Title of the Initiative | Urban Ecosystem and Biodiversity Conservation towards Sustainable City and Climate Change Resilience
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Initiative Duration | 2008-2013
Submitted by | 1. Mrs. Suranid Ong-La, Municipal Clerk 2. Ms. Tharee Kamuang, Project Manager
Comments by the Jury | This initiative, started in 2008, represents a major shift in the way the City of Chiang Rai is meeting the challenges of rapid urbanization and climate change. On the policy front, the initiative is a departure from past policy that focused primarily on making the city an economic gateway for the Mekong. This leads to rapid urban growth and environmental deterioration. The new vision of the mayor is for a “livable city focusing on good environment, in conformity with the Buddhist way, and well-being of the people…”.

Seven development strategies have been formulated to attain this vision. They include a highly original and integrated approach to climate change mitigation and adaptation; the linking of biodiversity preservation with local economic development and with disaster preparedness. An equally significant change has been brought about in the role of the city from that of “doer” to “facilitator” involving the active engagement of citizens and local stakeholders to forge a strong sense of ownership and sustainability in implementation.

The initiative has so far resulted in the demarcation of forests, lakes and rivers as conservation zones; in the gaining if new knowledge about local biodiversity; in improved and expanded green spaces and the overall
improvement of quality of life. These actions and improvements have boosted tourism and tourism revenue, spawned new educational programmes for school children and youth, and strengthened community relationships that have significantly reduced conflicts and social tensions. Many cities have already visited Chiang Rai to learn from its experience.

Chiang Rai Municipality has a population of 67,176 people and covers a land area of 60.85 sq km.

Urban Ecosystem and Biodiversity Conservation towards Sustainable City and Climate Change Resilience

Background Information

According to national guideline to develop trade and commercial channels including tourism with neighboring countries, the north of Thailand is designated to be the economic center linking with the Greater Mekong Subregional (GMS) and South Asian (BIMSETC). Chiang Rai is one of the eight northern provinces that got affected by such growth of economic and commerce. But at the same time, it also results in the change of social and physical environment in Chiang Rai Province. For instance, visitors and investors, both from local and peregrine, migrate to Chiang Rai province to make a living or run business. Chiang Rai Municipality then has to support and serve both its citizens and visitors. Besides, the land use changes greatly from agricultural to residential area, entailing a great deal of infrastructure and facility development. As a result, natural resources including forest, water, natural habitats and animals are deteriorating continuously.

The administrators of Chiang Rai Municipality was aware of above treats,
therefore the municipality has initiated the project of “Enhancing Urban Ecosystem and Biodiversity in Chiang Rai City” since 2008 and continued up to the present. In order for positive impact to all sectors of the city, government agencies, academic institutions, and more than 10 organizations together with business sector including restaurant, hotels and travel service providers which benefited from visitors and study groups join hands in this project. This allows over 60,000 people to have green space for their leisure. It offers students, collegians and youth better source of learning than ever before.

**Goals of the Initiative**

The project of “Enhancing Urban Ecosystem and Biodiversity in Chiang Rai City” aimed for the restoration and conservation of the diverse ecosystems that co-exist in the city area in order to maintain natural balance of urban development, and also economic, social and environmental balance. New objective of biodiversity conservation in the city has been added, for example, being carbon sink, stabilizing the ecosystem, and acting as food supply in the city, which has been changed or affected. The summary of changes is as follows;

- **Change in policy:** In the past, Chiang Rai Municipality aimed to develop the city as a gateway to Mekong Region without clear obligation in the environmental aspect. But after the project was successful, the present administrator of Chiang Rai Municipality, Mr. Wanchai Chongsuttanamanee, the Mayor, set the vision for development to be “Livable city focusing on good environment, along with Buddhist way, and the well-being of the people, and to be ready for ASEAN Economic Community (AEC) in 2015”

- **Change in strategy:** The aforementioned vision derived to 7 development strategies, one of which is to become a low carbon city, focusing on mitigation of CO2, together with the adaptation to deal with the climate change by conserving the ecosystems and biodiversity in the city and also having preparedness and contingency plan for natural disasters.

- **Change in view and process of urban development of the administrator:** After this project took off. The municipality became only a facilitator
because it was aware of the better value of “the sense of ownership” and “sustainability”.

- Change in budget allocation: After the results were observed, the municipality integrated this project into its 3-year local development plan, and allocated the budget for implementation continuously.

- Change in community strength: After some time, the change that could be clearly observed was the increase of people’s participation in several activities with the educational institutions and agencies. As a result, not only natural resource and biodiversity have been conserved but the participation of people as well as civil society was also established in Chiang Rai.

Parties and Partners to the Initiative and Resources Used for Implementation

Strategic Partners that involved in development and implementation of this project by sector as follow:

- Public sector plays a key role in supporting academic resources such as knowledge and material, including being a lecturer in training, joining in exhibition, supporting knowledge media and joining the working group to perform a biodiversity field survey. But financial support is excluded.

