;
  - **Direct payment-** as measures for livelihood of farmers for maintenance of landscape and biodiversity;
  - **Replacement cost** approach for protective effects of forests;
  - **Willingness to pay** by tourist and nature lovers--for the management of landscape and nature reserve like national parks etc. For political decision making and as **criteria for people’s attitudes towards specific projects.**
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2. The case study “Title-Ecosystem Research Wadden Sea” Germany proposes the Concept of:

- **Ecolabel** for product obtained by sustainable management and
- **Nature tax** for conservation activities.

3. The case study “Title- Environmental and Health Impacts of Small-scale Gold Mining in Ecuador” shows the **impact of mining on the farming and the health of people.**

4. The case study “Title-Rice integrated pest management in Indonesia and elsewhere in Asia” speaks about adaptive management and resulting benefits from IPM like:

- **Increased rice production;**
  - **Production of other crops like fish, maize, soybean and other vegetables—resulting in increase of agricultural biodiversity.**
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5. The case study “Title- Ecosystem Approach to Sustainable Forest Management Practices in Australia” stresses on development of “**Regional Forest Agreements**” a step towards EA and says about:

- **Measuring forecast wood flows.**
- **Associated employment levels** and
- **Economic value of processed wood.**

6. Also the case study “Title-Mesoamerican Biological Corridor- A platform for sustainable development Nicaragua”.

It says about **the implementation of payments for Environmental goods and services** to meet the conservation /preventive needs and also says of having development of mechanism for that.

7. The case study “Title-Long-term natural resources management objectives are constraint by the short-term needs of people, Zimbabwe”.

It suggests about proposals like:- Innovative soil and water conservation technologies and has proposed variety of socio-economic coping mechanisms such **as locally adapted and evolved saving schemes, Investments and other safety nets.**

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8. The case study “Title-To improve district co-ordination of forest management and to increase local people’s access to and control over forest benefits in the Malinau catchment, Indonesia” has mentioned **work on economic development initiatives through technologies to households like aquaculture.**

9. The case study “Title-Aquatic resources, Chenderoh Reservoir, Perak, Malaysia” mentions of socio-economic benefits like:

- **Fishing rights to the locals;**
- **Limiting fish catch for sustainable use.**

10. The case study “Title- Non-timber forest products in Lao PDR” speaks steps towards socio-economic development like :-

- **Promotion of community-based organisation for managing NTFP/ Forest resource;**
  - **NTFP harvesting rules for community;**
  - **Marketing groups;**
  - **Domestication of NTFPs and**
  - **Aquatic resource management.**
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## CONCLUSION

- After going through all the case studies, it was found that majority of them have given a general overview of EA and its criticism and positives while others have tried to compare the completed and/or ongoing projects with the ecosystem approach. Few case studies have just made an assessment of EA and the applicability of its 12 principles with operational guidelines.
  - In particular, there was no elaborations regarding socio-economic monitoring or criteria's and indicators in case studies.
  - However, there are recurring references of:-
    - I) Instruments for nature valuation;
    - ii) Need and ways to improve participation;
    - iii) To address short term needs of people for participation and conservation;
    - iv) Needs to develop institutions in this regard etc.
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## About my AP

- Opportunity of working in an organisation at an international level;
  - Working on a ongoing project as a member of the institute;
  - Knowing in detail about the concepts of CBD and EA;
  - Doing some work in the project by finding out the socio-economic monitoring carried out in case studies submitted by the countries;
  - Knowing the working of an international organisation;
  - Getting into touch with experts and professionals;
  - All possible help from Institutes of Forest Economics and Forest Growth;
  - Knowing about the German society, culture and some of places;
  - It is better to have the before hand knowledge about various ongoing projects in the various institutes of a University for **better deciding about field of working and place**, before going for AP.
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## SWOT ANALYSIS OF THE INSTITUTE

### ➤ STRENGTHS

- **Research, teaching, continuing education and practical scientific consulting with the object “Acting economically in forestry”;**
- **Organizing of conferences and lectures with experts in various fields from abroad;**
- Existence of the infrastructure for teaching, research and scientific work;
- The institute is having an authentic and rich cultural structure;
- Excellent coherence among members of the institute, who are well behaved, disciplined and always helpful.

### ➤ WEAKNESSES

- Less interest to improve further infrastructure of institute to come up to the expectation of international environment;
- Most of software and literature is in German language which is a constraint for becoming an institute at global level;
- Proper updating of home page.

### ➤ OPPORTUNITIES

- Carrying out work on valuation of forest resources;
- Doing works like environment impact assessment from economic point of view and standardization of loss to environmental by development and pollution;
- Economically sustainable wood harvesting in changing forestry should be investigated;
- Present wood harvesting and logistic practices should be studied from the point of view of their efficiency, productivity and safety risks taking into account prevailing conditions;
- Technical, environmental and economical evaluation of presently used harvesting technologies;
- Overview of forest resources and their accessibility, including economical accessibility;
- Creating economic opportunities for trained persons and researchers.

### ➤ THREATS

- Less attractive environment for the international students who want to undergo short courses;
- Non availability of software and literature in wide speaking global languages;
- knowledge of German language is must if one wants to study and do better here;
- From the Institutes who have really excelled in the field of forest economics.

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## Acknowledgements

- Prof. Dr. Heinrich Spiecker for arranging the applied period study, field excursions and visits to the laboratory;
  - Prof. Dr. Gerhard Oesten for arrangements, guidance and supervision at his Institute;
  - Dr. Michael Flitner for his role as assistant supervisor and for overall guidance and consultancy;
  - Ms. Weidner Angelika for all possible assistance during the stay;
  - Ms. Marianne Stadler for her great support for the accommodation and other needed helps;
  - To all members of the Institutes of Forest Economics and Forest Growth for affection and support.
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