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ICLEI Local Governments for Sustainability | CBC Cities Biodiversity Center

DEVELOPING A LOCAL BIODIVERSITY STRATEGY AND ACTION PLAN

EXPLORING THE IMPORTANCE OF PARTICIPATORY APPROACHES IN KOCHI, INDIA

A Local Biodiversity Strategy and Action Plan (LBSAP) is an important tool for local governments to implement biodiversity conservation and action. LBSAPs focus on local implementation and need to be developed in both a scientifically informed and participatory manner to ensure that the communities who are direct beneficiaries of the plan have a role in its development and implementation. A participatory approach increases ownership of the LBSAP and therefore its effectiveness.

The development of LBSAPs results in identification of key areas for biodiversity related action, which in turn helps cities to protect and manage biodiversity while mainstreaming the issue of biodiversity into local governance discussions.

LBSAPs also contribute to the achievement of SDG 11, to make cities inclusive, safe, resilient and sustainable, National Biodiversity Strategy and Action Plans (NBSAPs) and the Aichi Targets.

This case study focuses on the development of Kochi's Local Biodiversity Strategy and Action Plan (LBSAP) in a participatory and scientifically informed manner. An LBSAP is useful for local governments in many ways. The actions and timelines included in an LBSAP are more specifically targeted for the local context in comparison with National or State Biodiversity Strategy and Action Plans (N/SBSAPs). The LBSAP helps translate international and national biodiversity policies and targets into implementable action plans at the local level.

Subnational and local authorities possess valuable information and insights which can raise the effectiveness of policy implementation at the local level and thereby contribute to the achievement of national commitments as well as the Aichi Biodiversity Targets. Strategy and action plans at the local level call for more attention as local actions collectively contribute to national reporting. Since the very aim of the LBSAP is to develop strategies and action plans for biodiversity in the city, it is important to do so in a participatory manner. This case study highlights various steps taken in the development of the LBSAP for the city of Kochi to foster an inclusive process.

The importance of participatory development of Local Biodiversity Strategy and Action Plans

An LBSAP is a guiding strategy with specific actions suggested for local governments to achieve "optimal and realistic governance and management of biodiversity and ecosystem services" (Avlonitis et al., n.d.). While the NBSAP and SBSAP are the primary instruments for implementing the Convention on Biological Diversity (CBD) at the national and state levels, the LBSAP is the local equivalent. The Conference of Parties (COP) to the Convention on Biological Diversity (CBD COP 10) has recognized LBSAPs as an official mechanism in decision X/22 (Convention on Biological Diversity 2010).

Development of biodiversity strategy and action plans at the local level guides and supports local governments in the protection and management of local biodiversity. A key success factor of any action at the local level is community support and participation. Research on community-based biodiversity conservation shows that when conservation strategies are developed by external agencies, they are often not a priority for local residents (Berkes 2007). When the priorities of the local community are different from the ones suggested by the external agencies, activities are likely to fail. Such case studies clearly highlight the importance of the role of partnerships and deliberative processes for community decision-making regarding conservation. Developing the LBSAP in a participatory manner by considering inputs from various parts of society will help form strategies that the community is interested in engaging with, thereby increasing their ownership of the plan, as well as the likelihood of successful implementation.

Figure 1 - Group discussions the during a meeting of the Technical Working Group

Kochi: The largest urban agglomeration in Kerala

The city of Kochi is the largest urban agglomeration in the state of Kerala and is situated in Ernakulam district, spread over an area of 94.88 km^2 (Department of Town and Country Planning 2006). The only all-weather harbour on the west coast, the city has assumed a place of importance in the trade and commerce of the state. Kochi is also home to many large and medium scale industries and more than 60 percent of the tax revenue of the state comes from the city.

Kochi is a coastal city built on a peninsula and a cluster of islands. Seven major rivers drain into the Arabian Sea at the site, making Kochi known as the 'Queen of Arabian Sea'. The city is crisscrossed by a network of canals and the landscape is primarily composed of backwaters and wetlands.

