CLIMATE RESILIENT AND INCLUSIVE CITIES PROJECT

Triangular cooperation between Europe | South Asia | Southeast Asia

POLICY RECOMMENDATIONS

Topic 1: Sustainable Urban Development

- Invest in climate-dependent measures for the city to adapt to floods.
- Develop patterns for Sustainable urban design to cope with the city's urbanization (including sanitation).
- Strengthen Green spaces/RTH reforestation, adaptive buildings, water catchment areas.

Topic 2: Circular Economy and waste

- Develop a joint program with the population and businesses on waste management to avoid illegal dumping and water pollution.
- Increase the collection of waste.
- Increase composting sites and work with fishers to reduce coastal abrasion and the depletion of the ocean. Invest in the blue economy (in the limit of resources).

Topic 3: Early Warning system

- Improve and renew the early warning systems for floods (WebGIS).
- Increase engagement with the stakeholders.

Topic 4: Water and Sanitation

- Work with the PDAM local company to increase the coverage of clean water access.
- Develop cooperation to ease investment in clean water.
- Facilitate reforestation to increase water absorption and sedimentation.

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CLIMATE RESILIENT AND INCLUSIVE CITIES

Policy Brief based on the Urban Analysis Report for the city of

Bandar Lampung

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Key Features

- Bandar Lampung is a large city and a transportation hub in Sumatra with many economic opportunities (e.g. the blue economy).
- Bandar Lampung is vulnerable to natural disasters, including floods, landslides, droughts, high, tide and tsunami. Twenty-three disasters, mainly floods, were reported between 2010 and 2019.
- The coastal environment is facing abrasion, erosion, and sedimentation, as well as sea pollution with plastics, and depletion of fishes.
- The city has an early warning system for floods and droughts which needs improvement.
- Access to clean water and the contamination of groundwater, as well as the collection of waste, are environmental issues.

Key Numbers

- Population 1.051.500 inhabitants (2019)
- 169,2 km² divided into 20 sub-districts
- Density: 5.332 inhabitants per km²
- Population growth: 1,71% in 2019
- Unemployment rate: 7.12 %
- Poverty rate: 8.71% in 2019 (10.85 in 2013)
- 12,4% of the population lives in informal settlements
- Waste generated (2016): 329,730 tonnes (10% is not managed)

Key numbers on the environment:

- Air Quality Index: 82,88 (61 on air-quality.com)
- Water Quality Index (IKA) 68,73: low value

Further analysis

The Urban Analysis Report identifies several key problems, challenges, and Opportunities in priority sectors:

1. The lack of coordination between stakeholders is identified as a key problem and could lead to further programs and coordination of workshops. Some NGOs have already developed programs.
2. The early warning systems used for floods and drought could be renewed with the help of smart technologies (improvement of the websGiS). An adaptative urban design resilient to floods could be developed.
3. The urban design needs to integrate green spaces, drainage, access to clean water and sanitation in low-income areas.
4. The local government plans to improve the drainage and access to clean water (Master plan of City Drainage), and this is a key point in improving access to clean water by the middle- and low-income communities. Indeed, the local drinking water is supplied by the local company PDAM, but only the water access (coverage) dropped from 66,1% in 2015 to 21% in 2018. So many middle- and low-income communities do not have access to clean water. The quality of the groundwater is also worsening. In 2016 a report of MoEF[1] showed that fecal contamination of groundwater had become an issue. It seems important to develop engagement programs with communities and businesses to reduce illegal dumping of waste and access to sanitation.
5. An investment plan to develop a solar cell and diesel power plants could lead to further innovative developments (some cells are currently available in some residential areas). Geothermic energy could be developed in Bandar Lampung.
6. There is a potential to work on the reforestation and green spaces, but also in the valorization and rehabilitation of coastal areas to strengthen a blue/green economy.
7. The city processes more than 1000 tons of waste a day. Only 68% of the waste is collected (and only 25% of the household's waste). There are already existing initiatives on waste to fertilizer, but initiatives could be developed to increase the procurement of waste containers and the collection.
8. Improve the smart technologies for the early warning systems.

[1] Ministry of the Environment and Forests

Policy recommendations

Recommendations on Air Quality - Pilot4DEV and AIILSG

1. Strengthen the air quality monitoring schemes (by increasing the amount and coverage of AQMS stations).
2. Map the pollutants (PM 10, PM 2,5).
3. Prevent forest fires with early warning systems and create a health monitoring system and contingencies for the vulnerable population during and after the forest fires.
4. Develop vehicles emission tests as a future green investment opportunity.
5. Work with the Energy production companies, invest in solar and geothermal energy.
6. Invest in mass transit transportation and in green lanes (for bikes, sidewalks for pedestrians).
7. Develop an Awareness Raising program with the population on the impacts of traffic.
8. Invest in Green plantations able to absorb pollutants ad work jointly with the land planners. A multi-stakeholder Celan Air Action Hub could be created to accelerate action-based campaign, programmes and projects to reduce and eliminate the issues of air pollution towards safer and respirable limits.
9. An Urban Health Programme could be created based on pollution sources for the city to become an emblem for future actions in Indonesian cities.

