



DIAMNIADIO: PLANNING A NEW SUSTAINABLE CITY

The emerging Urban Pole of Diamniadio is a priority government project designed as an urban model of a new city whose development is based on functional diversity. It will generate significant benefits in terms of climate resilience, housing and work opportunities in pre-developed areas. The intervention of the Stormwater Management and Climate Change Adaptation Project (PROGEP) aims to make a tangible contribution to making Diamniadio a sustainable city. This is done with a particular focus on the vulnerability to climate change and the elements of risk in urban development planning, management and investment.

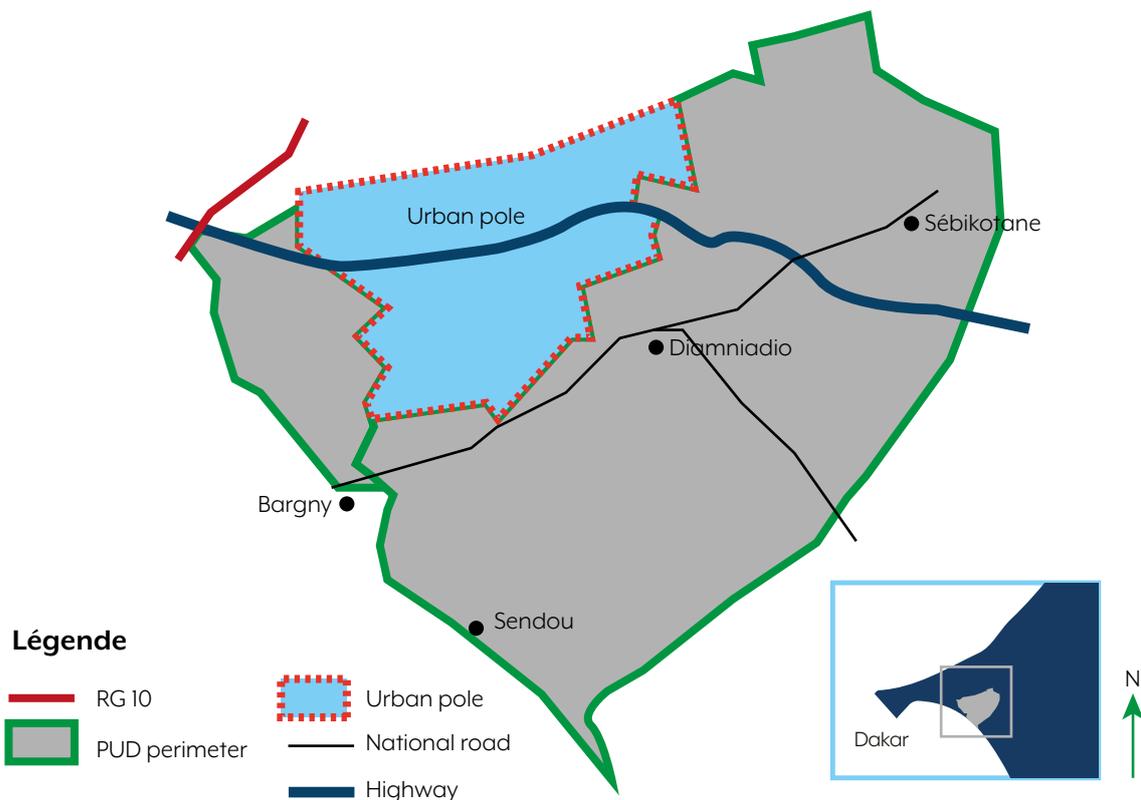
■ BACKGROUND

According to projections by the National Agency for Statistics and Demographics of Senegal, in 2019, 47% of the Senegalese population lives in urban areas, or nearly 7.5 million people. Of these 7.5 million, almost half live in the Dakar region (3.6 million people). Strong population growth and trends indicate that pressure on urban centers will increase in the future. These trends, Senegal's lag in urban planning and the new impacts of climate change will increase the vulnerability of cities.

The Urban Pole of Diamniadio is located about thirty kilometers from the center of Dakar. It was created in 2014 in a context of decongesting the capital, which concentrates most of the country's economic, infrastructural and institutional activities. Through this pole, and the nearby Pink Lake, the Government of Senegal intends to correct this concentration. The

ambition is to turn these poles into new urban centers based on social and functional diversity, creating wealth and jobs.

