CLIMATE RESILIENT AND INCLUSIVE CITIES PROJECT
Triangular cooperation between Europe | South Asia | Southeast Asia

POLICY RECOMMENDATIONS

Topic 1: Sustainable Urban Development
- Strengthen sustainable urbanization plans and adaptive design to floods.
- Strengthen Green spaces/RTH reforestation, adaptive buildings, public transport and the drainage system
- Solve the land issue to improve sustainable urban growth.
- Capitalize on economic growth and stimulate the investment
- **Topic 2: Circular Economy and waste**
- Develop a joint program with NGOs the population and businesses on waste management to avoid open dumping of waste
- Strengthen 3Rs programs and waste banks
- Work with existing programs and the mining industry to curb on river pollutions.
- Invest in waste management schemes

Topic 3: Early Warning systems
- Renew the early warning systems for floods.
- Develop smart technologies for preparedness and recovery (flooding, fires)

Topic 4: Water and Sanitation
- Develop cooperation to ease investment in infrastructure
- Work with the current sanitation programs to improve the drainage
- Work with the communities

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CLIMATE RESILIENT AND INCLUSIVE CITIES

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

Samarinda

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Key Features

- Samarinda city is the capital and the most populated city in East Kalimantan, Indonesia, and is located nearby the possible future capital city of Indonesia.
- The city is located 10-200 meters above the sea level but is still prone to floods, droughts, fires and landslides.
- The city is facing challenges linked with rapid urbanization.
- The surroundings of the city involve natural resources such as gas, oil, coal, palm oil and forestry.

Key Numbers

- Population: 872.770 inhabitants (2019)
- Surface: 718 km²
- Density: 1216 hab/km² depending on the district
- Population growth: 78 % between 1990 and 2000
- The economic growth: reached 4,97 % in 2019
- Unemployment rate: 5.87 % in 2019
- Poverty rate: 4.19% poverty rate
- Human Development Index: 80.2 in 2019
- Key numbers on the environment:
- The Air quality is good: 34 on air-quality.com
- Waste generated: 600-800 tonnes (in average, 73% is collected and transported to the landfill)
- 45,2% of the city is covered in land vegetation, but the open green spaces only represent 5,13% of the total surface of the city
- 7.42% of the city's budget is dedicated to the disaster risks and management of floods

Further analysis

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

1. The city is facing challenges linked with rapid urbanization (+ 78% between the 1990s and the 2000s). 45,2% of the city is covered in land vegetation (mainly shrubs), while 16,4% is for the built environment. 14,2% of Samarinda is occupied by mining pits. The green areas include many natural swamps, but their surface has been drastically reduced to accommodate the urbanization needs.

2. The construction sector plays an essential role in Samarinda (21,5% of the economy). Mining and excavations contribute to 13,3% of the economy.

3. The air quality is good (34 on air-quality.com), despite the presence of the mining industry, the growing traffic and the forest fires.

4. The energy and transportation sectors contribute to most of the GHG emissions (electricity company, and state-owned oil and gas company. Use of gasoline and diesel contribute to the GHGs emissions in the transportation sector.

5. GHG emissions come from fuel combustion, and energy (followed by transportation) is the largest GHG emitter.

6. Samarinda city produces around 600-800 tons of solid waste daily. This is dominated by food waste (53,39%), followed by plastics (19,9%) and paper waste. While most of the waste ends up in the final landfill which is in under capacity, some of the waste is also thrown to the river or buried, which is having an impact on air quality. 1 ton of waste is collected by scavengers daily.

7. Rivers play an important role in Samarinda: they are used as water sources for the community, as well as primary drainage for flood control and rainwater reservoir. A yearly test is realized on water.

8. Samarinda is faced with possible floods, droughts, fires and landslides. These disasters have resulted in damages and claimed human lives. They have caused the loss of lives and assets, such as housing and public facilities.

9. The vision of the city (RPJMD) is to become a city which is competitive and environmentally friendly. The city has a local SDG action plan (e.g. on water and sanitation).

10. There is an opportunity in increasing the coordination of relevant institutions, and to improve community awareness in relation to water pollution and wastewater (in accordance with the local regulations).

