URBAN DEVELOPMENT INITIATIVE (UrDI)

FOR THE CANAAN AREA OF PORT-AU-PRINCE

COMPREHENSIVE URBAN ANALYSIS AND DIAGNOSTIC

2016

UCLBP

CROIX-ROUGE HAITIENNE

American Red Cross

USAID FROM THE AMERICAN PEOPLE

UN-HABITAT FOR A BETTER URBAN FUTURE

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LIST OF ACRONYMS

UPD-LAB	Urban Planning and Design LAB
GHS	Global Greenhouse Gas
UCLBP	Unité de Construction de Logements et de Bâtiments Publics.
IDP	Internally Displaced People
RN	Route Nationale
PAP	Port-Au-Prince
USAID	United States Agency for International Development
ARC	American Red Cross
NGO	Non Governmental Organization
MPCE	Le Ministère de la Planification et de la Coopération Externe
MTPTC	Ministère des Travaux Publics, Transports et Communications
MICT	Ministere de l Interieur et des Collectivites Territoriales
MENFP	Ministere de l'Education Nationale et de la Formation Professionnelle
MEF	Ministere de l'Economie et des Finances
DGI	DIRECTION GÉNÉRALE DES IMPOTS
DINEPA	Direction Nationale de l'Eau Potable et de l'Assannissement
EDH	Électricité d'Haïti
IHSI	Institut Haitien de Statistique et d'Informatique

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1. UN-HABITAT PLANNING PARADIGM

1.1. THE URBAN PLANNING AND DESIGN LAB

The Urban Planning and Design Lab (UPD-LAB) is an initiative from UN-HABITAT to promptly respond to the requests of national and local governments to support sustainable urban development.
The LAB acts as the integrative facility of the Agency in which spatial planning is used as the tool coordinating economic, legal, social and environmental aspects of urban development, translating them into concrete and implementable projects that materialize the normative work of UN-HABITAT. These urban strategies generate value, economic development and jobs. The UPD-LAB is formed by a mutidisciplinary team of urban planners, legal and financial experts providing a holistic proactive approach.
Due to this, the UPD-LAB has become the team building facility inside the Agency where different areas of expertise come together to deliver concrete and integrated solutions.
The focus areas of the LAB are:

- Citywide strategies
- Planned city extensions (and new towns)
- Urban infill, densification and renewal
- Planning guidelines and capacity development
- Climate change and urban planning

The LAB is currently working in concrete projects joining international and local expertise in more than 20 countries and 40 cities in Latin America, Africa, the Middle East, Europe and Asia.
The UPD-LAB is also the cornerstone of the Global Network of Planning and Design LAB's, an initiative supported by member states during the 25th Governing Council of UN-Habitat.
The Network promotes the collaboration of international experts working together in different countries with local partners to propose implementable plans.

1.2. PRINCIPLES OF PLANNING

The Five Principles are highly interrelated and support each other. High density provides the population and activity basis for a sustainable neighbourhood; adequate street density is the material basis; mixed land-use and social mix shape the land use and social life in the neighbourhood; and limited land use specialization is the first step towards mixed neighbourhoods.

The Five Principles balance population growth, economic growth, rapid urbanization, sustainable urban development and other factors, and try to establish a new urban system. In this system, population and urban infrastructure accomplish economies of scale; diversified social networks and the diversity of land-uses support each other and develop together; and urban space and urban dwellers live and develop in harmony.

Besides good planning and design decisions, the application of these principles also require supporting legal frameworks, an analysis of the local society and economy, appropriate infrastructure technology and capacity, and the institutional capacity to enforce decisions.

The five principles are:

1. Adequate space for streets and public space in an efficient street network
   - 30-35% to the street, 15-20% public space / 50% plots
   - At least 18km of street length
   - At least 80 crossings per km2
2. Mixed Land Use
   - At least 40% of floor space allocated to economic use
   - Limited land-use specialization; single use blocks should cover less than 10% of any neighbourhood
3. Social Mix
   - 20-50% of residential area should be low cost housing
   - Each tenure type should not be more than 50% of the total
4. Adequate density
   - At least 15.000 people per km2, that is 150 people/Ha
5. Connectivity
   - Emphasis on walking distances and public transport

1.3. INTEGRATED PLANNING APPROACH

The approach of the Lab is derived from the experience of the Spanish funded programme "Achieving Sustainable Urban Development". The programme successfully applied a three pronged approach of planning, legislation and economy to trigger sustainable development in cities in Rwanda, Mozambique, the Philippines, Colombia and Egypt.

In the LAB methodology, planning is applied as an iterative process. As a fruit of the interaction and multi-stakeholder engagement, planning becomes the means to influence and accomplish complex governmental agendas, impacting economic prosperity, poverty reduction, social cohesion, inclusion, political stability and conflict prevention, while touching upon cross-cutting issues such as climate change and human rights.

The LAB promotes to integrate design throughout the whole planning process, since design explorations can actually also contribute to problem definition and the formulation of goals. Doing so, it replaces the sequential planning process with an iterative planning process in which plans are developed, tested and improved. This provides space for all sorts of stakeholders to contribute and participate in a process focused on implementation.

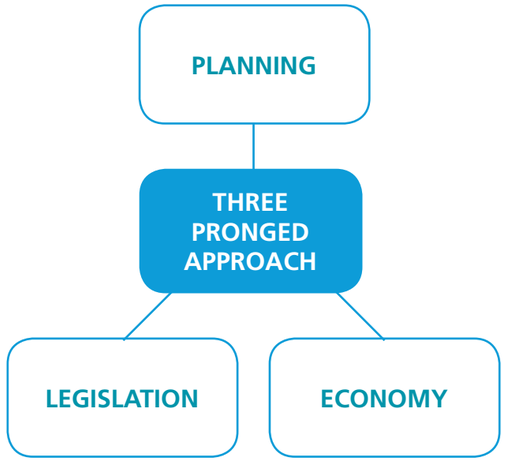
The "hands on work" methodology of the LAB allows UN-Habitat to transfer knowledge into practice, applying, promoting and piloting UN-Habitat principles for Sustainable Urban Development. Within the Lab and the Network of Labs, groups of experts are deployed in international assignments to provide long-term support and develop concrete proposals.

