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 and high temperatures
- Develop patterns for Sustainable urban design to cope with the city's urbanization.
- Strengthen Green spaces/RTH reforestation, adaptive buildings, water catchment areas.

Topic 2: Circular Economy and waste

- Develop a joint program with the population on waste management
- increase the share of recycling.
- Increase composting sites and work with fishers to reduce coastal abrasion and the depletion of the ocean.

Topic 3: Early Warning systems

- Develop early warning systems for floods.
- Develop early warning systems for seasonal fire.
- Increase engagement with the stakeholders.

Topic 4: Water and Sanitation

- Develop a rehabilitation program for illegal tin mining.
- Develop cooperation to ease investment in clean water.
- Create awareness-raising programs to counter the overuse of groundwater.
- Facilitate reforestation to increase water absorption and sedimentation.

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

Pangkal Pinang

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Key Features

- Access to clean water requires a coordinated investment. The pumping of groundwater may create a sinking phenomenon.
- The city is faced with floods: 49 events in the year 2019 only, with around 1497 houses damaged.
- The river pollution is caused by activities upstream. There are illegal tin mining activities in the downstream of the Rankui river, and former excavation mines are used as water storage.
- The city is also prone to seasonal fire during the dry climate season.
- Tourism could be developed as a green activity.

Key Numbers

- Population 212.727 inhabitants (2019)
- 118,41 km² divided into 7 districts
- Density: 1.819 inhabitants per km²
- Population growth: 1,98% in 2019
- Unemployment rate: 5,01 % (BPS Pangkalpinang, 2020)
- Poverty rate: 4.25%

Key numbers on the Environment:

- Air Quality Index: 21 to 26
- Number of registered vehicles in 2017: 2,164,496
- Number of registered vehicles in 2019: 2,392,567

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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.
2. The need to work on a public awareness joint campaign on climate adaptation is considered as a relevant priority, which could strengthen the trust into the local government.
3. The lack of integration of climate change into several policies is identified as a key priority by 74,1% of the respondents in the urban analysis report.

4. 51.8% of stakeholders interviewed by the expert said that waste management is a key issue (UAR).
5. Access to drinking water is a problem because of the function of mining pits as water reserves (former mining activities, illegal tin mining activities). There is also an insufficient source of raw water. Existing services present high costs, and there is an important % of leaks.
6. The air pollution, although below reasonable levels is mainly caused by forest fires (hazes) but also transportation (increase in road numbers and individual vehicles).
7. There is a strong potential in developing the capacity in reforestation and in green areas (e.g. to absorb the rainwater and to solve the water problems). The pumping of the groundwater is also having an impact on the city's sinking (below water) situation.
8. There are opportunities in developing sediment traps (for water absorption) and water catchment areas (for floods).
9. Working with the communities on waste management could trigger efficient results.
10. Tourism could be a key future economic area.
11. Develop smart technologies for early warning systems to avoid flooding is also identified as a key opportunity in the forthcoming future.

Policy recommendations

Recommendations on Air Quality - Pilot4DEV and AIILSG

1. Strengthen the air quality monitoring schemes (Deployment and increased coverage of AQMS stations). City air support system with a focus on multi-stakeholder approaches involving all actors ex: pollution control boards
2. Map the pollutants (by deploying low volume sampling systems measuring pollutants, including particle matters PM 10, PM 2,5). Commissioning of source apportionment studies, and integrated reduction strategies and adoption of a multiple pathways approach
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. Develop cleaner fuel options and evaluate the 3rd generation of biofuel feedstocks
5. Work with the Energy production companies to support.
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. Develop an Awareness Raising program with the industry and with the businesses.
9. Invest in Green plantations able to absorb pollutants ad work jointly with the land planners.
10. Distribution of masks during the pollution peaks, and early warning to the population (to avoid physical exercise).

Recommendations on Waste Management - ACR+ and AIILSG

1. Implement awareness-raising campaigns and education activities to further promote the 3R concept among the local communities and the policy decision-makers: this will also address the challenges posed by the construction of the new Regional Landfill.
2. Prioritize the management of the organic fraction, implementing source-separated collection schemes and valorizing the treatment output (e.g. compost, digestate, biogas). This may apply both to households and businesses. The source separation of organic waste will help to extend the lifespan of the landfills.
3. Implement source separated collection schemes for recyclables (e.g. packaging), taking into consideration the role of the informal sector.
4. Develop Industry, consumer and local government partnerships for promoting sustainable packaging industries to be consulted.
5. An Innovation forum and an investor summit for alternative packaging materials could be planned.
6. Submit to the provincial government a plan to reorganize the collection system, in order to explore funding opportunities based on resilience concepts.
7. Temporary waste storage points, either fixed or mobile, could increase the cost-efficiency of the waste collection systems. This network can also guarantee some flexibility during emergencies. It is essential that the collection points are well designed and maintained, addressing health and environmental protection.
8. Revise the local taxation on waste management, introducing incentives and rewarding schemes for waste prevention and source separation.
9. Implement the life cycle thinking in 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.

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 (Community and Village empowerment).
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 the support and creation of regular inquiry and reflection gatherings for women only in order to create a safe space for them to speak freely.
8. Create in the municipality the role of a "Civil servant of the citizens" - Someone whose sole function would be to regularly interact with the citizens, attend and support these meetings and communicate developments to the local government.
9. Identify and invite local NGO's to work regularly with your municipality (eg. Wahana Lingkungan Hidup Indonesia, Fuad Abdulgani Edelweiss Center for Sustainable Development) using the Municipalities in Transition system aimed at bringing systemic thinking and better collaboration between the two for sustainable development.
10. Create or designate public spaces outdoor and indoor for these formal meetings and for leisure activities.
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. These can follow, for example, the model of the Eco District or reen City program but including cultural and economic issues. Ecoregions are an excellent example of a model that tackles local culture, ecology and economic issues around agroecology.

It is proposed to work jointly with the partners to develop an **Early Warning tool for floods in Pangkal Pinang** (UGE), but also to work with different stakeholders, to create trust, as well as to work with the private sector and with the urban planners to develop solutions for the floods (protection of the groundwater, reforestation, water catchment areas, and adaptive design of buildings). All the CRIC partners could be involved in a joint approach to support the future local action plan.

Areas for further research, indicators and expertise needed

The project could develop further research, indicators and support expertise with a joint work and cooperation from the partners. The CRIC partnership could support in particular:

- Capacity building in governance, and the participative coordination of different stakeholders.
- Develop expertise and organize local trainings on urban design adaptive to climate change.
- Seek additional funds to clean the river water and develop environmental awareness programs.
- Make a market analysis in the development of Green and Blue jobs.

CRIC Project is co-funded by European Union, and implemented by the following partners: