

# **Research on Biodiversity Conservation:** *Issues related to Integrated Forest Resources Management in Protected Areas of the Central Highlands of Vietnam*

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## **1 Introduction**

Facing the regression of biodiversity and the present developmental tendency of the overall biodiversity strategy throughout the country in general, and the Central Highlands in particular, all the researches that are related to the assessment and proposed collective solutions to the task of conservation, are essential and worthy. That is why we selected the research theme as **“Research on Biodiversity Conservation: Issues related to Integrated forest resource management in Protected Areas of the Central Highlands of Vietnam”**. This research is to aim at contributing its part to the development of social and technical approaches in order to build solutions for integrated biodiversity conservation in protected areas of the Central Highlands of Vietnam.

## **2 Research needs**

In reality, the biodiversity conservation in Vietnam has proclaimed:

- Most researches concentrate on the assessment of the biodiversity, but their relations existing between them and the relevant factors such as the society, policies, community institution, natural conditions, etc... not yet attended.
- Social researches are too few to develop a mode of community-based biodiversity management, especially the linkage of natural conservation with traditional, cultural ones in various human cultural ecological systems in the Central Highlands of Vietnam.

Because of these, there should be various researches to make clear a number of issues as follow:

- Discovery of weaknesses, constraints to be improved in the management system of biodiversity conservation.
- Integrated biodiversity resource management solutions not only are protection in strictly protected areas, but also consideration of the influent factors of ecology/human culture, society, and landscape/environment.

## **3 Project description**

### **3.1 Aim, research objective**

- **Aims:**

To contribute for developing solutions of integrated forest resources management, regarding to economic, technological, social, policy and environmental/landscape aspects and suitable social and technical approaches in order to biodiversity conservation in protected areas and buffer zone, to satisfy community benefit and sustainable development in the central Highland of Vietnam.

• **Research objectives:**

- i. To reflect the real situation of biodiversity conservation management in some protected areas in Central highland of Vietnam.
- ii. To discover a system of cause and effect relationships, tendency and impact degree on integrated influencing factors to livelihood and forest resources conservation management in national parks
- iii. To build solutions for integrated forest resources management.

**3.2 Research object and site**

- The research was implemented in three national parks, which represent popular human - ecological systems in the Central Highland of Vietnam:
  - Chu Mom Ray National Park (Kon Tum province): Represented for the faunas and type of broad leaf evergreen forests; with ethnic minority groups of H'lang, R'mam, Brau...
  - Yok Don National Park (Daklak province): Represented for the faunas and type of Dipterocarp forests; with ethnic minority groups of Ede, Lao, M'Nong.
  - Chu Yang Sin National Park (Daklak province): Represented for bird population and type of forests on high mountains; with ethnic minority groups Ede, M'Nong.
- Factors impacting on biodiversity conservation to be studied on integrated aspects: Economy – Society, policies and environment/landscape,...
- The groups of natural resources to be studied based on the characteristics of the protected areas: Wood plants, some non-timber forest products and a number of big animal species, which are impacted by communities living in the buffer zone.

**3.3 Relations among research objectives, contents, methods and results**

Objectives	Contents	Methods	Main Results
1. To reflect the real situation of biodiversity conservation management in some protected areas in Central highland of Vietnam.	1.1.Assessment of the actual status of the biodiversity conservation task	Participatory workshops with stakeholders in 3 National parks (Organized 3 workshops/ 3 National parks)	The actual status of the biodiversity conservation management in national parks of the central highland of Vietnam
2. To discover a system of cause and effect relationships, tendency and impact degree on integrated influencing factors to livelihood and forest resources conservation management in national parks	2.1.Discover and analyse influencing factors to household income in buffer zones	Household Interview about income, livelihood. (Interviewees with 109 households/ 9 villages/3 national parks)	Relevance between household economic and forest resources utilization.
	2.2.Discover and assessment rich level of species are	- Group discuss, interview, participatory map	Species are impacted by communities and species' rich levels in

Objectives	Contents	Methods	Main Results
	impacted by buffer zone communities	(106 key farmers/ 9 villages) - Participatory forest investigation (55 key farmers/9 villages)	the forest
	2.3. Modelling of relationships between household economic increase, forest resources using needs with integrated influencing factors	- Establish databases by Excel. - Multi-variables regression analysis: Linear, nonlinear by SPSS 15.0 and Statgraphics Plus 3.0	Models of relationship between household economic, forest resources use needs and integrated influencing factors
3 To build solutions for integrated forest resources management.	3.1. Propose solutions of integrated forest resources management	- Systematic - Analysed diagrams cause and effect relationships - Apply regression models	Solutions of integrated forest resources management in protected areas

#### 4 New finding of research

- Proposed oriented solution system for integrated forest resources management in some national parks of the Central Highland of Vietnam, in order to well balanced solve both objectives: Improving livelihood in the buffer zones and conservation forest resources management.
- Designed specific two solutions for sustainable conservation resources management in each national park: i) Poverty alleviation including cultivation development and generation of livelihood opportunities from benefit sharing in the conservation management; ii) Definition of appropriate area for community based conservation management.
- Designed system for monitoring of conservation forest resources combining both technical and social approaches.