1.4. THE THREE-PRONGED APPROACH

In order to support cities overcome the challenges, and enhance sustainable urban development, UN Habitat has adopted a more strategic and integrated approach to addressing the challenges and opportunities in twenty-first century human settlements that addresses urbanization as a key factor of sustainable development.

This new approach incorporates three essential urban elements that inform an integrated working methodology. These three essential elements are: Urban Legislation, Urban Planning and Design and Urban Finance, and they are used as a three-legged strategy in order to advance sustainable urbanization.

This strategic and integrated approach adopted by UN-Habitat is therefore more systemic, and goes beyond addressing only the symptoms of malfunctioning urbanization. The approach is, instead, integrated, rather than sectorial, transformative rather than fragmentary, and links urbanization and human settlements to sustainable development by focusing on prosperity, quality of life, urban economy and employment.



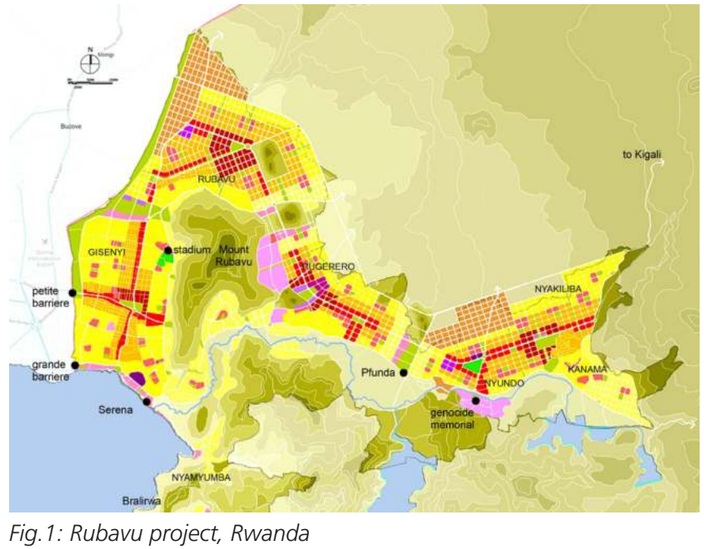


Fig.1: Rubavu project, Rwanda

I. URBAN LEGISLATION

The first prong of UN Habitat's approach for effective urbanization can be achieved through emphasis on the establishment of a system of rules and regulations that provide a solid and predictable long-term legal framework for urban development. Special attention should be paid to the areas of accountability, implementability and the capacity to enforce the legal framework where applicable.

II. URBAN PLANNING AND DESIGN

The next prong focuses specific attention on the design of the common space, since it is one of the main contributors to urban value generation, with provisions for appropriate street patterns and connectivity and the allocation of open spaces. Equally important to the design of common space is clarity in the layout of the buildable blocks and plots, including appropriate compactness and consideration for the mixed economic use of the built area, so that mobility needs and service delivery costs per capita can be reduced. Finally, the design should facilitate the strengthening of the social mix and interaction as well as the cultural aspects of the city.

III. URBAN FINANCE

The final prong of UN-Habitat's urbanization plan addresses the need for strong and effective urban finance. This successful implementation depends on its sound financial basis, including the ability of initial public investments to generate economic and financial benefits and to cover the running costs. Financial plans should contain a realistic income plan, including the sharing of urban value between all stakeholders, and an expenditure provision to address the requirements of the urban plan.

Ultimately, these three components should be balanced in order to ensure positive and achievable urban outcomes. This balance should lead to increased cross-sectorial synergies, delivery-focused partnerships as well as streamlined and effective procedures.

1.5. UN-HABITAT'S VISION FOR SUSTAINABLE URBAN DEVELOPMENT

UN-Habitat supports countries to develop urban planning methods and systems to address current urbanization challenges such as population growth, urban sprawl, poverty, inequality, pollution, congestion, as well as urban biodiversity, urban mobility and energy, by promoting its vision at the national, regional and Canaan wide areas, to achieve more compact, better integrated and connected cities which are socially inclusive and resilient to climate change.

MORE COMPACT:

Places emphasis on a sustainable urban form (shape, density and land use) that reduces the over exploitation of natural resources, promotes economic viability, livability, environmental quality and social equity. Urban compaction aims to increase built area and residential population densities; to intensify urban economic, social and cultural activities and to manipulate urban size, form, structure and settlement systems in search of the environmental, social and global sustainability benefits, which can be derived from concentration of urban functions.

BETTER INTEGRATED:

Holistic approach to urban development that interlinks various dimensions of urban life; social, economic, environmental, political and cultural. Emphasis is placed on the linkage of spatial aspects of urban development with economic, social, environmental components, in particular to achieve both mixed use and social mix. Both vertical and horizontal integration also constitute the crucial components of the integrated approach. Vertical is in terms of the early integration and involvement of the various players of government, administration and non-government players involved in urban development. Horizontal, on one hand, is in terms of integrating the various sectorial policies, and actions of the public and also private sector for sustainable development.

BETTER CONNECTED:

Involving the development of policies, plans and designs that offer better physical, social and virtual connectivity among people living in different locations and urban areas. It regards cities as entities connected to neighbouring settlements, surrounding regions and hinterland, with which they share resources and opportunities. It also includes national and regional strategies such as the development of networks and corridors to address transportation-related needs based on a full understanding of the dynamics of human and goods flows and all interacting influences including national and international trade. Connectivity fosters innovation in business, government and education, allowing interlinked cities to gain from complementariness in their production structures and service structures.

SOCIALLY INCLUSIVE:

Conferring certain rights to individuals and groups in a society, recognizing diversity and promotes equality by giving attention to those whose voice has often not been heard in conventional public policy. It promotes the concept of participatory planning which is not limited to the integration of stakeholders with more influence, but also the integration of all stakeholders with a particular focus on the needs of women and those who are most vulnerable, including, inter alia, children and youth, elderly, persons with disabilities, the poor, the landless, rural to urban migrants, internally displaced people and indigenous peoples in the plan making process so to effectively impact their lives.

RESILIENT TO CLIMATE CHANGE:

Recognizing the role of cities in Climate Change Mitigation and Adaptation, as well as the potential role cities play as centres of innovation, development and application of new technologies and solutions in the effort to curb, halt, reverse and adapt to global climate change. Human activities in cities are major contributors to climate change and the source of a considerable portion of global Greenhouse Gas (GHG) emissions, especially CO2. Resilience to Climate Change therefore includes policies, strategies, frameworks, plans and designs that promote both, the adaptation to climate change and mitigation of GHG emissions.