The Diamniadio pole is located on a 1,644 ha site, straddling 4 municipalities: Diamniadio, Bargny, Sendou and Sébikotane. It should serve as an urban model for Senegal, as a carefully planned and managed city. To do this, the planning and development of the pole must take into account the climatic risks, waterways, lakes and heavy residual rains that characterize the area. In fact, the pole is located in an important area of groundwater resources and hosts irrigation dams. These factors have consequences for land use and implications in terms of flood risks.



The Urban Pole of Diamniadio is located 30 km from Dakar straddling 4 municipalities: Diamniadio, Bargny, Sendou and Sébikotane.

DESCRIPTION OF THE INTERVENTION

To help overcome planning problems and establish sustainable urban development, the Municipal Development Agency (ADM) received funding from the Global Environment Facility (GEF) in 2017 through the Sustainable Cities Initiative (IVD)¹.

This initiative has made it possible to strengthen and complement the actions of PROGEP, to make the Urban Pole of Diamniadio, like the Greater Saint-Louis area², an example of a sustainable city for Senegal and beyond.

To support this vision, PROGEP has accompanied the identification and evaluation of climate-related challenges facing the Urban Pole and provided assistance for the immediate integration of these aspects into planning, urban management and modelling, risk mapping, monitoring and targeted investments. In the implementation the project has been involved in several complementary aspects: (i) the production of studies and knowledge to promote the pole's "Sustainable City" approach; (ii) urban planning integrating climate risks; (iii) the promotion of inter-communal cooperation for the integration of sustainable management practices between the Urban Pole of Diamniadio and its surrounding municipalities; (iv) the implementation of community investment projects (PIC) aimed at improving the quality of life in the pole.

The activities of PROGEP in Diamniadio were implemented, under the supervision of ADM, by the General Delegation for the Promotion of the Urban Poles of Diamniadio and Pink Lake (DGPU), which is under the authority of the Presidency. A partnership protocol has been signed to this effect between the two structures.

1 For more information on the initiative, please visit: <http://www.thegef.org/topics/sustainable-cities>

2 See Capitalization Brief "Saint-Louis: Ensuring the sustainable development of a historic city in danger and its surrounding area"

ACHIEVEMENTS



STRATEGIC STUDIES AND KNOWLEDGE PRODUCTION



Aerial photography and availability of orthophotos of the Urban Pole



Sustainable city diagnostic study for the Diamniadio urban area



Diagnostic study of the scope of the Detailed Urban Plan (PUD)



Diagnostic study of the hydrology and landscaping of the Urban Pole of Diamniadio



Development of a master plan for Integrated Stormwater and Flood Risk Management (IWRM)



Proposal of the Detailed Urban Plan (PUD) of the municipalities Diamniadio, Bargny, Sendou and Sébikotane



Study on the institutional and regional governance of the Urban Pole of Diamniadio

■ RESULTING CHANGES

A background analysis on the sustainability and resilience issues of the Urban Pole

The Urban Pole of Diamniadio is strategically located on the outskirts of Dakar, near the toll motorway, not far from Blaise Diagne International Airport and the mining port of Bargny. It is a crossroads region, a transition zone between the Dakar periphery and the rest of the country. But this major structural project is also located in an area prone to flood risks, with a soil composed mainly of swelling clay, marlstone and limestone that is not very suitable for construction. In response to this situation, PROGEP, through the Sustainable Cities Initiative, has contributed to reflecting on the sustainability of this project by providing new knowledge on urban assets vulnerable to watersheds and climate, through the implementation of three key assessments: (i) an assessment of a sustainable city for the Diamniadio urban area; (ii) an assessment of the scope of the PUD study; (iii) an assessment of the hydrology and landscaping of the Urban Pole of Diamniadio. As part of these studies, proposals were made on resilience measures to be taken and investment projects to be carried out.