The major ecosystems of Kochi city include the coastal region, Vembanad Lake, estuaries, mangroves, wetlands, fresh water ponds, *Pokkali* paddy fields, and other mixed cultivation. Kochi is situated close to the Western Ghats, a global biodiversity hotspot. Efforts to document the biodiversity of the city are being carried out which include development of the People's Biodiversity Register by the Biodiversity Management Committee and City Biodiversity Index by ICLEI South Asia (ICLEI South Asia 2020). Based on the available data, the district (in which the city falls), is known to harbor a total of of 1,706 plant species belonging to 158 families and 866 genera (Sunil 2015). ICLEI South Asia recorded 66 species of trees in Subhash Bose Park (2018) and 82 species of avenues trees in Fort Kochi and Mattancherry (2021). 44 species of butterfly (Joseliph and Davis 2014), 398 bird species ((Jayson and Easa 1999) and 50 economically important marine or estuary fish species (WAPCOS 2015) have also been reported within in the city.

Facts and figures

Local government name

Kochi Municipal Corporation (KMC)

Country and province

India, Kerala

Population (2011)

0.677 million

Total area

94.88 km^2 (2006)

Municipal Budget

9,875.7 million INR (2019-2020)

GHG inventory available since:

2019

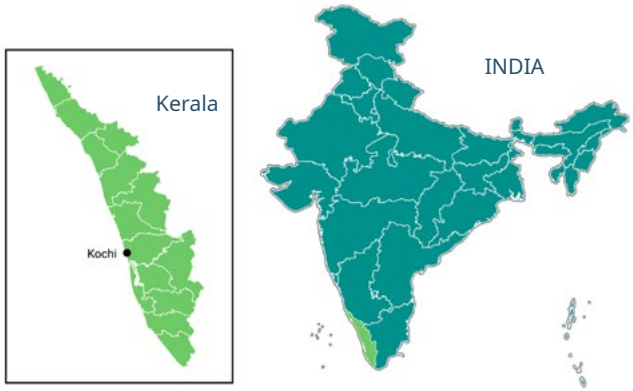


Figure 2 - Map of Kochi, Kerala, India

KOCHI'S PARTICIPATORY APPROACH TO LBSAP DEVELOPMENT

The LBSAP of Kochi was developed as part of the INTERACT- Bio project. The initiative focused on development of the LBSAP in a scientifically informed and participatory manner. Kerala is one of the states in India that had developed an SBSAP as early as 2005. Kochi, a major city in Kerala, located in the central low-lands of the state, has various fragile ecosystems and a rich diversity of flora and fauna. . Kochi is known for its traditional rice farming systems and its mangrove bird sanctuary - *Mangalavanam* bird sanctuary. The presence of such rich biodiversity within the city combined with the pressures of rapid urbanization that the city is facing highlight the need for a robust LBSAP for the city of Kochi.

The city has always given high priority to conservation of biodiversity and sustainable urban development. The local government has ensured, proper management and maintenance of important parks and open spaces and works in close collaboration with several organizations such as ICLEI- Local Governments for Sustainability, South Asia to mainstream biodiversity conservation. In addition, the City Corporation regularly allocates funds in the annual Municipal Budget for biodiversity conservation and governance activities.

The overall development of Kochi's LBSAP was conducted in four stages: background research, city-level workshops, neighborhood consultations, and technical analysis and development.

The first stage involved conducting background research on biodiversity related issues in the city. This information was presented in the city level meeting, conducted in the second stage. The activities in this stage helped to identify the critical ecosystems within the city limits and the drivers impacting the health of these ecosystems. The third stage involved conducting detailed meetings at the zonal level[1] to understand problems at the ground level. The findings from these consultations were then used to inform the strategy and action plan. In the fourth and final stage, the results obtained from these meetings were analyzed and presented to a technical working group. The LBSAP was then prepared based on the suggestions provided by the technical working group. The four stages of development are explained further below and Figure 3 provides a detailed list of actions and deliverables that make up the participatory methodology used by Kochi in the development of their LBSAP.