Fig.2: Myanmar guidelines for urban planning and utilization of land.

The transformative power of urban planning and design can unlock:

Economic prosperity

Urban development and adequate design of neighbourhoods, public spaces, streets and roads network facilitates trade and fosters international competitiveness of cities, being a growth platform for agricultural, industrial and service businesses. Cities currently generate 80% of the global GDP while accommodating over 50% of the world population, however, deficient planning and infrastructure can reduce business productivity by as much as 40 per cent.

Poverty reduction

Through a consultative and community-based approach, urban planning and design has the potential to enhance livelihoods by giving people access to services, amenities and economic opportunities, empowering communities to decide about their future.

Social integration

Inclusion and cohesion can be promoted through urban planning and design measures at different scales, including national spatial frameworks, regional planning, citywide planning, neighbourhood design and public space design. Neighbourhood design, affordable housing, provision of a variety of housing typologies for different social and income groups, access to public transport and basic service are specific planning variable that affect social cohesion.

Political stability

Planning can contribute to stable urban governance by setting up institutional structures and common objectives that can generate political consensus and shared agendas for long-term development. Inter-regional and municipal cooperation can be achieved under the framework of concrete strategic urban plans that bring together different political leaders to achieve a larger common benefit. Planning is a powerful tool to prevent segregation in cities and as such, can shape inclusive and more equal cities that through citizen engagement prevent negative social movements such as turmoil and riots.

Climate change

Climate-related factors are seriously affecting cities. Change in precipitation, sea level rise and temperature increase are causing floods, sea level rise, heat waves and wind and rain storms. Specific urban planning and design solutions such as land use and zoning allocation, protection of green areas and creation of public space, control of urban and building shape and provision of public transport amongst many others, can have a strong impact in adapting cities and mitigating climate change related effects. Urban form has also a strong impact on Greenhouse Gas Emissions. For each one percent of growth that occurs in the city-core instead of in the suburbs, approximately 5 Million Mt of CO2 per capita are avoided.

Conflict prevention and resolution

Central government measures such as forced evictions and demolitions, pose the possibility of sparking widespread conflict in settlements. Planning in advance, aligning government and communities expectations and increasing the capacity of communities to represent themselves and participate through planning mechanisms in shaping cities has the potential to prevent and solve complex urban development processes.

Women and youth empowerment

The planning and design of compact, socially diverse, multi-use spaces in cities that are safe and accessible through different transportation modes enables vulnerable groups to tap into the economic and cultural resources of the city. Urban planning has a key role understanding how vulnerable groups relate to the city in order to plan cities that enable empowerment.

1.6. VISION OF THE URBAN PLANNING AND DESIGN LAB

The Urban Planning and Design LAB is focusing on strengthening its presence and commitment in all developing regions globally, deploying local expertise and promoting sustainable urban development.

The LAB has been successful in starting up projects and multiplying seed money by using the integrative power of the facility to bring together stakeholders, citizens, politicians and specialist around a concrete project. This multi-stakeholder and participatory process enhances political and stakeholder commitment and generates high visibility and support for projects.

The UPD LAB is currently looking for partners to fund the initiative, which would allow to swiftly respond to countries´ and cities´ demands with larger flexibility, long-term engagement and continuing to create start-up projects in cities.

Fig.3: Urban lab workshops

2. BACKGROUND OF THE PROJECT

After the earthquake that stroke Haiti in 2010 and the establishment of the two IDP camps there, a large number of inhabitants started to move to Canaan; a barren area located in the northern outskirts of Port-Au-Prince. Currently, a population of around 200,000 people lives in Canaan; an area that has developed informally and that is not adequately serviced by infrastructure networks.
The rapid growth of the area and the lack of a common vision for the development of Canaan represent a threat for accessibility, provision of adequate housing and infrastructure, economic development, safety and quality of life for the residents.
The project aims covers different aspects in means to overcome the area's challenges from connectivity, infrastructure, environmental risks, water management to public space. A provision of a strategic vision and a new urban structure that will enhance sustainable urban development will be delivered.

2.1. OVERVIEW

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Haiti's capital, Port-Au-Prince is situated on the bay in the southern part of the country. The official language is French, however it is the less used in everyday-life. Haitian Creole is the most spoken language by the inhabitants.

Topography

Haiti is known by its rugged mountains, small coastal plains and river valleys. It is considered to be the most mountainous nation in the Caribbean. The mean elevation is 470 m and the highest point is found on the Chaine de la Selle with 2,680m. The length of the coastline is 1,771 km

Climate

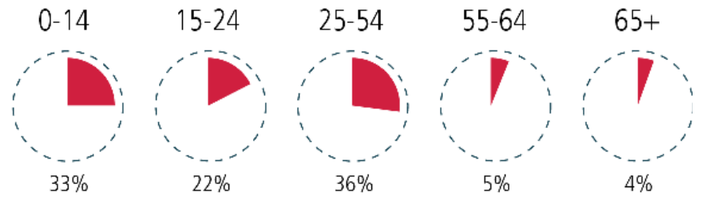
Haiti's weather is tropical; semiarid where mountains in east cut off trade winds. The country has two rainy season and rain gets heavy on the lowlands and on the eastern and northern slopes of the mountains. Due to its climate and the deforestation, the country finds itself prone to droughts and floods.

Demographics

10, 787 656
Inhabitants

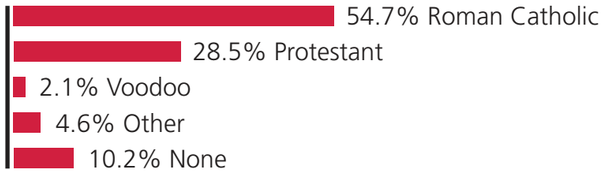
49.7%
50.3%

Age Structure



Religion

Roman Catholic is the main religion in Haiti. In many instances, church associations support vulnerable communities by helping in educating the children, taking care of the sick and reach out for the elderly.



Humanitarian aid 2010-2016

Haiti has suffered a series of natural disasters over the past 5 years, from earthquakes, hurricanes to droughts and tsunamis. Since 2010, the country has been relying on humanitarian aid from different international organizations and NGOs. The weather hazard in 2010, that has left 2.1 million internally displaced, still has a huge impact on the country's economic situation. While there were ongoing efforts towards recovery, the country faced again a series of environmental events in August and October 2012 that led to more damages. Today, 60% of the Haitian population lives in poverty and fight everyday to overcome and withstand from crises.

