

**Executive Summary**





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**Executive Summary**

The results of the study on capacity buildingof local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand, Don Hoi Lot and Bang Kha Chao, are as follows:

**Part 1**

**Context of Biodiversity-Based Economy Development Office from the prototype project on capacity building of local government organizations as well as the results of biodiversity development with Biodiversity Health Index (BHI) and environmental assessments**

Biodiversity-Based Economy Development Office (Public Organization) supports the mission of economic development from biodiversity, the role and duty in policy management to make utilization of biodiversity for economic purposes, and the capacity building of communities on product development in the sustainable way. The concept of supporting business with the biodiversity will create jobs, incomes, and economic opportunities for villagers. These duties are reflected on the vision, mission, structure, and strategy of the organization.

The roles and duties of the organization have led to the prototype project on capacity building of local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand. The project by Biodiversity-Based Economy Development Office (Public Organization), the Ministry of Natural Resources and Environment, in collaboration with United Nations Development Program, Thailand, focuses on capacity building of local administrative organizations in terms of sustainable management, conservation, protection, rehabilitation, and utilization of local biodiversity.

The main objective of this project is to determine the process and prioritize the local biodiversity to be inserted into the mission of the administration especially in the development plans and the budget system of the local government organizations to create sustainable management of biodiversity at the local level within a period of 4 years (2016-2019). The project is financially supported by the Global Environment Facility or GEF.

According to the objectives, the strategy of the project has been set with two components:

Component 1: the development of the policy framework for local government organizations to integrate the local biodiversity into the development plan and process; and,

Component 2: the local capacity building and needs to integrate the local biodiversity into the development plan and process.

The areas of ​​Bang Kha Chao, Phra Pradaeng District, Samut Prakarn Province, and Don Hoi Lot, Samut Songkhram Province, are selected as the pilot areas because both areas have biodiversity with abundant resources natural and man-made. Biodiversity and natural resources in both areas are currently encountering negative impacts caused by human activities.

To achieve the goals, the project has set up the management board, the directors, the certifier, the operation unit, and the academic working group. In particular, there are three levels of the boards from various agencies, assigned to the two pilot areas, including: (1) the directing board, (2) the operation board, and (3) the working group.

In addition, the main project also involves academic institutions and departments as consultants in various important activities including Thai Environment Institute, King Prajadhipok's Institute, Kasetsart University, Thammasat University, Suan Dusit University, and Institute for Small and Medium Enterprises Development (ISMED).

So far, the project has had many significant results from the operations to be used as guidelines for other additional activities of the project such as development of Biodiversity Health Index (BHI) and environmental assessments conducted by Thai Environment Institute in the 2 pilot areas.

The results of the study analysis are used to develop Biodiversity Health Index (BHI) with three important components of biodiversity.

(1) Component 1: The habitat consists of 4 indexes.

Index 1: Proportion of Green areas

Index 2: Maintenance of Green areas

Index 3: Water quality of Water sources

Index 4: Prevention and Reduction of Impacts from Natural Disasters

(2) Component 2: The major species consist of 3 indexes.

Index 5: Rare Species or Valuable Species to the Local Area

Index 6: Conservation of Rare or Valuable Species for the Local Area

Index 7: Control of Exotic Species

(3) Component 2: The sustainable use consists of 4 indexes:

Index 8: Harvesting of Products

Index 9: Partnerships for Conservation of Local Resources

Index 10: Continuity of Cooperation for Conservation

Index 11: Local Budget for Conservation

The project is expected to use such indexes as:

(1) The study, review, and analysis of local development plans at each local government organization is to examine the direction and possibility of integrating Biodiversity Health Index (BHI) into the administration of local development plans in the next phase.

(2) The application of Biodiversity Health Index (BHI) to the local development plans emphasizes on clear, appropriate guidelines and best practices to integrate biodiversity management into the mission of the local government organizations and the appraisal system of local government organizations.

(3) Biodiversity Health Index (BHI) is to be integrated into the appraisal system and administration of the provinces and local administrative organizations.

In addition, Thai Environment Institute has developed Strategic Environmental Assessment (SEA) as a decision-making tool in the development of policies, plans, and strategies with these following 5 steps:

(1) Study and Analysis of Policies and Driving Force;

(2) Screening and Determining the Scope of the Study;

(3) Development and Determining Alternatives;

(4) Public Participation; and,

(5) Summary of Alternatives, Assessment of Impacts, and Preventive Guidelines.