Recommendations on Waste Management - ACR+ and AIILSG

1. Raise the awareness and implement educational activities in communities about waste management are crucial, engaging the whole stakeholder ecosystem with special efforts to be given towards reaching women. The habit to litter waste in rivers must also be put in the focus. A Gender centric and gender-sensitive waste management with the objective to have gender-disaggregated data could be integrated into the approach.
2. Design and implement initiatives to address the issue of waste used for land reclamation in coastline areas: a strong involvement of the local communities is key, rising awareness about health and environmental consequences. Campaigns and programme with coastal and ocean dependent society (fisherman, ship workers etc.) shall be designed for funding to develop a more inclusive and equal society.
3. Prioritize the management of the organic fraction, implementing source-separated collection schemes and valorising the treatment output (e.g. compost, digestate, biogas). This may apply both to households and businesses. Sustainable energy could be planned based on organic fraction for clean fuel economy.
4. Implement source separated collection schemes for recyclables (e.g. packaging), taking into consideration the role of the informal sector.Collaborating programme and schemes could be planned for more sustainable packaging industries with retailers, customers and common citizens.

5. Extend the operational activities to maximise the capture of the generated municipal waste, focusing on settlement areas that may lack of waste collection service. Introduce a set of parameters to define more precisely the waste streams under the responsibility of the local authority.
6. Revise the local taxation on waste management, introducing incentives and rewarding schemes for waste prevention and source separation.
7. Develop a circular economy action plan may help to change the perspective with regards to waste management. A Local Action Plan on Circular Economy (LAP-CE) could be integrated with specific city sectors with a particular focus on waste streams.
8. Implement the life cycle thinking in the waste management, by going beyond the weight-centred approach. This may help to address the priority sectors assessing different impact categories (GHG emissions, land use, water consumption, etc.) and designing specific actions focused on waste prevention and reuse.
9. Cities may need to identify and commission studies and programmes to identify the value chain for the development of a circular economy programme to create more sustainable and resilient food systems ex: in the wake of the COVID 19 pandemics.

Recommendations on Governance and Links with Civil Society - ECOLISE

Continue the work towards more healthy livelihoods, by implementing and strengthening bottom-up approaches (such as the Musrenbang) and connect these with the local authorities, putting in place a clear and efficient channel of communication between the two. Suggestions and examples of methodologies to achieve this by:

1. Trusting your people and their creative power to solve simple issues and to self-organize in order to co-create with the local authorities;
2. Identifying the local natural leaders of the community (citizens, associations, …) and assisting them in mobilizing citizens participation in the communitarian planning sessions, paying attention to the importance of diversity (ethnic, ideology, religious, age, gender, disabled).
3. Building trust among neighbours and building their capacity to engage actively in the development planning of their neighbourhood by sharing and helping implement organizational and decision-making tools such as Sociocracy 3.0 and Open Space Technology.
4. Invite and hire external facilitators to guide these community meetings, especially in the first years. Once the culture of meeting collaboratively is in place, the community will take the facilitation in its hands, not requiring the external input.
5. Consider the support and implementation of regular Citizen's Assemblies (3-6 per year).
6. Include children in the planning process partnering with schools, conducting regular gatherings (3-6 per year for example) to discuss their needs and desires for their villages/city. Example of Children's Parliament in India using Sociocracy.
7. Consider support and creation of regular inquiry and reflection gatherings for women only in order to create a safe space for them to speak freely.

Policy recommendations

8. Create in the municipality the role of a "Civil servant of the citizens" - Someone whose sole function would be to interact regularly with the citizens, attend and support these meetings and communicate developments to the local government.
9. Identify and invite local NGOs (eg. Walhi, Mitra, Bentala, SNV, Damar) to work regularly with your municipality using the Municipalities in Transition system aimed at bringing systemic thinking and better collaboration between the two for sustainable development.
10. In your community involvement for green open space, development include the organization of celebration and leisure activities. Designate these public spaces outdoor and others indoor for the formal meeting.
11. Establish good communication channels with neighbouring municipalities and territories, so that there is a general overview and understanding of common issues, cooperation in the prevention of disasters and facilitate the replication of good practices. Create or strengthen Intermunicipal Forums or networks that meet bimonthly. Ecoregions is a good example of a model that tackles local culture, ecology and economic issues around agroecology.

Tool specific proposals

It is proposed to work jointly with the partners to improve **the early warning systems for floods** in Bandar Lampung (University Gustave Eiffel), but equally to work with the partners on the other priorities (governance and coordination (all partners), access to clean water (ECOLISE), the collection of waste (ACR+), the enhancement of the coastal activities (Pilot4dev), and the funding seeds (AIILSG).

Areas for further research, indicators and expertise needed

- Develop capacity building in governance and the coordination of multi-stakeholders (including experience from past NGO programs). It is recommended that multi-stakeholder governance framework and agenda is aligned with issues of concern and issues of emerging policy. The city could develop a specific work-programme with focus on chemicals, air pollution, unsafe food to strengthen the overall resilience of the community.
- Develop expertise on urban design adaptive to climate change and especially floods. Urban floods are considered as major challenges. Funding could be triggered the from multilateral banks ex: the World Bank, the Asian Development Bank, the Asian Infrastructre Development Bank etc.

- Seeds for funds to clean the river water and develop environment awareness programs with both communities and businesses. Cities need to learn from the European Experience and Other similar experience available from Asia in the River Cleaning towards maintaining flow and realizing. Rivers are major channels of Single-Use Plastics and Hazardous chemicals into Ocean and thus posing serious risks to ocean health and prospects of blue growth and blue economy
- Make a market analysis in the development of Green and blue jobs in respect of available resources. Green and Blue jobs are offering new opportunities for cities markets and employment opportunities could be investigated in the context of an emerging recycling economy, blue economy and a green innovation respective of ecosystems (nature based solution).

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