Haiti has seen a decrease of humanitarian actors' presence who were working towards the alleviation of suffering and the improvement of livelihood conditions; from 512 in 2010 to 84 actors in early 2016. This brought more responsibilities to the remaining organizations in providing assistance despite the financial constraints and the increase of needs.

The existing camps that are spread across Port-Au-Prince metropolitan area, are also affected by the drop in number of actors. The lack of basic services and the harsh conditions are the reason behind the relocation of Haitian IDPs to public utility areas like Canaan, located in the district of Croix-des-Bouquets.

Fig.4: Haiti 2010 earthquake epicenter

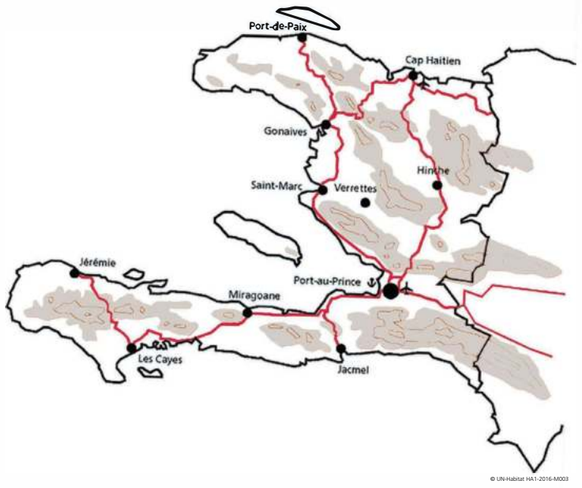


Fig.5: Haiti structuring elements

Haiti Crisis Timeline

Fig.6: Haiti crisis timeline. (Humanitarian Response plan 2016, OCHA)

2.2. RESPONSIBILITY FOR URBAN DEVELOPMENT

Other urban development aspects are of the following agencies' responsibility: (See. Fig.7)

Inter-ministerial committee for territorial planning (CIAT):

CIAT was created in 2009 as a response to an alarming need for consistent and coordinated actions in the field of regional planning. The institution includes several ministries and is chaired by the prime minister. They work on developing government policy on land use, watersheds, sanitation and urban and regional development.[1]

Ministry of Planning and External Cooperation (MPCE):

The ministry's mission is "to develop national plans for economic and social development and improve planning systems to enable optimal use of available resources for balanced economic and social development."[2]

They have already developed many urban initiatives and various master plans for the different cities. The most recent urban initiative was the "Strategic Development Plan for Haiti (PSDH)" in 2012 that serves as a public consultation which guides development and identifies key projects that makes Haiti an emerging country by 2030. This strategic plan vary in scope and covers future development ideas in each of the four main pillars; economic , institutional, social and territorial.

Ministry of public works, and communications (MTPTC):

The ministry ensure the design, planning, implementation, maintenance, monitoring, supervision and evaluation of all physical infrastructure for urban and rural amenities,roads, ports and airport, communications system, water supply systems. It also establishes technical standards and regulations for planning and construction.[3]

Unit for Housing and Public Buildings Construction (UCLBP):
UCLBP is the unit under the Haitian government in charge of housing and public buildings. UCLBP issues regulations, strategic directions and the implementation of public constructions as well as encouraging private investments and reconstructions of urban areas destroyed by the earthquake 2010.

Ministry of Economy and Finance (MEF):
Established in 1987, the Ministry of Economy and Finance's fundamental mission is to formulate and drive finance of the Haitian state to promote growth and socio-economic development in the country on a sustainable basis. Among other responsibilities, MEF manages the capital, the national budget and the state property.

Ministry of the Interior and Territorial Communities (MICT):
MICT is the central body in charge of designing, defining and implementing executive policy regarding the supervision of local authorities, immigration, emigration and civil protection.

Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) :
MARNDR is a state entity that defines the policy of the Haitian government's economy on the field of agriculture, renewable natural sources, breeding of animals and country development. In addition, MARNDR implements the financial tools and workforce to reinforce the needs for agriculture in the Haitian communities by researching favourable markets and adapted technologies for production.

Ministry of Environment (MDE):
MDE's main task is to promote a sustainable development and at the same time protect the environment.

Municipalities:

Although the municipalities have the right to produce urban plans, many of them don't have the capacities to do so. Plans are usually planned by central government ministries. The central government is accountable to provide national and regional development planning and urban policies. Municipalities' planning must follow the national frameworks even though they have limited autonomy. There is no legally approved master plan for metropolitan Port-Au-Prince. Many master plans and initiatives were produced over the years in means to direct private investments in Haiti (See. Table 1).