**Part 2**

**Policy and law on the role of conservation and utilization of biodiversity as well as the planning, budgeting, monitoring, and supervising system of local government organizations**

**2.1 The policy at the national level emphasizes on the growth of environmentally-friendly countries with sustainable development through management and participation from all sectors.** The national policies include the 20-year National Strategy (2018-2037), the 12th National Economic and Social Development Plan (2017-2021), the National Reform Plan for Natural Resources and Environment, the Environment Master Plan for Integration of Biodiversity Management (2015-2021), the 20-year Strategic Framework for Biological Economic Development (2017-2036), and the Biodiversity Act. The goals are consistent with conservation, protection, restoration, and utilization of biodiversity.

2.1.1 The 20-year National Strategy (2018-2037) involves environmental strategies consistent with the National Economic and Social Development Plan. The strategies for the growth of life quality in the eco-friendly society are related to sustainable consumption and production. The local government organizations will involve in the conservation and utilization of biodiversity as follows: (1) developing the conservation system to restore the biodiversity and prevent the destruction of natural resources especially community forests, mangrove forests, streams as well as developing the preventing system for coastal erosion; (2) developing eco-industrial and eco-friendly cities through the development plan at the provincial and local level by adjusting regulations to facilitate the development; and (3) implementing economic tools and fiscal policies for the environment such as environmental tax.

2.1.2 The 12th National Economic and Social Development Plan (2017-2021) emphasizes on eco-friendly and sustainable development. Biodiversity and the utilization are in the relation with: (1) natural resource conservation, (2) restoration of natural resources by increasing forest areas as well as conservation of community and mangrove forests, (3) sustainable and fair utilization by adding values to biological resources such as medicinal herbs and cosmetics corresponding with the demand of the market and linking the development of new biological products with community products, One Tambon One Product (OTOP), and (4) reduction of biodiversity loss.

2.1.3 The National Reform Plan for Natural Resources and Environment is directly related to biodiversity including natural resources and the environment such as lands, water, marine life, and coastal resources. The management systems for natural resources and the environment focus on all dimensions of biodiversity including law, organizations, and mechanisms. Public participation is promoted to involve communities in sustainable conservation, utilization, and benefits from biodiversity.

2.1.4 The Environment Master Plan for Integration of Biodiversity Management (2015-2021) focuses on integrated and sustainable management to protect, conserve, and restore biodiversity for sustainable utilization as well as to prevent the loss of biodiversity by involving the stakeholders at all levels.

2.1.5 The 20-year Strategic Framework for Biological Economic Development (2017-2036) focuses on three main areas: strengthening the community’s economy on the sustainable utilization and conservation of biodiversity (Strategy 1), developing the database of biodiversity including protection, conservation, and commercial use (Strategy 2), and promoting participation among various sectors for the conservation and utilization of biodiversity (Strategy 3).

2.1.6 The Biodiversity Act focuses on the framework of biodiversity management throughout the country. To effectively enforce the law is to engage all the main and organic law on biodiversity in the country. The law will support the operations related to sustainable conservation, protection, restoration, and utilization of biodiversity. The obligations and conventions will facilitate the management of sustainable utilization at all levels. With the ACT, the relevant authorities can apply the framework of biodiversity management throughout the country.

The Draft Act also includes the establishment of the national biodiversity board as well as the regional biodiversity boards such as the Provincial Biodiversity Board and the Sub-district Local Resource Conservation and Development Center through the mechanisms and networks under the Royal Plant Genetic Conservation Program HRH Princess Maha Chakri Sirindhorn and related agencies.

**2.2 The law on the power and duties of local administrative organizations in the conservation and utilization of forests, land, natural resources and the environment as well as other indirectly related issues** are derived from the study of law related to the environment and local administrative organizations including the Constitution of the Kingdom of Thailand, The Act on the Plans and Procedures of Decentralization to Local Administrative Organizations, The Provincial Administrative Organization Act, The Municipal Act, and The Sub-district Council and Sub-district Administration Organization Act.

2.2.1 The Constitution of the Kingdom of Thailand does not clearly define the roles and duties of local government organizations in conserving the environment but provides local administrative organizations the duties and power to supervise and prepare public services and activities for the benefit of local people in accordance with sustainable development principles.

2.2.2 The Act on the Plans and Procedures for Decentralization to Local Administrative Organizations has established power and duties for the Pattaya City Municipality and other sub-district administration organizations to conserve and utilize forests, lands, natural resources and the environment. The Provision on Maintenance of Lands, Water, and Drainage Management requires the local administrative organizations to provide and maintain recreational facilities, solid waste management, sewage management, and conditions of public areas.

While provincial administrative organizations have the power and duties to protect, oversee, and maintain forests, lands, natural resources and the environment including the establishment of an integrated wastewater treatment system, environmental management system, and pollution prevention system. Provincial administrative organizations are also required to act as the main organization to provide solid waste management, sewage management, and waste water treatment system for local administrative organizations in the province.