1 One zone comprised of a cluster of 8-10 wards

Background research

This first phase involved background research in order to consolidate information and form a thorough understanding of biodiversity related issues in the city. Important information such as critical ecosystems, baseline biodiversity data and learnings from various ongoing biodiversity related initiatives were collected. The information compiled in this phase served as a foundation for further research and inputs collected in subsequent stages of the LBSAP development.

City level workshop

The city level workshop brought together diverse stakeholders to identify the critical ecosystems in the city, understand the health status of the ecosystems, and the drivers impacting the health of these ecosystems. The workshop participants represented many stakeholder groups from ward residents to councilors, educators to lawyers, and senior citizens to activists. In an attempt to ensure that every ward's issues were raised, participants were divided into eight zones[1] (or groups), each of which comprised representatives from a cluster of wards. Each group listed all of the ecosystems present in their zone. Following this, the participants ranked the health status (Very good, Good, Moderate, Poor, and Very Poor), of each ecosystem and identified the drivers impacting that health status as well as key indicators to understand the current status.

Zone-wise consultation meetings

Following the city level workshop, smaller workshops were held with the group representing each zone to conduct more detailed consultations. These meetings helped to outline the issues at a granular level, providing the ground level information that is essential for developing an LBSAP. These meetings were conducted over a span of three months. The Hon'ble Mayor extended her support to the process by assigning one Councilor to oversee the consultation process in each zone. With the help of the Councilor in charge, individuals who are active at the local level in ecological and social work were identified and invited to contribute through the workshops. To ensure better participation, the meetings were conducted at central and accessible venues such as local meeting halls. During the selection of participants, specific attention was given to ensure equal representation of gender.

The format in each of these meetings was kept uniform across all zones. First a background presentation about the project and the results obtained in the city level workshop was given, followed by a focus group discussion on the issues pertaining to biodiversity conservation and ecosystem services in that zone. Through the background presentation, an overview of the project and the need for an LBSAP was discussed. Details of discussions held in the city level workshop were also shared with the participants. The indicators for ecosystem service degradation identified in the city level workshop, were discussed in detail in the zonal meetings. During the focus group discussion, the participants were asked to verify the information gathered during the city level consultation

Kochi's LBSAP Vision

Kochi city will conserve its biodiversity, maintain the uninterrupted flow of ecosystem services, and ensure sustainable, safe and climate resilient development by managing its mosaic of ecosystems through a participatory planning approach.

Centre for Heritage, Environment and Development (c-hed)

The Centre for Heritage, Environment and Development (c-hed) is an autonomous institution established by the Kochi Municipal Corporation (KMC). It functions as the Research and Development wing of KMC and deals with various fields such as Urban Development, Governance, Environment, Tourism, Culture and Heritage. c-hed acts as a link between KMC, the private sector, NGOs, and experts across the world to facilitate knowledge sharing and ensure the sustainable growth of the city through partnership. Throughout the development of the Kochi LBSAP, c-hed acted as a strong link between KMC, multiple city stakeholders and ICLEI South Asia. The organization facilitated various meetings at the city and zone level and also helped to ensure high levels of participation from different groups of society in Kochi.

meeting. Each participant was given the time and opportunity to comment on the information collected and to add more points, as needed. The discussions were audio-recorded whenever and wherever possible. Detailed notes were also taken during the discussions.

Formation of Technical Working Group (TWG) and development of LBSAP

A Technical Working Group (TWG) was constituted to validate the data collected and formulate goals and actions for inclusion in the LBSAP. The committee was comprised of experts from various disciplines including Natural Resource Management, Ecology, Marine Sciences, Anthropology and Sociology. While selecting the TWG members, emphasis was given to each expert's familiarity with the city and experience of working on biodiversity related issues in the city. This aided a focused discussion on the issues with regard to biodiversity conservation in the city and supported the formulation of a relevant LBSAP for Kochi.