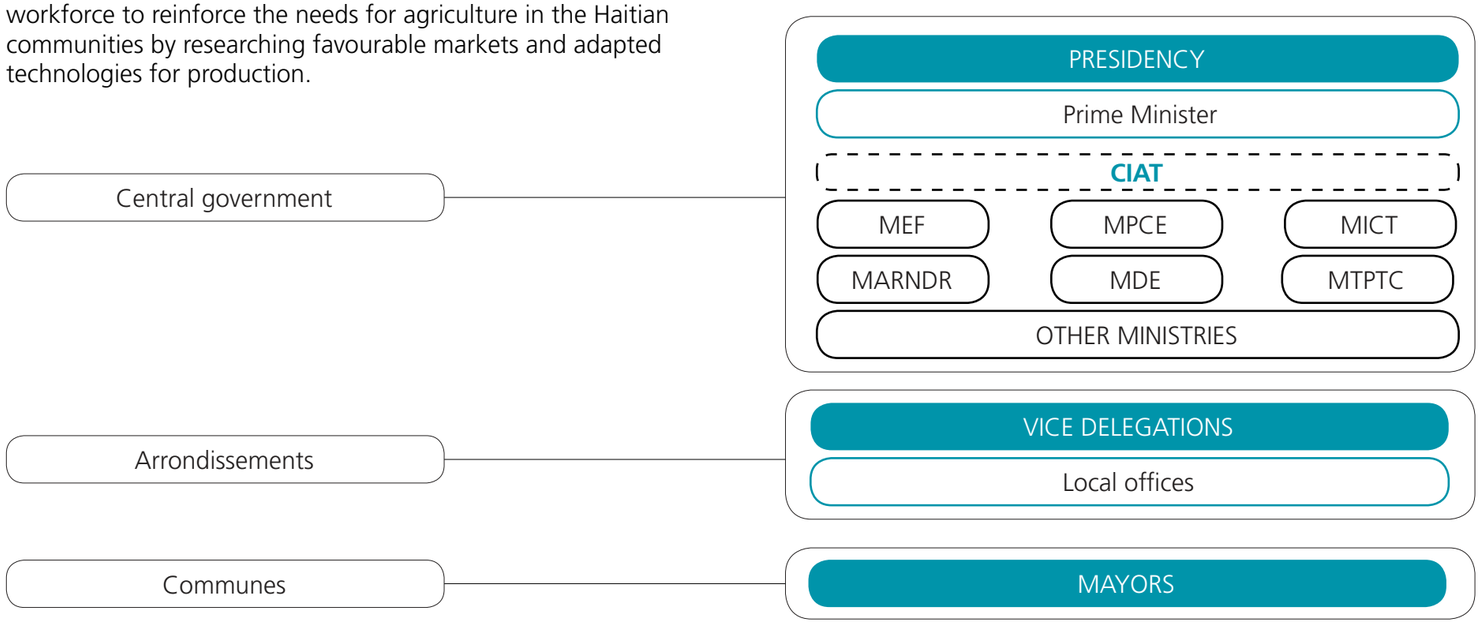


Fig.7: Structure of urban project and management leaders.
Source: CIAT - Plan d'aménagement du Nord/Nord-Est.

1. http://ciat.gouv.ht/
2. MPCE. http://www.mpce.gouv.ht/
3. http://www.mtptc.gouv.ht

Year	Name of the document	Developer
1974- 1976	Plan de développement de Port-au-Prince et de sa région métropolitaine	UNDP et PADCO (compagnie privée) pour le prédécesseur du MPCE
1988	Plan directeur d'urbanisme de Port-au-Prince	ONU-HABITAT et Lavalin (compagnie privée) pour MTPTC
1996	Plan National du logement et de l'habitat	ONU-HABITAT
1996	Projet d'appui aux municipalités et projet d'appui en aménagement du territoire	ONU-HABITAT
1997	Plan directeur de circulation pour l'aire métropolitaine de PaP	MTPTC, Pluram international et Lavalin (compagnies privées)
1998	Actualisation du schéma directeur d'eau potable pour l'horizon 2015	CAMEP et Tractebel développement (compagnie privée)
1998	Schéma directeur d'assainissement por la région métropolitaine de PaP	MTPTC et Groupement SCP-GERSAR-Lavalin (compagnies privées)
1998	Plan de drainage pour la région métropolitaine de PaP	MTPTC et Lavalin (compagnie privée)
1999	Schéma directeur du front de mer de la ville de PaP	Commission pour la Commémoration des 250 ans de la Fondation de la Ville de Port-au-Prince, Université polytechnique de la Catalogne
2000	Concept général pour le développement de Port-au-Prince	Commission pour la Commémoration des 250 ans de la Fondation de la Ville de Port-au-Prince, Jimenez-Pons et Urbanex (compagnies privées)
2003	Plan-Programme de développement de la zone métropolitaine de Port-au-Prince	MPCE, Experco International et Daniel Arbour et associés (compagnie privées), financées par la Banque Interaméricaine de Développement
2009	Planification spatiale stratégique de toute la ville	ONU-Habitat
2010	Haïti Demain: Objectifs et stratégies territoriales pour la reconstruction d'Haïti	CIAT
2010	Plan d'action pour la récupération nationale et le développement d'Haïti	MPCE dirigé par UNDP
2011	Port-au-Prince Plan Directeur	MPCE, la fondation du prince pour l'environnement bâtit
2011	Port-au-Prince Plan de Redéveloppement	Municipalité de Port-au-Prince
2011	Vil Nou Vie A (La ville que nous voulons)	MPCE, ONU-Habitat
2012	Plan stratégique de développement d'Haïti (PSDH)	MPCE, Groupe IBI/DAA

Table 1. Key planning activities and documents produced for Haiti's development from 1974 till 2012. Adopted from the republic of Haiti

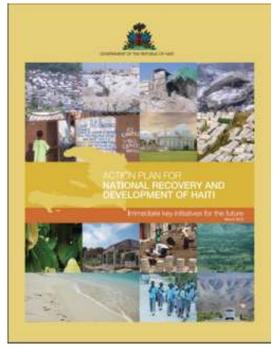


Fig.8: Plan d'action pour la récupération nationale et le développement d'Haïti 2010, MPCE

Fig.9: Haiti Demain 2010, CIAT

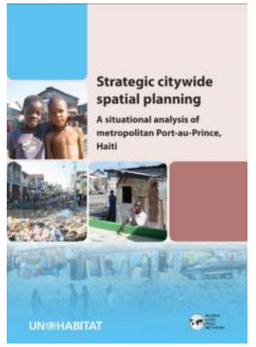


Fig.10: Planification spatiale stratégique de toute la ville 2009, ONU-Habitat

Fig.11: PSDH 2012, MPCE

2.3. GOVERNANCE

According to the constitution's politico-administrative division (Republic of Haiti & UNDP 2005), there should be three main local and regional authorities:

- Department (département): take the political role
- Municipality (commune): have operational responsibilities
- Community ward (section communale): represent and defend the citizen's interests

Administratively, Haiti is divided into ten departments having Ouest as the most populated one with approximately 4 million inhabitants (See. Table 2). The departments are further divided into 42 arrondissements, 145 communes and 571 communal sections. For the past 30 years, the Ouest department has seen an exponential growth comparing to the other departments (See. Table 3). Although Artibonite is slightly bigger in size, the reason why people's concentration is in the Ouest is because PAP offers more basic services and job opportunities than the other arrondissements. The unequal distribution of the population in the departments is evident. The West (Ouest) department absorbs in itself 40% of the total population with a high concentration in the Port-Au-Prince district.

There are 20 communes in the Ouest department. The tasks change from one commune to another depending on their resources. In general they have few operational responsibilities like the maintenance of the streets, markets, public spaces, parking, sports facilities, cemeteries, dump sites and in some case the management of public schools. While the provision of water and sanitation, traffic management, waste management and spatial planning remain at national level. (See. Fig.12) for the general organization of municipalities.