2.2.3 The Provincial Administrative Organization Act requires provincial administrative organizations to protect and maintain natural resources and the environment as well as other related local government affairs. Provincial administrative organizations are also required to conduct services related to conservation of natural resources and the environment.

2.2.4 The Municipal Act does not directly define the duties of municipalities in terms of resources and environment, but indirectly defines the responsibilities related to biodiversity including water conservation, public cleanliness systems, solid waste management, promotion of people’s livelihood, drainage systems, maintenance of public areas for local cleanliness, city planning, and construction control.

2.2.5 The Sub-district Council and Sub-district Administration Act includes the roles and duties of sub-district administrative organizations directly in relation to the natural resources and environment including protection, care, and conservation of natural resources and the environment, cleanliness of public areas such as roads, waterways, walkways, and public places, solid waste and sewage management, water for consumption and agriculture, occupational promotion and support, and protection and preservation of national property.

**2.3 The policies and law related to the planning and budgeting of local government organizations and monitoring / supervision at the policy level include the process of creating a participatory plan to link the national to the local strategy by allocating a budget corresponding to the policy with a concrete assessment.**

2.3.1 The 12th National Economic and Social Development Plan (2017-2021) includes the issues related to the planning and budgeting of local government organizations along with the monitoring / supervising system of local government organizations to increase the efficiency of local administration.

1) The issues related to the local development plan are: (1) the process of developing the development plan at the local level to link the communities to the provincial level-- villages, districts, and provinces, (2) the public participation in the development of the plan, and (3) the support for local administrative organizations to conduct a variety of public services in line with the local needs with the participation among local government organizations, private sectors and the civil society through a network of related parties.

2) The budget issues are: (1) the structure and priority of the plan on the annual expenditure budget related to the strategies at different levels, (2) the reduction of a local government organization’s dependency on government subsidies, (3) the prompt income management system and local subsidies, and (4) the preparation and administration of government subsidies at the local level in transparency and open to the public with the participation of the civil society, higher education institutions, and academic units in the area.

3) The issues related to governance are: (1) the improvement and monitoring systems to measure achievement, development, efficiency, effectiveness, impacts of the operations, and actual expenditures to be examined by the public, and (2) the form of supervision by the public and communities.

2.3.2 The 20-year National Strategy (2018 - 2037) focuses on balancing and developing the government administration system by setting up an integrated system to achieve consistency from the national strategy to the local level as well as by allocating budget with requirements corresponding to the strategies at all levels to reach common goals along with the monitoring system for the performance at both strategic and mission levels in each area.

2.3.3 The National Reform Plan in Politics and Government Administration does not include the plan and budget as well as the direct monitoring system of the operations at the local government organizations, but the decentralization to reform local governments and fair resource allocation determines the mission and related activities indirectly including: (1) the public and community participation in the development of local government organizations, and (2) the fairness of allocating resources by local government organizations.

2.3.4 Decentralization to local administrative organizations

1) Provincial administrative organizations are provided the power and duties to develop their own local development plans to coordinate with the provincial development plan according to the regulations set by the cabinet such as budget and areas of development. There are other issues indirectly related to the duty to support other local government organizations such as coordination and cooperation in performing duties of local government organizations, allocation of budget to other local authorities according to the law, and promoting the public participation in local development.

2) The municipality, Pattaya city and sub-district administrative organizations will establish their own local development plans. For example, the municipality, Pattaya city and sub-district administrative organizations must promote the public participation in local development and other activities affecting the local people as determined by the administration board. The decentralization board to local administrative organizations is also responsible for providing recommendations for monitoring systems and public participation as well as reporting on decentralization to the local government organization to the cabinet at least once a year.

2.3.5 The Provincial Administrative Organization Act stipulates that provincial administrative organizations are responsible for preparing development plans of provincial administration and coordinating the plans with the regulations set by the cabinet. The expenditure budget of provincial administrative organizations will include provisions for annual expenditure budget only under the authority of provincial administration, and governors are required to supervise the performance of the local government organizations in accordance with the law, rules, and regulations.

2.3.6 The Municipal Act as well as the Sub-district Council and Sub-district Administration Organization Act require the municipalities to do the duties as provided by law and conduct the development plan of local government organizations under good governance and public participation. The laws and regulations of the Sub-district Council and the Sub-district Administrative Organization do not clearly define the duties in the local development plan of the sub-district administrative organization, but require the development of local development plans to be in accordance with the Act on the Formulation of Plans and Procedures for Decentralization to Local Administrative Organizations and the Regulations of Ministry of Interior on the Development Plan of Local Government Organizations.