The data collected during the city level and ward level meetings were cleaned, analyzed and presented to the TWG for comments and revisions. During the analysis of the data, similar focus areas and drivers were grouped and presented to the TWG. The TWG was then requested to suggest possible action points for each ecosystem, considering the indicators and health status. These suggestions were finally incorporated into the LBSAP document. Based on the suggested points and actions, the vision for the LBSAP was also formulated.

The draft LBSAP was then presented to the stakeholders and the council for their comments and approval.

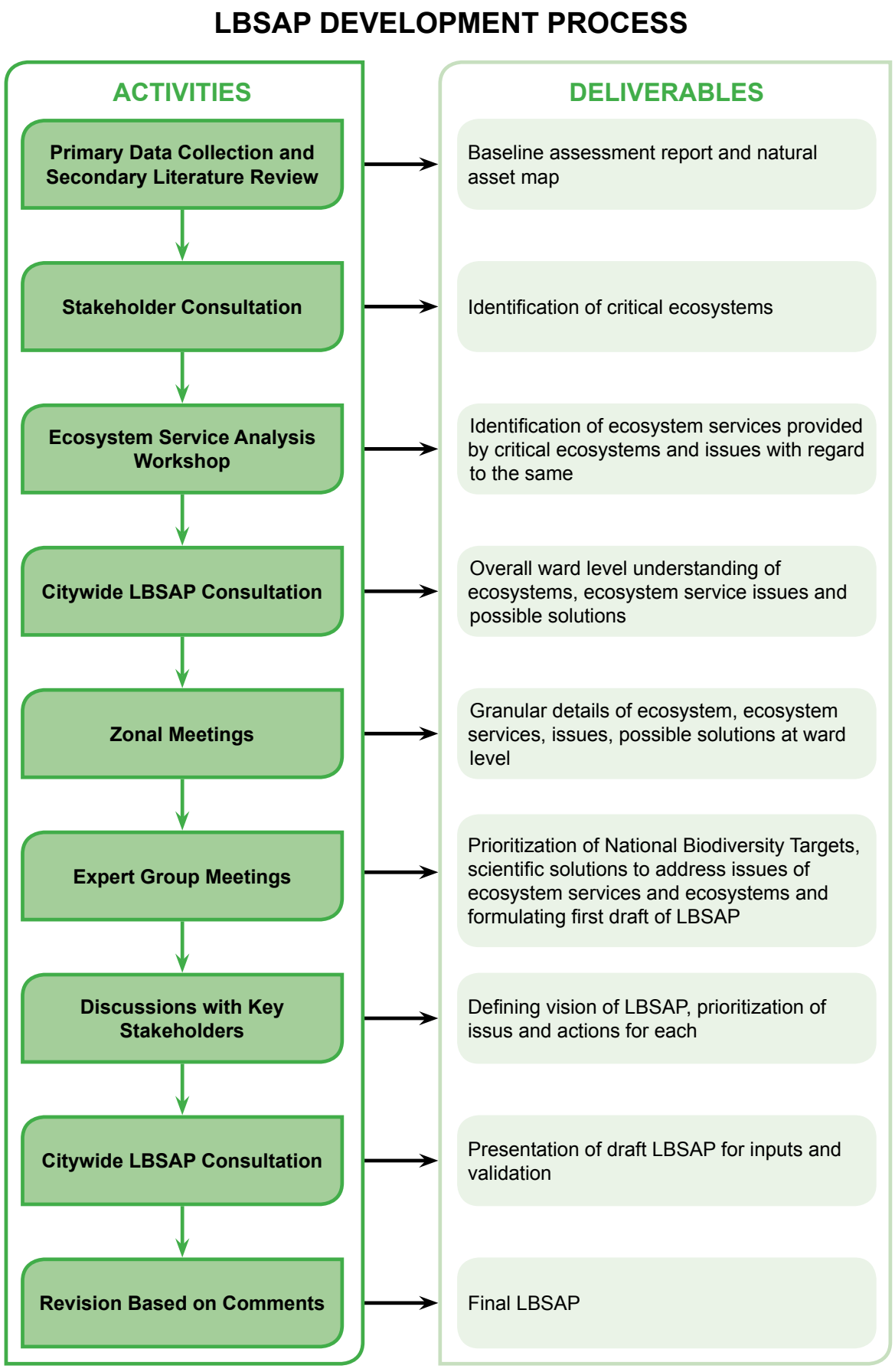