The state supports the municipalities financially, in return they have to advance the property and other municipal taxes that are collected together with the Directorate-General for Taxation. The municipalities collect fee from advertising, parking, cemeteries, etc. but these bring back a weak tax revenues that does not represent 3% of the state income. (Republic of Haiti & UNDP 2005)

There is a need of institutional strengthening and a good governance that enable the local government to respond to the needs of the citizens. A good urban governance should assure the access to the necessities of urban life, like shelter, security of tenure, safe water, sanitation, a clean environment, health, education and nutrition, employment and public safety and mobility.

Department	Capital	Area (km²)	Population
Artibonite	Gonaïves	4,984	1,727,524
Centre	Hinche	3,675	746,236
Grand'Anse	Jérémie	1,912	468,301
Nippes	Miragoâne	1,267	342,525
Nord	Cap-Haïtien	2,106	1,067,177
Nord-Est	Fort-Liberté	1,805	393,967
Nord-Ouest	Port-de-Paix	2,176	728,807
Ouest	**Port-au-Prince**	**4,827**	**4,029,705**
Sud-Est	Jacmel	2,023	632,601
Sud	Les Cayes	2,794	774,976

Table 2. Data based on 2015 estimates from the Haitian government. Institut Haïtien de Statistique et d'Informatique

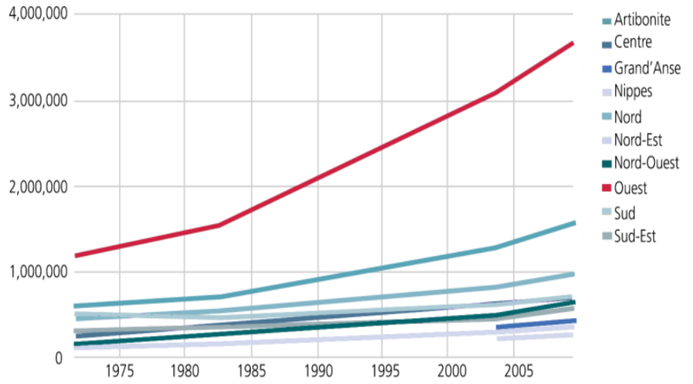


Table 3. (1971) (1982) Institut Haïtien de Statistique et d'Informatique (provided by Clive Thornton). (2003) (2009) Institut Haïtien de Statistique et d'Informatique (web).

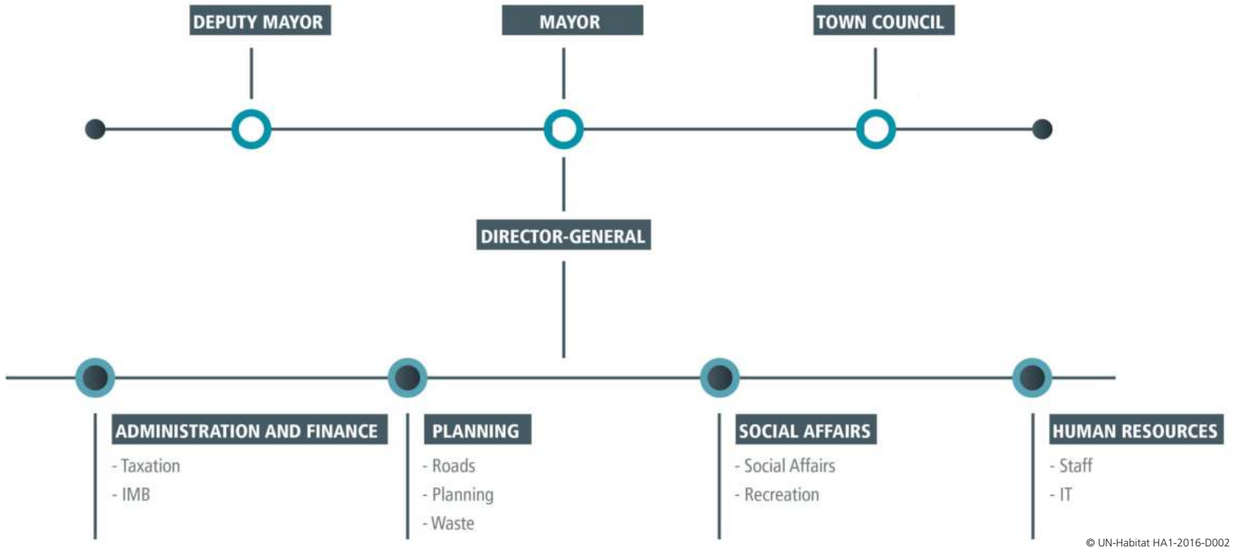
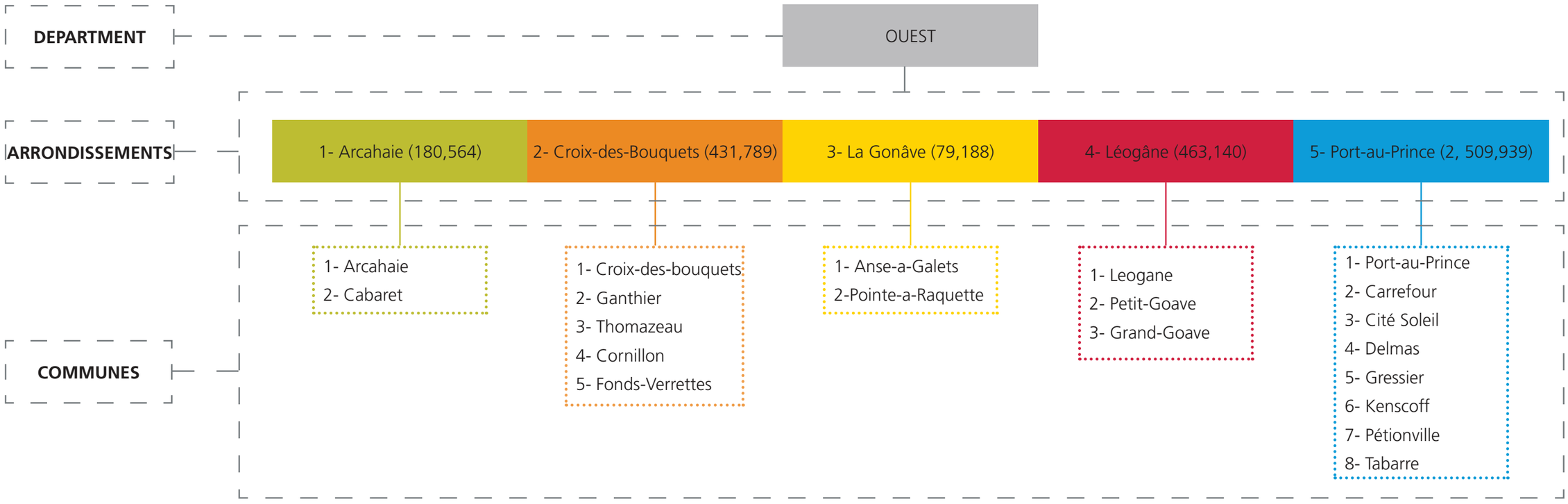