  Agencies involved are as following:
  1. Office of Natural Resource and Environment (ONEP)
  2. Department of Environment Quality Promotion (DEQP)
  3. Royal Forest Department (RFD)
  4. Department of National Park, Wildlife and Plant Conservation (DNP)

- Local educational institutions also play a key role in the survey, and research on the biodiversity in each particular area and act as a consultant to the working group to identify species of specimen collected. Those include;
  1. The Center of Natural Resources and Environmental management (NREM Center) of Mae Fah Luang University
  2. Biodiversity Center of Chiang Rai Rajabhat University
  3. Faculty of Science of Mahidol University
4. Teachers and students in schools associated with Chiang Rai Municipality

- Non Governmental Organization and Civil Society Organization play a key role in the development of project proposal, coordination with funding sources and other agencies at both national and local level, coordinating with the municipality to drive the activities of the project. They are:
  1. Thailand Environment Institute Foundation
  2. The National Municipal League of Thailand (NMT)
  3. Chiang Saen Bird Club
  4. Network of 62 communities in Chiang Rai Municipality
  5. Doi Saken Temple and Doi Prabhat Temple

- Private sector plays a key role in financial and academic and technical support to the implementation. Those are:
  1. Keidanren Nature conservation Fund, Japan
  2. Rocky Feller Foundation
  3. Thailand Business Council for Sustainable Development (TBSCD)

The resources used for implementing the initiative include:

- Human Resource in terms of working groups for biodiversity survey, whose members came from various sectors. These persons were the project advisory committee and working group at local level.

- Technical Resource in term of experts and expertise from government agencies, educational institutions and civil societies which provide techniques to do the survey on plants, animals, insects, lichens and aquatic animals.

- Media Resource prepared the media together with the municipality to disseminate knowledge of biodiversity conservation and promoted this project to the people in Chiang Rai through various types of media in order to create awareness and enhance people’s participation in the city.

**Innovation for the Initiative**

This project has revolutionized the process of urban and environmental development. In the past, the municipality has to plan and implement by itself
which sometimes did not meet the needs of the people and lacked of sense of ownership because there was no real participation. But this project focuses on the participation process and enhances the involvement since the very start, such as at the establishment of the working group to include different parties as defined previously. Capacity of the working group was built up. The participants learn how to plan and follow up the progress on a regular basis, how to apply appropriate techniques to do the survey, to collect sample and to identify plant and animal specimens collected, and the most important change is how they apply the data collected (Baseline Data) for localized conservation and development planning for short-term, medium-term and long-term, considering the protection and the wise use of the existing resource and its biodiversity, as a learning site and a living museum. The municipality hosts the main resource for such support. However, currently there are only few local governments in Thailand which run such biodiversity conservation program in the city.

Chiang Rai Municipality was the first to conserve biodiversity seriously at Doi Saken forest which is a mixed deciduous forest ecosystem. This area is about 24 acres and located right in the center of Chiang Rai city. The initiative extended to Doi Prabhat reforestation area which covers about 20 acres, and further expanded to Nong Pueng lake and Mae Kok Noi river which is a wetland, in which plants and animals have been surveyed. At present, it expands to cover ecosystems in urban environment in order for studying such as the study of lichens found around residential area and public park in the city in order to find a way to use them as air quality indicator. Another program is to emphasize the significance of large trees by a competition call “The City’s Precious Tree” for the urban residents to love and cherish precious trees present in the city area, and appreciation in plant biodiversity.

The project agrees with the vision of the administrators, with its clear policies and strategies. As a result, the project is financially supported very well and continuously by the municipality. In addition, the municipality also has connections to academic parties e.g. government agencies and educational institutions as above mentioned to provide the technical knowledge for the survey team to
identify the species. Annual meeting is set for the academic supporting team and working team to meet and discuss and the plan made together is then incorporated into the municipal development plan.

This project was inspired by the administrators of the municipality, who earlier had visited cities in foreign countries and admired the way they conserve the plants and trees and the biodiversity. They wished to do so but had no idea how to start. This resulted in implementing fragmented projects after projects. But later on, Thailand Environment Institute Foundation suggested that the idea should be implemented more systematically and seriously. So the preliminary project was supported by KNCF in 2008 and Chiang Rai Municipality was selected to be the pilot city of this project. So that was the start of the conservative effort taking place up to present.

There are several groups of beneficiary as follow:

- The residents in Chiang Rai Municipality have more and larger green space with high biodiversity to use for recreation, relaxing, and learning source.

- The students have open and natural classroom where they can learn about real plants and animals which cannot be found in the textbooks. There is a youth group to study birds, insects, plants, and lichens in various ecosystems in and around Chiang Rai city. The municipality supports the activities well with a learning center for collection and exhibition of the studies.

- The entrepreneurial business benefited from the number of tourists and visitors of local government’s site visit programs to Chiang Rai city. This increases their revenue. They have established an association of small business entrepreneurs and participated in the management effort in the locality.

Chiang Rai Municipality benefited by having a strengthened network of communities so it reduced the civil gap and also reduced conflicts. There are natural sources to help to maintain the ecological balance of the city as well.

**Obstacles and Solutions to the Innovation**

- Deficiency of biodiversity experts particularly to each type of ecosystem.