The annual budget of municipalities must be enacted as an ordinance while sub-district administrative organizations can make a provision. Governors are to control the municipalities in their provinces along with the sheriff's authority. Sub-district administrative organizations are under the sheriff’s authority to supervise their performance. In addition, the authority of local administrative organization councils is to grant the approval to sub-district administrative organization development plans to be guidelines for administration of the sub-district administrative organizations including The Draft Sub-district Administrative Authority Act on Annual Expenditure Budget, the Draft Additional Budget Provision, and the control over the operations by Head of Sub-district Administrative Organization to be complied with the laws, policies, development plans, sub-district administrative organization provisions, and regulations of the government.

2.3.7 The Regulations of Ministry of Interior on the Development Plan of the Local Administrative Organization has defined various details related to the development plans of local government organizations. For example, local government organizations will prepare local development plans with visions, strategies, goals, and performance indicators complied with provincial development plans. The development strategies of local administrative organizations in the province, district, sub-district, village, and community must include details of development for each fiscal year to produce continuity and progress.

Development guidelines allow local administrative organizations to consider as follows: (1) the authority and duties of the local government organization, (2) the transferred missions according to the law, plan, and process of decentralization to provinces and provincial groups by focusing on important strategies directly affecting the public, (4) the policy framework, direction, and development guidelines of local government organizations in the province, and (5) the policy of the local administrators to report the village development or community plan to the local council according to the local fiscal status and the urgent needs.

The preparation of draft development plans for local administrative organizations is to bring the needs of the village into development plans or community plans to maximize the potential. If exceeding the capacity of the municipality, sub-district administrative organization, the Pattaya City and other local administrative organizations according to the law, the task can be proposed to the provincial administrative organization to consider and include it in the development plan of the provincial administration organization under the scope of its authority.

**Part 3**

**The results from the evaluation of the plan and budgetary potentials related to conservation and utilization of biodiversity of local administrative organizations in Bang Kha Chao and Don Hoi Lot.**

**3.1 The local development plan of the local government organizations** consists of 2 levels: the local development plan and the annual operating plan. The local development plan of the local government organizations is adhered to the Regulations of Ministry of Interior on the Development of the Local Administrative Organization. There are important issues related to biodiversity found as follows:

3.1.1 In the local development plan, the study of the public needs is conducted through the community plan, the district development plan, and the community forum to listen to opinions and raise understanding on protecting biodiversity.

3.1.2 The development plan of the local government organizations must be consistent with the district development plans, the development strategies of local administrative organizations in the provinces, and the provincial development plans. Therefore, if such plans have projects related to biodiversity, they must be related to protection and unitization of biodiversity. In the local development plan, some projects are allocated the budget from provinces or provincial administrative organizations.

3.1.3 The limit of the budget for local government organizations varies in each area preventing the local government organization to include all the projects of the local development plan into the operation plan.

**3.2 Local administrative organizations are required to have strategies related to natural resources and the environment. With a small proportion of budget, the main focus is on garbage and waste water management.** Based on the results of the evaluation and BHI, it is found that most local government organizations have the potential in the plan and budget. The groups with low and medium potential are at 40%. The group with the low potential includes Bang Kha Chao Sub-district Administrative Organization, Bang Kra Sob Sub-district Administrative Organization, Bang Kor Bua Sub-district Administrative Organization, and Song Khanong Sub-district Administrative Organization. The group with medium potential includes Bang Yo Sub-district Administrative Organization in Bang Kha Chao Area, Bang Cha Kreng Sub-district Municipality. Khlong Klon Sub-district Administrative Organization, and Laem Yai Sub-district Administrative Organization in the Don Hoi Lot Area. There are only 2 local administrative organizations with high potential or at 20% including Bang Nam Phueng Sub-district Administrative Organization in Bang Kha Chao Area, and Bang Kaew Sub-district Administration Organization in Don Hoi Lot Area.

**3.3 There are problems and obstacles** as follows:

3.3.1 The local administrative organizations and local people lack knowledge and understanding on the importance of biodiversity.

3.3.2 There are problems with biodiversity in the areas such as a decrease of local species due to the impacts of tourism.

3.3.3 Problems that affect the biodiversity are not only caused by people in the area, but the problems associated with other areas as well.

3.3.4 Some areas are occupied by the third party causing the difficulties for protection and utilization of biodiversity.