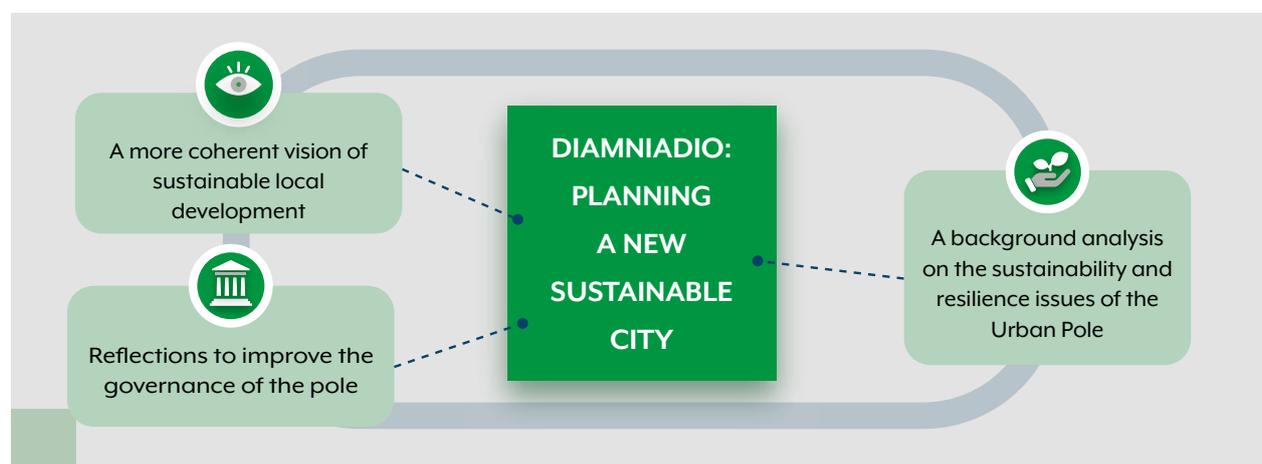
Reflections to improve the governance of the pole

The Urban Pole was created by Decree in 2013. It is a multi-communal project based on a public-private partnership in which the government is the developer through the DGPU. This status gives it complete independence in the management of its 1644 ha of territory from neighboring municipalities. This situation, coupled with the current unavailability of legislative and regulatory texts relating to intercommunality, makes it difficult to manage urban services such as sanitation, street lighting, signage, etc. For the pole's initial phase, these questions did not have a significant impact, but

in the future they could hinder the successful development and sustainability of the project. In this context, PROGEP has carried out a study that will make it possible to deal with the issue of the governance of the pole and to provide reflections on the methods of participation of territorial authorities, technical services of the government, private actors and communities.

A more coherent vision of sustainable territorial development

The Urban Pole of Diamniadio straddles 4 municipalities: Diamniadio, Bargny, Sendou and Sébikotane. The pole and its surroundings are subject to the general urban development guidelines set by the Master Plan for the planning and development of the Dakar-Thiès-Mbour area and the Urban Master Plan of Greater Dakar for the year 2035. The pole also has a development plan, but the neighboring municipalities do not have operational urban planning documents. Given the attractiveness of the pole, this situation can generate local disparities and, in particular, the uncontrolled installation on the periphery of the pole with consequences at several levels: unhealthiness, degradation of the living environment, economic difficulties and environmental degradation, etc. PROGEP has started the elaboration of a Detailed Urban Plan (PUD) for the pole and its surroundings to promote the establishment of a global and coherent framework at the spatial and socio-economic level. This PUD, based on the model that those designed by the Project for the departments of Pikine and Guédiawaye and for the Greater Saint-Louis area, were implemented in a participatory manner, integrating climate risks. It will enable current urbanization to be controlled, by integrating the development dynamics already underway and anticipating potential problems related to traffic, sanitation, waste management, stormwater management and the living environment with a view to sustainable development.



LESSONS LEARNT

Take all necessary measures to develop an effective partnership framework

The start of PROGEP activities at the Urban Pole of Diamniadio was delayed due to difficulties in signing the partnership protocol between ADM and DGPU due to misunderstandings between the two parties. Despite regular planning meetings between the two structures, the frequent change of the Project's focal point in the DGPU was the main cause of these misunderstandings, creating information dissonance. These obstacles have been overcome thanks to the perseverance of those responsible for implementing PROGEP and the availability of the DGPU. The implementation of activities has started and the delay is being addressed. It is important to note that in a partnership framework, aspects such as information sharing and the identification of stable focal points must be given greater attention so that they do not have a negative impact on the technical implementation of activities.

The changes targeted by PROGEP need time to materialize

PROGEP seeks to bring a vision of "Sustainable City" to the investment phase of the Urban Pole of Diamniadio. The knowledge generated on climate risks and local governance can enable the desired changes, but time is necessary for the various stakeholders to take ownership of them and integrate them into their vision of the area. Influencing the implementation of a major structuring project such as the implementation of the pole requires resources equal to the stated objective. PROGEP has chosen to carry out targeted activities to generate a leverage effect to achieve the desired sustainability objectives. The initiatives undertaken have begun to generate awareness within the DGPU whose impact can be evaluated in the future.



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The Urban Pole of Diamniadio has a development plan. On the other hand, the neighboring municipalities, which have made their land available for this major structuring project, do not have operational urban planning documents. It can be expected that the pole will produce economic resources and jobs that will attract a large number of people. If neighboring municipalities do not have effective planning documents, it is to be feared that the arrival of new citizens will be carried out in a disorderly and anarchic manner, with the same consequences as those experienced in the suburbs of Dakar. The PUD of the municipalities of Diamniadio, Bargny, Sendou and Sébikotane will provide these municipalities with an essential strategic document to take into account climate risks and to implement soil management. This document, which will be developed in a participatory way, will help to restore the regional coherence necessary for sustainable urban development."



CREATING AND PROMOTING KNOWLEDGE ON "SUSTAINABLE CITIES": THE COMPONENT OF KNOWLEDGE CAPITALIZATION OF PROGEP DEDICATED TO THIS APPROACH

The experience of the Sustainable Cities Initiative led by PROGEP in Saint-Louis and Diamniadio has made it possible to develop innovative activities, tools, approaches and solutions. ADM has signed two collaboration agreements with Cheikh Anta Diop (UCAD) and Gaston Berger (UGB) universities in order to capitalize on the knowledge produced in the implementation of PROGEP and enhance it; and on the other hand, to reinforce the knowledge, mechanisms and existing technical expertise in terms of urban resilience to climate change.

The implementation of the knowledge management component was achieved through (i) capitalizing on lessons learned and knowledge produced; (ii) the elaboration of training modules on climate change resilience and urban sustainability management; (iii) the facilitation of technical training workshops; (iv) support for research and publications on climate change resilience in the intervention area; and (v) the organization of study tours for sharing experiences and learning.

The accumulation of the work carried out by the researchers of the two universities made it possible to write the following 10 experience sheets:

1. Training: Operation, management, maintenance and servicing of PROGEP equipment and works.
2. Training: Land planning applied to urban management for adaptation to climate change.
3. Study: Masterplan for stormwater drainage in the peri-urban region of Dakar
4. Study: Clarifying the roles and responsibilities of stakeholders in the stormwater remediation sector.
5. Study: Institutional and financial aspects of urban stormwater management
6. Communication plan for the outreach of the Stormwater Drainage Masterplan.
7. Strategy and campaign of information, education and communication (IEC) for reducing the risk of flooding in urban areas and in adapting to climate change.
8. Development of Community Investment Projects (PICs).

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FUTURE PROSPECTS

Evolve the Pole's development plan to take climate risks into account

The sustainable city analysis will provide the necessary knowledge to better identify the flood risks to which the Urban Pole of Diamniadio is exposed. This new knowledge will enable the pole's managers to improve and correct the management plan to meet these challenges.

Finding a consensus for integrated land management

The conclusions of the study on the governance of the pole will make it possible to consider ways of better integrating the various stakeholders and to better understand the implementation of regional solidarity mechanisms for the distribution of the potential resources produced by the pole. They will guide the dialogue

between several stakeholders, enabling a concerted sustainable solution for integrated land management.

Implement sustainable land use planning

The adoption of the PUD of Diamniadio, Bargny, Sendou and Sébikotane will bring the pole closer to neighboring municipalities and should transform the disparities that have been created. The pole will thus be able to highlight its assets for a sustainable type of intervention and create an efficiency model for neighboring urban developments. Municipalities will be able to plan for the preservation and improvement of their living conditions through the programming of urban renewal interventions on a holistic, participatory and equitable basis.

9. Drainage systems by gravitational system and urban landscaping of roads, sports and recreational areas.
10. Intercommunality in the Greater Saint-Louis area.

The sheets will be distributed as part of an electronic sharing platform currently under development.

Concerning the training, UGB has designed, in consultation with PROGEP's partner organizations, a program on sustainable cities including tools for resilience to climate change, articulated in six modules on the following themes: 1. Environment, Uncertainties and Disasters in cities; 2. Urban planning; 3. Urban institutions and governance; 4. Urban societies and vulnerabilities; 5. Urban economy and sustainable development; 6. Basic infrastructure for resilience. A training workshop on the first theme was organized for the experts identified by the project stakeholders in Saint-Louis, Dakar and Diamniadio.