11. 7.42% of the city's budget is dedicated to the disaster risks and management of floods. There are 50 identified disaster points, that experience flooding in relation to heavy rainfall. According to the city disaster Mitigation Agency, 80% of the causes of flooding are human activities. Another cause of flooding is also the loss of water catchment areas in the upstream hills of Samarinda. Land clearance and removal of vegetation for coal mining contributed to the increase in surface runoff that causes flooding.

12. Many ex-mining pits are also left abandoned and result in water contaminations. Toxic chemicals pollute water and make it unsuitable for food crop farming.

13. Growing urbanization resulted in massive land clearing. The change in land use reduced the capacity of soils for water absorption. Space for drainage was not always possible. Irregular settlements also cause difficulties in facilitating access to piped water. Relocations programs have been conducted with some successes.

14. The capacity of the waste landfill and of the communal wastewater treatment plans needs to be increased with further financing and support.

15. Early warning systems need to be renewed and improved.

Recommendations on Air Quality - Pilot4DEV and AIILSG

1. Map the impacts of road traffic and the industry (including mining) on air quality. City leadership is required to commission specific research and a study programme with solution centric approaches to reduce the impact of black Carbon (BC) on human health and loss of natural capital.
2. Map the pollutants (SO2, NO2, O3, CO) and the monitoring of Particle matters PM 2,5 and PM 10.
3. Create a health surveillance plan for a continuous monitoring system for the vulnerable population and which could be targeted to black carbon pollution
4. Further develop vehicles emission tests as a future green investment opportunity (e.g. For startups and young investors).
5. The CRIC project could develop collaboration between universities, industries by creating links with an International Cooperation and exchange programme on new technologies and fuels.
6. Develop green lanes (for bikes, sidewalks for pedestrians) and green corridors.
7. Develop an Awareness Raising program with the population.
8. Set up regular scientific and evidence-based dialogue with communities for the prevention of negative impacts of pollution on health. Citizens shall be encouraged to have engagement with industries and local authority to reduce pollution
9. Invest in Green plantations able to absorb pollutants ad work jointly with the land planners.

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. Special importance to be given to campaign towards minimization of the amount of the waste which ends up in rivers. Strengthening of implementation of the regulation on the reduction of single-use plastic bags.
2. Synergies and focus of the multilateral development bank, the Asian Development Bank's regional initiatives need to be investigated to negotiate the inclusion of Samarinda into pioneering programs.
3. Prioritize the management of the organic fraction, implementing source-separated collection schemes and valorizing the treatment output (e.g. compost, digestate, biogas). Local markets and commercial areas should be put in the focus.
4. More emphasis needs to be given to diversion of waste from landfills to circular innovations and products to reduce the waste footprint of Samarinda and save critical land resources.
5. Implement source separated collection schemes for recyclables (e.g. packaging), taking into consideration the role of the informal sector. Explore the possibilities of further enhancing of waste bank and 3R TPS programs to minimize the amount of waste that ends in the landfill. Efforts towards increasing community participation are necessary.
6. Further strengthening of existing waste management policies, especially concerning household waste management, introducing incentives and rewarding schemes for waste prevention and source separation.

7. Intensive efforts towards making Sambutan landfill fully operational. Various forms of funding should be investigated for the construction of proper access roads.

8. Decisions need to be made regarding relocation and any other preparation & control measures.

9. Technical guidance and training to improve knowledge and skills of employees in waste management operations.

10. The focus needs to be inclined towards transitioning of waste workers as "Waste Managers" with complete know-how to address the issue of waste into an opportunity for local economy.

11. 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.

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.

Policy recommendations

9. Identify and invite local NGOs (eg. Asosiasi Petani Organik Samarinda (APOS), Kawasan Rumah Pangan Lestari (KRPL), Lagipanen, Sapiku, Petani Millennial, Mitra DLH, Duta Sampah Samarinda, Mitra Bersih Generasi Emas, Gerakan Memungut Sehelai Sampah Karang Mumus (GMSSKM) 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 includes 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 are 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 on **Waste management** (waste collection) (ACR+) and on the reduction of open dumping, water and sanitation (ECOLISE) air pollution, and sustainable urban development (Pilot4dev), Early Warning Systems (UGE), and well as on funding opportunities (AIILSG).

Areas for further research, indicators and expertise needed

- Further data could be collected on the impacts of coal mining not only on water but also on-air pollution. The next master plans could provide additional overviews.
- Capacity building and use of smart technologies could be developed on early warning and sustainable urban design.
- Capacity building on the engagement with stakeholders could be an asset.

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