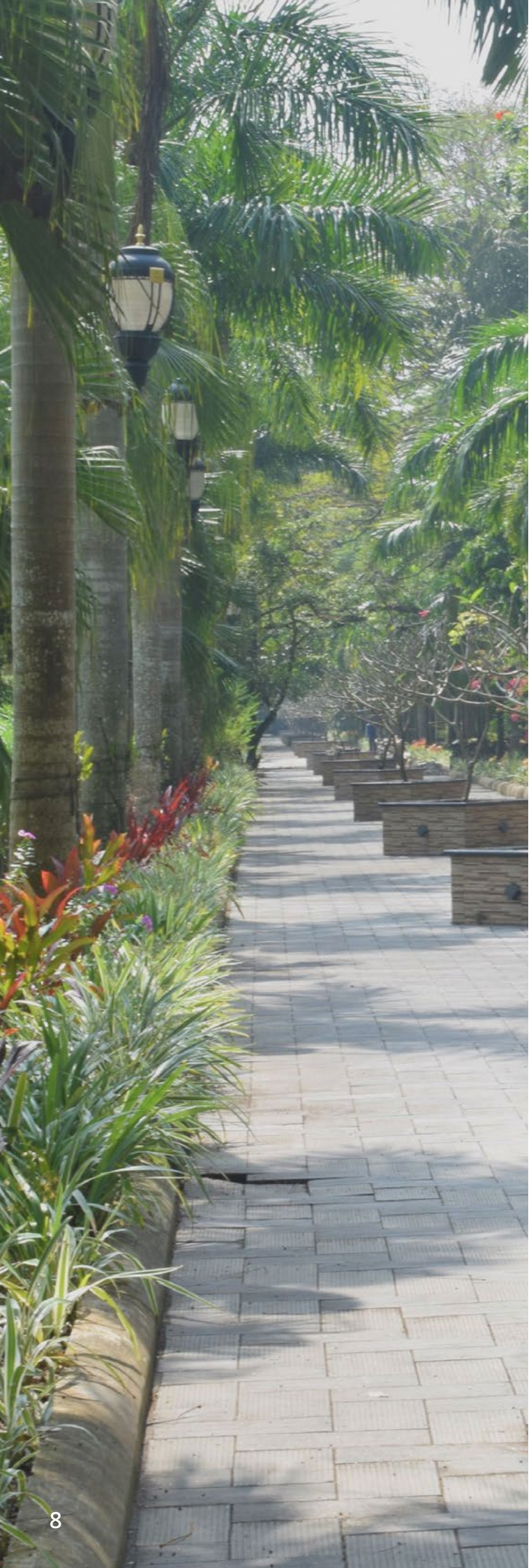


Figure 3 - Detailed methodology used to develop Kochi's LBSAP



Results

- **Through this process, Kochi identified nine focus areas and 29 biodiversity goals; the LBSAP suggests various actions to achieve these goals.** The nine focus areas include the critical ecosystems within the city that are under threat. The biodiversity goals and actions are intended to improve the health status of these ecosystems and ensure the smooth delivery of ecosystem services. The city can incorporate these goals and actions in their annual plan to help meet the regional, national and international commitments on mainstreaming biodiversity conservation.