**3.4 The local administrative organizations carry a lot of missions causing the issues related to biodiversity to be the last priority to be considered.**

**3.5 Some areas have various agencies to promote and support biodiversity. Thus, protecting and utilizing biodiversity are in different directions and vary according to the potential of each local administrative organization.**

**3.6 Each local government organization has different resources, capabilities, and visions.**

**3.7 Each agency lacks information and academic knowledge on biodiversity.**

**3.8 Local government organizations have limited budgets needed to be spent on solving problems considered more urgent.**

**3.9 Local administrative organizations have limited personnel causing limited project implementation.**

**Part 4**

**Context of Politics, Government, Society, Economy and Culture of the Areas Bang Kha Chao and Don Hoi Lot**

**4.1 Occupational change affects land use and awareness of the values of natural resources and the environment.** For example, Khung Bang Kha Chao changes from agriculture to migrating out of the area for jobs, tourist services, and part-time vendors during holidays.

**4.2 The network in both areas is mostly established according to a group of interests related to occupations, livelihood, and lifestyles of people in the community** except for some areas in Bang Kra Sob where there are a variety of groups.

**4.3 The high change to industrial operations to be more commercial has attracted more people into the community causing some traditional activities and cooperation to disappear.**

**4.4 Familiar natural resources change but not highly enough to impact on the way of life in the community resulting in the unawareness of the need for concrete management.**

**4.5 From various projects in the community plan, it is found that there are projects related to natural resources and the environment in the manner of waste management and awareness building. The project and activity shown in the community plan reflects the lack of knowledge and perception in the community on biodiversity.** The operations by related agencies are still unable to raise awareness of the matter because: (1) relevant agencies still lack skills to create knowledge, understanding, perception and attitudes of people in the community due to restrictions on techniques and skills in transferring and communicating with the community, (2) related agencies or organizations working in the community still lack knowledge and interest in biodiversity management since the management of natural resources and the environment require a deep consideration of biodiversity. Therefore, it was commonly found that the local development plan on natural resources and the environment would be projects and activities related to waste management, energy savings, and creating a sense of environmental management with trainings in accordance with the community plan in each community.

Therefore, it can be concluded that the work of all sectors cannot clearly specify how biodiversity is important and affecting the life of people and communities. In the past, environmental and natural resource management was viewed as an economic effect. If the environment and natural resources are abundant, economic benefits and incomes are generated. Therefore, eco-tourism occurs with social dimensions to carry on the existence and value of the environment and natural resources that affect life in term of economic consequences.

**4.6 Bang Kha Chao has included many agencies since 1977 as a conservation area , but the working guidelines of most agencies focus on the economy and generating incomes for the community.** This fertile area can generate incomes for the community, but there is only one project called “84 Sufficiency Economy Communities” reflecting the community’s economy. Raising the people’s awareness among communities and related agencies is more related to the economy causing the lack of perspectives in other dimensions such as sustainability of the environment and community.

**Part 5**

**Results of Stakeholder Analysis concerning the Protection and Utilization of Biodiversity of Local Government Organizations**

There are groups of stakeholders in promoting and supporting capacity building of local administrative organizations on the sustainable protection and utilization of biodiversity in 3 levels in collaboration with the support units, local government organizations, and people in the area.

**5.1 Support agencies** includes related agencies tolocal government organizations on protection and utilization of biodiversity.

5.1.1 Department of Local Administration, Ministry of the Interior, carries the main mission to promote, support, and advise local government organizations.

5.1.2 Government agencies, state enterprises, private sectors and other related agencies at the level of the ministry and department include Department of Agriculture, Department of Forestry, Department of Agricultural Extension, Department of Community Development, Department of Environmental Quality, Department of National Parks, Royal Irrigation Department, Department of Marine and Coastal Resources, Department of Public Works and Town Planning, Pollution Control Department, Department of Fisheries, Department of Intellectual Property and etc. However, the operations of relevant government agencies are primarily operated by the agencies themselves. Promoting and supporting groups and people in the area is priority rather than promoting local government organizations.

State enterprises and private sectors include PTT Public Company Limited in collaboration with its affiliations and Thailand Post. Private sectors usually aim to publicize the organization rather than the need for sustainable development. Some organizations emphasize the promotion of activities to one local administrative organization with a specific potential, so the main development is in one specific site with specific purposes instead of a systematic development throughout the area.

Other organizations involves both private and public sectors in collaboration such as Chaipattana Foundation in collaboration with 34 organizations and **Designated Areas for Sustainable Tourism Administration (Public Organization)** in collaboration with local government organizations.

5.1.3 Biodiversity-Based Economy Development Office (Public Organization) aims at: (1) directly underlying the community and local network rather than promoting local government organizations through a prototype project on capacity building of local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand, (2) concrete measures to protect biodiversity with economic values, and (3) providing knowledge to people and local administrative organizations despite the fact that the past operations of biodiversity-related agencies, including BEDO, have not been as successful as they should be.