Fig.12: General organogram for municipalities in metropolitan Port-au-Prince. Source: Carrefour Municipality



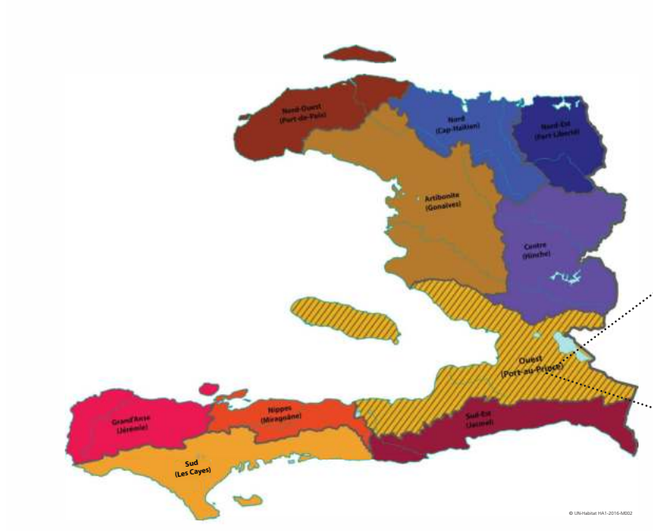


Fig.13: Administrative divisions of Haiti: 10 departments

Fig.14: Ouest department: five arrondissements

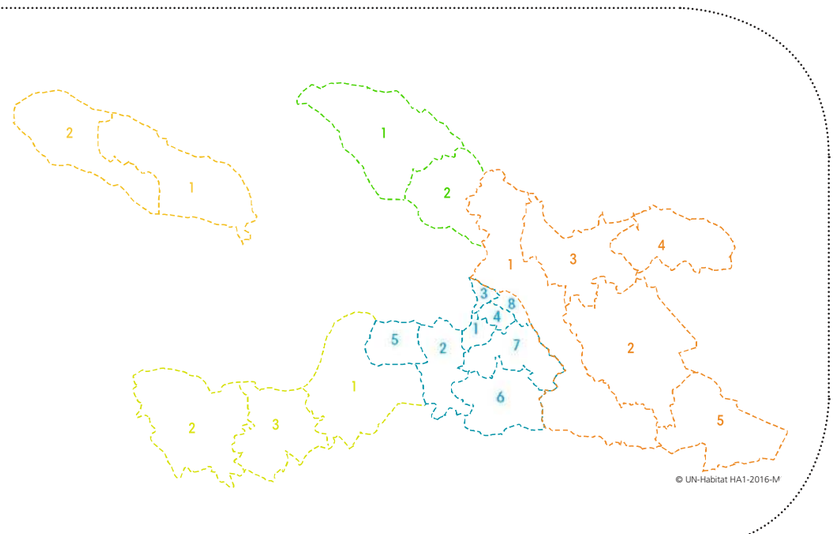


Fig.15: The Communes of the five districts

3. URBAN DEVELOPMENT INITIATIVE

The Urban Development Initiative (UrDI) is based upon a continuous discussion with all the concerned stakeholders. The objective is to raise the needs and the demands of the region and find solutions for a sustainable development.

This section of the document emphasize on the role of the initiative within the action plan of UCLBP and strengthen the argument to improve the current status. It will give a clear definition for the necessity of the initiative and list some facts and main obstacles that can constrain good development in regards to the rapidly growing region.

Haiti, the poorest in the Western Hemisphere, has been experiencing a political instability for a long time. This political unrest has led to poor living conditions with an economic and social exclusion of many strata of society. Haiti is facing an exhaust in capital resources, weakening of economic opportunities, lack of security and an increase of violence. Today, with around 10 million inhabitants and the rapid growth, the status quo is defined as a depleted country where the lack of basic services represents a threat to the development.

The earthquake in 2010, the worst hazardous event in the region, led to a rapid pace deterioration of the country's situation. Following the environmental crisis, an area in the northern metropolitan Port-Au-Prince, Canaan, was declared of public utility to host vulnerable people who were left homeless after the earthquake. Today Canaan hosts about two hundred and fifty inhabitants (250,000)[1].

The perpetual migration towards Canaan is still growing and unfortunately leading to an uncontrolled urbanization. Since 2011, several actions were raised solely with a view to find the best approaches for restructuring the territory according to urban standards and principles and lining them with the international vision of urban development.

The Haitian government is conscious of the rapid growth challenge and its impact on urban planning and territorial development. At the same time the government sees the potential offered by the area in question, Canaan, which covers 33km2 of metropolitan Port-Au-Prince and the necessity to restructure it. Once adequately planned, Canaan will be able to provide its inhabitants with good infrastructure, accessibility to basic services and public facilities and preventative measures for upcoming hazardous events. In other words, Canaan will be a new hub for accommodating new housing, creating new commercial activities and providing job employment opportunities. Intervening in Canaan would require to consider critical issues from urban, economic, legal, and social to environmental aspects (these issues are further developed in the following chapter).

This action plan for urban restructuring of Canaan, although coordinated by UCLBP, leaves space for different stakeolders, to whom the constitution and laws grant the power, to intervene in the management of land and the urban development. The action plan, according to UCLBP, focus on four (4) main priority actions:

- Empowerment of territorial coordination projects by MICT
- Regulation and restructuring of the urban fabric by MTPTC and DINEPA
- Building resilience and reinforcing risk prevention measures by the MICT / Civil Protection (DPC);
- Support and promotion of private initiatives by UCLBP

The Urban Development Initiative (UrDI) looks into all the priority points that fall under the action plan of UCLBP, providing a holistic understanding on different levels. The initiative looks into the needs of the area on different scales and gathers different stakeholders through a series of Charrette that promotes participative decision making.