- **The LBSAP will support the city in the short, medium and long term to understand and unlock the potential of nature to provide services and new or enhanced economic opportunities.** At the same time, the LBSAP will aid in protecting the biodiversity and ecosystems on which these services and opportunities depend. The goals and actions identified in the LBSAP show pathways to involve and invest in various business activities related to nature, while ensuring its protection.

- **Kochi's LBSAP will contribute to the achievement of national commitments and the Aichi Biodiversity Targets.** Development of the LBSAP aided the city to align its biodiversity action planning with the SBSAP and NBSAP, which is required by the Convention on Biological Diversity (CBD). The development and implementation of the LBSAP of Kochi will contribute to the implementation of the NBSAP. This will in turn help to contribute to the national commitments towards attainment of Aichi Biodiversity Targets. Furthermore, there is increasing recognition globally of the key role that local governments can and should play in contributing to global biodiversity and sustainability targets. The LBSAP will thus strengthen the city's role to meet global commitments.

Lessons Learned

- **The successful implementation of the LBSAP requires community support.** Research has shown the ineffectiveness of policies implemented in a top down manner. Thus, community participation is important for the success of the actions suggested in the LBSAP. Community participation is also important in identifying ground level issues related to various ecosystems. Together with the local community, and other stakeholders, the city government can implement the LBSAP in a successful manner.

- **Identifying the right basic unit for consultation meetings is important for the timely completion of the project.** Kochi Municipal Corporation has a total of 74 wards. Instead of conducting meetings in each ward it was decided to have zonal meetings. Each zone consisted of seventeen wards. While selecting the zones, it was ensured that wards that share common geographical and ecological features were grouped together. The formation of zones helped to complete the meetings within a short period of time and analyze the data accurately but efficiently. Conducting 74 meetings would have been not only logistically difficult, but also difficult in terms of managing data and finance.

Figure 4 - Release of the LBSAP of Kochi by the Hon'ble Mayor Mrs Soumini Jain, in presence of the Leader of the Opposition and other councillors

Notes on replication

This methodology can be used by local governments around the world that are interested in developing a LBSAP. For local governments interested in using this methodology, here are some things to consider:

Finance

The budget will vary, based on the size of the city. Since multiple consultation meetings are necessary, it is important to plan the meetings based on the budget available. Local level meetings at the ward level or zonal level, should ideally be conducted in a common place, which is easily accessible for all participants. Public meeting facilities such as libraries, auditoriums, and Anganwadis (child care centers in India) can be used to hold consultations or workshops.

Staff capacity

In order to develop a robust LBSAP, a minimum staff strength of 3-5 people is needed. In addition, these staff members should be well versed in the local language and be well trained in planning and conducting multi-stakeholder meetings, conduct focus group discussions and data analysis. In addition the staff members involved in the exercise should have technical training in ecology.

City characteristics

The geographical and ecological features of the city have an impact on the process of LBSAP development. For instance, the clustering of wards into various zones is based on the geographical and ecological features. If various wards have multiple unique features, the clustering should be conducted accordingly. A preliminary analysis of the common features of the wards is imperative. Apart from the geographical and ecological features, the size of the city will influence the budget and time needed to develop the LBSAP.

Timeline

Like any other project, a realistic timeline is crucial for the development of an LBSAP. It requires a minimum of 3-6 months for the planning and data collection. An additional 3 months are needed for the preparation of the strategy and action plan.

Stakeholder engagement

Since the LBSAP is an important document that helps to mainstream biodiversity conservation at the local level, multiple engagements with various stakeholders are required. Continuous interaction with the stakeholders at different levels is essential in the development of the LBSAP. The various stakeholders should include councilors, environmentalists, social workers, and subject matter experts. Since it is important to highlight pressing ground level issues in the local strategy and action plan, the degree of success depends on the support and collaboration between various departments and civil society. Interactions with these diverse stakeholders will help to identify the real issues on the ground and suggest possible strategies and actions to address them.