5.1.4 Relevant agencies at the provincial and district levels include governors, provincial administrative organizations, and local administrative organizations. Each organization has a role associated with protection and utilization of biodiversity. There are many projects related to biodiversity supported, promoted, and supervised by local government organizations themselves.

**5.2 Local government organizations**, sub-district administrative organizations and municipalities, are considered the main target group for protection and utilization of biodiversity.

5.2.1 Stakeholders involving in the development of local development plans in the area of ​​key local administrative organizations include local administrators, local councils, local development boards, and supporting boards. The law provides sub-district administrative organizations and municipalities the authority and duty to take care of the environment through the authority to organize the public service system of the local government organization.

5.2.2 Although, at present, local government organizations have developed local development plans with projects related to biodiversity, most projects are related to waste management, waste water management, dredging a canal, and constructions of various infrastructures. In addition, the proportion of the budget for projects related to biodiversity is relatively small compared to others.

**5.3 People in the area** are direct stakeholders from the development project of the local government organizations related to protection and utilization of biodiversity.

5.3.1 The context of the community is different resulting in different awareness of biodiversity.

5.3.2 Laws and regulations of the Ministry of Interior related to the local development plans consider people as a priority, but there are a few projects on biodiversity in the sub-district, village, and community development plans.

**Part 6:**

**Suggested Policy for the Department of Local Administrative Organizations, Ministry of Interior, and other related agencies**

There are various conditions including: (1) the national policy, (2) law and regulations, (3) stakeholders, (4) potential of local administrative organizations, (5) the context of communities on protection and utilization of biodiversity. The research team has suggested the policies for the Department of Local Administration, Ministry of Interior, and other related agencies as follows:

❶ The national policy related to the protection and utilization of biodiversity

❷ Law and regulations related to the protection and utilization of biodiversity

❸ Stakeholders of biodiversity protection

❹ Potential of local government organizations concerning the protection and utilization of biodiversity

❺ The context of the communities

**National Level**

**Regional Level**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| National Biodiversity Board |  | Regional and  Provincial  Development plan |  | Capacity Building Board, Ministry of Interior, for the protection and utilization of biodiversity |
|  |  |  |  |  |
| Provincial Biodiversity Board |  | Provincial and  PAO Development Plan |  | Board of Directors for capacity building at local administrative organizations, Ministry of Interior, for the protection and utilization of biodiversity |
|  |  |  |  |  |
| **Development Plan of Biodiversity** | | | | |
|  |  |  |  |  |
| The Center for Conservation and Development of Local Resources |  | SAO / Municipality,  Sub-district, and  Village / Community development plan |  | Working groups for capacity building, Ministry of Interior, the protection and utilization of biodiversity |

Figure 1: The management structure for capacity building of local government organizations in the sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand in the relation with development plans at various levels

**6.1 The structure of administration for capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand** should integrate the structure of biodiversity management, both at the national and regional level, to be consistent with the development plans at each level. The mechanisms of biodiversity management can be classified into 2 parts: from the Biodiversity Board under the Act on Biodiversity and from capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand as seen in Figure 1.

**6.1.1 Management mechanisms from the Biodiversity Board under the Act on Biodiversity** consists of 2 levels: national and local.

1) The national level depends on the National Biodiversity Board to drive and formulate policies and guidelines for research and development on biodiversity to achieve integration and long-term operations related to biodiversity.

2) The board at the local level consists of:

2.1) The Biodiversity Board at the provincial level is responsible for driving biodiversity operations at the provincial level to be consistent with those at the national, local, and district level as well as for coordinating the system reform and network operations of the Sub-district Local Resource Conservation and Development Center

2.2) The Sub-district Local Resource Conservation and Development Center has come from the mechanisms and networks under Plant Genetic Conservation Project under the Royal Initiative of HRH Princess Maha Chakri Sirindhorn and other related agencies. The duties of the center are to deal with 3 resources: physical resources, biological resources, and cultural resources and wisdom through sharing of knowledge on sustainable conservation and use, sharing equitable and fair benefits, and supporting the registration of biological resources, biodiversity, and local wisdom in the area for patents and petty patents.

In addition, the research team has suggested as follows:

(1) These two levels of boards should play important roles in driving the development plans related to biodiversity at each level including provinces, provincial groups, local areas, sub-districts, and villages/ communities for the complete integration of the development plans.

(2) The board should act on creating awareness about the importance of biodiversity to all stakeholders especially the local people.

(3) The National Biodiversity Board and the Provincial Biodiversity Board should act as academic units for the Capacity Building Board, Operating Board, and working groups of local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand.