To do the survey in a particular ecosystem, it needs a specialized expert
for that and it takes different one for different type of ecosystem. The municipality has to find a way to seek such wide variety of expertise for the program.

- Particular management skill of the local community is not enough. In case of some endangered species of plant or animal is found in a sensitive habitat, it takes a specialized expertise to deal with such situation appropriately. This is the area of improvement for the community to consider.

- Without clearly visualized demarcation, urbanization inevitably causes residents’ intrusion into the conservation zone designated by the municipality. This obstructs the biodiversity conservation development as planned.

The solution of municipality is to create connections with capable agencies which can support and enhance the people’s participation and sense of ownership.

**Outcomes and Assessments**

Outcomes achieved are as follows:

1) **Economic aspect:**

   - Local economic development: the majority of people living around biodiversity preservation areas are farmers and traders. The project operation has helped these residents generate additional in form of tourism, both directly and indirectly. For example, selling plant sprouts (local plants/trees), making sling-shots with plant seed bullets, offering home-stay visits to tourists.

   - City economic development: after the results of the project were disseminated, Chiang Rai Municipality becomes famous for other local governments to visit and learn from the successful projects/activities. This can help in city economic development in general.

2) **Social aspect:**

   - Strengthened community relationship: in the past, a few people in the community took actions to conserve the forest. After participating in the project,
more parties have become involved and supportive, each taking on a more cooperative attitude in working together.

- Traditional knowledge/local wisdom: the project has provided opportunities for the elderly to participate and contribute to community-based activities. This has helped enable traditional knowledge and local wisdom to be passed to the other local communities, especially the new generations. This also helps to increase community relationship.

- Relief of local tradition and religious: in the past, the people went up to the hill to visit the pagoda and temple occasionally only for religious purposes. After implementing of this project, local people are aware of the conservation of the places and integrated all activities related to both religious and environmental conservation.

3) Environmental aspect:

- Green area: the project helps to conserve and increase the public and green area as well as recreational opportunity in the municipal area. Moreover, large green area of the forest can also act as ‘carbon sink’ for the city and support rich biodiversity.

- Food resources: such as edible insects, beehives, bamboos, etc. which helps to increase food security of the city.

- Sources of learning for the youth: Doi Saken has become ‘open and natural classroom’ for the youth/students in the city. Schools with environmental curricula can arrange study trips and learn about the environment. This helps to increase environmental awareness to the youth.

4) International reputation:

Since 2010 was the international year of biodiversity, Chiang Rai Municipality’s project received considerable attention from international communities. In August 2010, the representatives of Chiang Rai Municipality were invited by ONEP to share their best practice experience with other municipalities at the 13rd Thailand Natural Resources and Environment Conference under the topic “Biodiversity: Saving the World’s Life”. Furthermore, in October the same year, Chiang Rai Municipality was invited to present its case in “City Biodiversity...
Summit 2010:COP 10” in Nagoya, Japan. The project was also awarded for “Good Practice” and was invited to present and receive this award in the event of World Habitat Day 2011 in Aguascalientes, Mexico on 3 October 2011.

**Assessments are as follows:**

The municipality has the Division of Technical Service and Planning which is the main agency responsible for collecting the information on the progress and productivity from project implementation as the defined in the objective. In addition, the working group for biodiversity also meets regularly to follow up the progress and evaluate the group’s performance. At the end of the fiscal year, the performance and implementation progress is evaluated by guest evaluating team from educational institutions, and the result is used for improving the implementation plan of the following year.

**Methods Applied**

- New paradigm: the municipality changes its role from “practitioner” to “facilitator” in dealing with an issue or subject for the interest of the community.
- New working method: from self-directed planning and working to multi-stakeholders’ involvement and the optimal use of existing human resource to its full potential by putting the right man to the right job.
- New knowledge: Species of animals and plants found in the city had never been identified before, and the findings are kept as a good database for further study. And learning the benefit of biodiversity in the city is crucial.
- New incentive: The survey of biodiversity in different type of ecosystem is very interesting and influential. The more new animals and plants’ species are identified, the more enthusiastic the municipality wishes to continue the survey.
- New friend: The more work, the more partners from different agencies and bringing more support. The result is an extensive network. The municipality is not working alone anymore yet driven forward by such support.
Benefit to Other Cities

Living in a livable and sustainable city does not mean to live among only wealthy people and in good economy, yet without interpersonal interactions, without cultural identity, or without people’s happiness. The livable and sustainable city comprises a balanced harmony of the 3 well-beings i.e. human well-being, social well-being and environmental well-being. Chiang Rai Municipality continuously puts efforts into the biodiversity conservation project since it can, without doubts, enhance the three well-beings. Therefore a key message from Chiang Rai Municipality to other cities is that to have good quality of urban life, we do not have to lose our own cultural identity, and we do not have to threaten other living things. Biodiversity is foundation to the existence of 4 basic essentials; food, clothing, residence, and medicine. If the biodiversity is deteriorated, so is the security of the basic essentials. There is no more sustainability to the city since it has to depend on these essentials from elsewhere.

So, urban development towards a sustainable city needs to improve the quality of life along with good social and environmental development, with the participation of all sectors.