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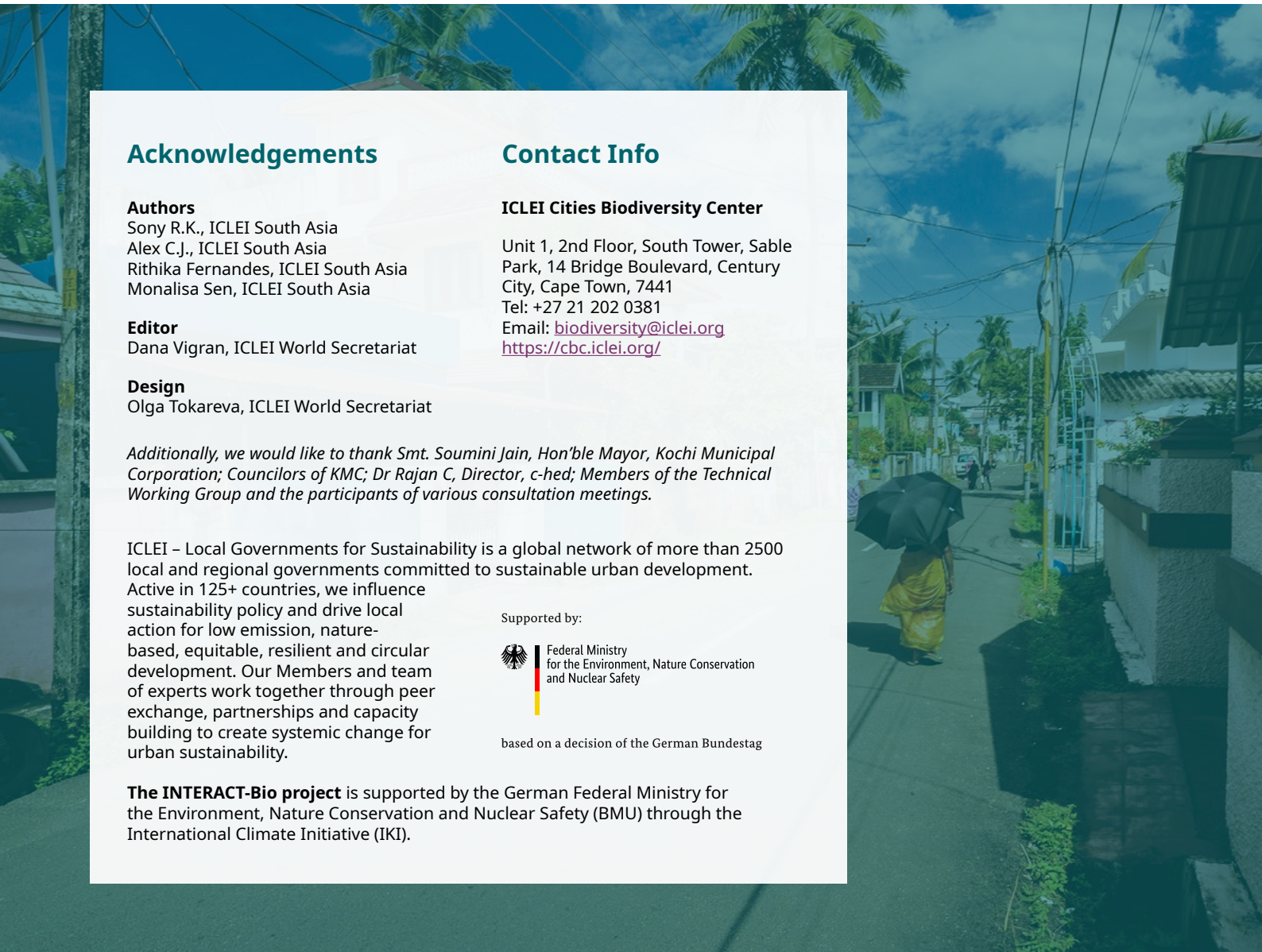

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