**6.1.2 Administrative mechanisms for capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand** involve the second mechanisms through the Department of Local Administration with the main duty for capacity building of local government organizations to drive sustainable protection and utilization of biodiversity in collaboration with various departments such as academic support units and the Biodiversity Board under the Biodiversity Act

The administrative mechanisms for capacity building of local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand also includes 2 levels: the existing board structure from the prototype project as a driver and the Department of Local Administration as a main agency after previously working as a support unit.

1) The national level includes the capacity building board of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes with the following duties:

1.1) Drive and formulating policies for capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes at the national level;

1.2) Formulate a strategic plan to for capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand to be a framework for implementations on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes at the national level;

1.3) Determine the rules, regulations, and guidelines for local government organizations on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes according to the indexes that will be discussed in the next section;

1.4) Supervise the operations of the board at the area level; and,

1.5) Monitor and evaluate the capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand at the national and regional levels.

2) The local level includes:

2.1) The capacity building board of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand are responsible for these following duties.

2.1.1) Primarily driving and implementing policies on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand at the national level for implementations at the local level.

2.1.2) Developing the framework for implementations capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand at the provincial level

2.1.3) Promotion and supporting the development of specific areas through the development plans for sustainable protection and utilization of biodiversity in order to integrate the operations among various departments in the area consistent with the local context.

2.1.4) Working as a consultant for the working groups on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand

2.1.5) Supervising the operation of the working groups on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand

2.1.6) Monitoring, evaluating, and supervising capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand at the provincial level

2.1.7) Supporting the work of other relevant agencies at the provincial level in collaboration.

2.2) Working groups on the capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand are responsible for these following duties.

2.2.1) Running the operations capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand at the national level for the implementations of the local level

2.2.2) Implementing the action plans on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand according to the framework of capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand at the provincial level

2.2.3) Supervising and monitoring the implementations of the local development plans in specific for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand

2.2.4) Working as a consultant for local government organizations on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand

2.2.5) Supervising the operations of local administrative organizations on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand

2.2.6) Monitoring, evaluating, and supervising capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand at the local level.

2.2.7) Supporting the work of other relevant agencies at the area level in collaboration

**6.2 Development Plan**

**6.2.1 The government sector should clearly define the integrated management policy for biodiversity in all areas.** The relevant agencies including the government sector, local administrative organizations, private sector, and civil society should operate in the same direction. Each area should not consider the goals or the missions of the local agency only, but working in collaboration on the management of biodiversity throughout the area. For example, Bang Kha Chao has encountered problems of garbage and wastewater management due to the neighboring areas such as Bangkok. ​​Don Hoi Lot has also been affected with wastewater from animal husbandry in nearby provinces. These problems reflect the impacts on biodiversity without space constraints. Therefore, the government must seriously pay attention to the issues and set up as a national agenda to relieve the impacts on the life of all people in the society.

**6.2.2 Integration of development plans at various levels** according to the regulations Ministry of Interior on the development of local development plans focuses on founding the relations of the development plans at various levels: regions, provinces, provincial groups, local administrative organizations, and communities / villages. Therefore, the relations are the important parts to be determined by the local administrative organizations to create projects / activities with the budget related to biodiversity.

As a result, the issue of biodiversity must be included in every level of development plans starting from local government organizations, community / village plans, provinces, provincial groups, and regions. The management mechanisms including the Biodiversity Board under the Biodiversity Act and the administrative mechanisms on capacity building of local administrative organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand (Figure 7.1) are important to drive the plans at various levels by paying more attention at the issues of biodiversity.

**6.2.3 Each area are encouraged to develop plans consistent with the need of each area for sustainable protection and utilization of biodiversity.** To achieve integration in development plans is to link biodiversity into the system for protection of biodiversity. Therefore, it is not possible to be operated by one local government organization or one area. At present, there are agencies and organizations-- public, private and independent -- to undertake projects / activities related to the protection and utilization of a large number of biodiversity, but they work in different directions with different missions causing the lack of coordination or integration. From the case study, Bang Kha Chao and Don Hoi Lot have different spatial contexts including economy, communities, and cultures. The differences in ways of life result in unique relations with natural resources.

To achieve integration of development plans is to apply appropriate guidelines in each area. The local areas should be encouraged and supported by the province to develop the plans consistent with the need for the sustainable protection and utilization of biodiversity to be a framework for the development of biodiversity areas in the province. The integration of plans related to the biodiversity among various stakeholders including government agencies, local administrative organizations, and private sectors is required.

An agency with the greatest potential to become a primary agency responsible for the development plans in a specific area for sustainable protection and utilization of biodiversity is a provincial administrative organization because of its direct power and duties to protect, supervise, and maintain natural resources and the environment in the province. The local development plans must be coordinated with the provincial development plan to allow other performing duties of local government organizations to be supported such as the budget allocated to other local government organizations to promote the public participation in local development or to prepare activities out of the power and duty of local government organizations. A local government organization can jointly implement the operations with a provincial administrative organization or allow a provincial administrative organization to prepare activities instead since a provincial administrative organization has a capacity in terms of resources, both personnel and budget, for sustainable protection and utilization of biodiversity in the ecological landscapes in the province.