The modules developed will contribute to the establishment of a professional master's degree in "Governance of Urban Vulnerabilities in Africa" (GVUA) that will be offered by UGB to its students in the coming years. To this end, PROGEP has provided the necessary equipment for the university to set up a 50-seat video-conference room.

In order to stimulate research on sustainable cities in Senegal, UGB has set up a scientific council that has validated a work program on this theme. A call for applications

for research grants has been launched to select the most appropriate and innovative projects. Unfortunately, the development of this support program has stopped at this stage due to administrative problems.

This component of the initiative contributed to the financing of a study trip for a group of Senegalese technicians representing PROGEP stakeholders to Melaka, Malaysia³. These experts were able to learn from the experiences conducted in this country in sites with similarities to the pilot sites of Saint-Louis and Diamniadio: issues related to flood management in neighborhoods near a river or the sea coast, as well as the case of a new city that is part of the sustainability process.

In general, the knowledge management component has experienced delays and implementation difficulties, mainly of an administrative nature. University actors in the UGB have had difficulty adapting to the requirements of the Project's procedures manual. The main lesson to be retained from this pilot activity is that it is necessary, in the future, to provide specific administrative assistance to support university partners in the procedures for monitoring and validating activities.

3 See Capitalization Brief "Providing territorial authorities with urban planning and management tools that integrate climate risk "



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The DGPU was both a partner of the Sustainable Cities Initiative and a beneficiary of the results of the activities carried out. Notwithstanding the administrative delays noted, PROGEP has helped to raise a new awareness of the sustainability challenges facing the Urban Pole of Diamniadio. The meetings organized, the studies carried out and the experts mobilized provided essential knowledge to the managers of this major

structuring project. Decisions will certainly be taken to develop the project to ensure that climate risks are taken into account. In this sense, adjustments in the allocation of plots have already been made to cope with flood risks. The PUD and the study on the governance of the pole will make it possible to take the necessary measures to reduce the tensions that have arisen around the Project and to establish sustainable local development."



REFERENCES

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- Detailed Urban Plan of the Diamniadio urban area , ADM, 2019 (In French)
- Study on Institutional and Local Governance of the Urban Pole of Diamniadio, ADM, 2019 (In French)
- Detailed concept note of the integrated pilot project on sustainable cities in Senegal, ADM, 2015 (In French)
- PROGEP Project Appraisal Document (PAD), Additional Financing, World Bank, 2017

Stormwater Management and Climate Change Adaptation Project (PROGEP)

The Stormwater Management and Climate Change Adaptation Project, PROGEP, implemented by the Municipal Development Agency (ADM), is a component of the Ten-year Flood Control Plan (PDLI). It is funded by the Government of Senegal, with technical and financial support from the World Bank, the Global Environment Fund (GEF) and the Nordic Development Fund for a total of USD 121.3 million (FCFA 60.65 billion).

This urban development project implemented over seven years (2012-2019) was aimed at reducing flood risks in Dakar's peri-urban area (Pikine and Guediawaye) and at promoting sustainable city management practices in selected urban areas (Saint-Louis and Diamniadio). It sought to find sustainable solutions using an integrated approach based on a combination of infrastructural and non-infrastructural interventions.

The Municipal Development Agency (ADM)

ADM, the agency responsible for coordinating the implementation of the Stormwater Management and Climate Change Adaptation Project (PROGEP), was established in 1997 thanks to combined efforts of the Government and the Mayors Association of Senegal, AMS. The agency was established in the context of 1996 reforms, referred to as the "regionalization" reforms, aimed at reinforcing decentralization and local development in Senegal. As a key partner to local

authorities, and in accordance with its Strategic Plan, ADM works to make local regions more attractive and competitive and to strengthen their governance. To this end, the agency contributes to building strategic, financial, administrative and technical capacities of local authorities. ADM helps authorities manage territorial information, facilitates cooperation between local authorities, and promotes inter-communality.

This publication is part of a series of briefs that capitalize the achievements of and lessons learned from the implementation of the PROGEP project. This capitalization brief, as well as the publications cited, can be accessed at: www.adm.sn/progep