**6.2.4 The development plans should cover all of the biodiversity components** in order to provide a comprehensive biodiversity management and plans. Therefore, there should be a form and process for biodiversity management to enable the local government organizations to make plans for all of the issues as follows:

Table 1: Biodiversity Management Model

|  |  |  |  |
| --- | --- | --- | --- |
| **Management Model** | **Characteristics of Biodiversity** | | |
| **Variety of species** | **Diversity**  **of Species** | **Ecological Diversity** |
| 1. Protection and Restoration of Natural Habitats | 🗸 | 🗸 | 🗸 |
| 1. Reduce Threats and Pollutions | 🗸 | 🗸 | 🗸 |
| 1. Conserve Rare Species | 🗸 | 🗸 | 🗸 |
| 1. Sustainable Utilization and Management | 🗸 | 🗸 | 🗸 |

**6.2.5 The preparation of both short-term and long-term** plans is to drive local government organizations and public sectors to realize and have a better understanding on the importance and benefits of biodiversity. Local government organizations should understand first on what biodiversity is for and how important it is for the life of people in the area, so people will follow by turning their attention to sustainable protection and utilization of biodiversity.

Therefore, the knowledge of biodiversity should be easy to understand to help raise awareness of importance and benefits of biodiversity among local government organizations and other public sectors. There should be both short-term and long-term development plans with the main strategy assigned to different areas for sustainable protection and utilization of biodiversity. The relevant agencies will play important roles in such operations including working groups on capacity building of local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand along with the Sub-district Local Resource Conservation and Development Center.

**6.3 Evaluation and Supervision**

To enable the implementation for capacity building of local government organizations on sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand is to achieve the stated goals with these following suggestions for evaluation and supervision:

**6.3.1 The evaluation at the policy level** aims to assess the performance of capacity building of local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand. The evaluation includes the application of the indexes according to the goals of the national policy on protection and utilization of biodiversity such as the 20-year Strategic Framework for Biological Economic Development (2017-2036) and the Environment Master Plan for Integration of Biodiversity Management (2015-2021). These indexes can be used to evaluate the work of the three working groups including the national, regional, and local board for capacity building of local government organizations for sustainable protection and utilization of biodiversity in the ecological landscapes of Thailand through these following indexes:

(1) The proportion of budget according to the provincial group, provincial, local, sub-district, and community development plans to the implementations of the plans related to biodiversity,

(2) The number of national policies, plans, and measures at the national, regional, provincial, provincial group, local, sub-district, and community level related to biodiversity,

(3) The number of local administrative organizations and communities with understanding and awareness of utilizing biodiversity in conjunction with conservation and restoration,

(4) The number of entrepreneurs to commercially utilize biodiversity under the promotion of local administrative organizations, and

(5) Economic values of biodiversity among the community economic levels and business sectors under the promotion of local government organizations.

The board on capacity building of local government organizations for the protection and sustainable utilization of biodiversity in the ecological landscapes of Thailand can determine additional indexes consistent with their authority and goals of operations.

**6.3.2 Evaluation and supervision at the regional level** according to BHI (Table 2) The research team has assessed the potential of local government organizations on the protection and utilization of biodiversity with BHI. Some indexes have already been implemented at local government organizations. However, local government organizations may require better understandings of some indexes such as control of invasive species.

Table 2: Biodiversity Health Index

| **Element** | **Index** |
| --- | --- |
| 1. Residential Area | 1.1 Projects / activities to allocate budget for the maintenance of green areas and natural resources |
| 2. Pollutions | 2.1 Projects / activities to allocate budget for maintaining the quality of water resources |
| 2.2 Projects / activities to allocate budget for organic farming |
| 2.3 Projects / activities to allocate budget for control of invasive species |
| 2.4 Projects / activities to allocate budget for prevention of natural disasters |
| 3. Important species | 3.1 Projects / activities to allocate budget for conservation of rare species or valuable species in the local area |
| 4. Utilization | 4.1 Projects / activities to allocate budget for activities or products from biological resources to generate incomes |
| 4.2 Projects / activities to determine the rules for the utilization of local natural resources |
| 4.3 Projects / activities to seek cooperative partners in the conservation of local resources |
| 4.4 Proportion of budget for conservation in comparison with other aspects |

The above proposals for the policies should be taken into account by the Ministry of Interior to establish the guidelines for local government organizations throughout the country.