In order to achieve an enhanced social integration and transform potential urban development into economic opportunities, the initiative tackles two main challenges:

1. Secure that Canaan will develop as a city district and not as an informal settlement with a deficit of services and infrastructure

2. Channel current developments in the northern fringe and turn them into opportunities

1. American Red Cross Baseline Report

3.1. MULTI-SCALAR ANALYSIS

A comprehensive urban analysis will be carried out at different scales. The analysis of the first two scales (regional and metropolitan) will be generic. The focus will be concentrated on the city-wide scale where a diagnostic and a set of recommendations will be presented. At the settlement scale, the study will bring up the concerns and aspirations of the local communities and ground check them with the result of the higher scale's analysis and diagnostic.

Regional planning:

Key words: economic zones, main infrastructure, corridor, urban system

The planning on this scale helps in identifying how cities grow and where is the need for more investments. Also, which are the important roads, connections that needs to be upgraded or constructed.

Metropolitan:

Key words: Agglomeration, economic zones, infrastructure

This level focuses on the organizing and defining how the city will relate to its own resources like water and agriculture. Which natural resources should be protected and how economy can be reinforced.

City-Wide:

Key words: Land use, transformation area, extension plans

This scale looks into an integrated approach to infrastructure development, urban extension and densification and the rural/agricultural linkages. It creates a strategic framework for decision making and it defines key transformative projects for the short, medium and long term. It links and balances sectorial interventions and generates input for sectorial policies. Furthermore, the analysis on this level should create a narrative for city leaders and guide them on the future development of their cities.

Settlement:

Key words: public spaces, neighbourhoods, plots

The analysis in this part will focus on the neighbourhoods or part of it. A more detailed layout will be provided for the land use and a network of private and public spaces is elaborated. Provision of services and infrastructure is also taken into account. A series of catalytic projects will fall under this scale which can be the stimulator for development activities.

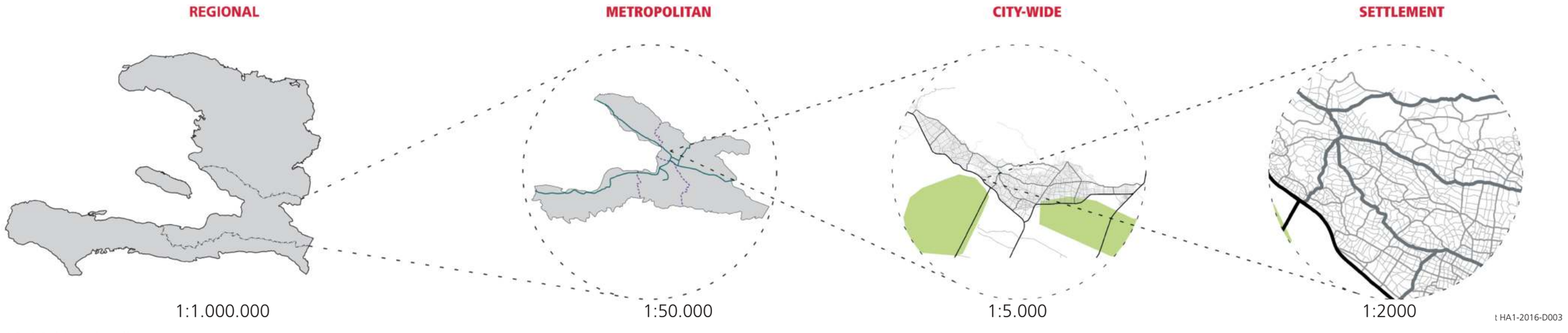


Fig.16: Multi-scalar diagram

3.2. CHARRETTE METHODOLOGY

UN-Habitat, in collaboration with UCLBP (Unité de Construction de Logements et de Bâtiments Publics) and the American Red Cross, has organized a series of Charrettes gathering different National and Local Government institutions, private sector, community groups, NGOs, planning professionals and academia to discuss the current situation and the future vision for the area of Canaan.

The floor for discussion that the Charrette is opening aims at fostering the cooperation and dialog of the different actors toward a negotiated vision for the future of Canaan.

The participatory methodologies of the Charrette allow the different stakeholders to reflect on the current situation of the area and to present their ideas and needs for the development of the area. A "learning by doing" methodology is applied to map the main social, spatial, economic and environmental characteristics of the area, enabling multidisciplinary working groups to draft a strategic vision and an urban structure for Canaan.

The Charrette bring together many of the key players that are working in the different challenges of the area, such as USAID, American Red Cross, Global Communities and Habitat for Humanity. Some of these organizations are engaging in direct work with communities to enhance the participative dimension of the proposed planning exercise.

3.2.1. FIRST CHARRETTE

The first Charrette was held on the 4th of November 2015 and it brought together many of the key players concerned by the different challenges of the area, such as Ministries (MPCE, MTPTC, MICT, MENFP and MEF including the DGI), public service companies (DINEPA and EDH) local governments (Municipalities of Croix des Bouquets and Thomazeau), universities, representatives of the private sector and professional bodies, international agencies and NGOs as well as communities' representatives.

The objectives of the Charrette were threefold:

- To reach a factual understanding of the urbanization process in the Canaan area from the main economic-financial, legal-institutional, spatial, social and environmental areas.
- To draft a common vision for the urban development and upgrading of the Canaan area.
- To jointly assess the best way to prioritize interventions and actions in Canaan.

The strategic vision was structured along five areas, the general spatial structure, socio-economic development, institutional framework, normative framework and financial framework. Challenges, opportunities and some main existing and on-going investments that influence the development of the area were identified: (1) Port Lafito, (2) Hospital Communautaire de Bon Repos, (3) Touristic area and hotels at the Arcadin cost, (4) Police station at the crossroad of the RN1 and RN9, (5) Canaan center, (6) Main churches, neighborhood churches and public spaces, (7) Schools, (8) Residential developments: Village Lumane Casimir, (9) Transportation Hubs: Bon Repos and by the Police Station at the crossroad of the RN1 and RN9, (10) Micro-industrial parks and (11) Small scale infrastructure project in Canaan to be developed by Global Communities and Habitat for Humanity.

Also, the charrette addressed the urban structure of Canaan with a focus on the following topics:

- Street network and mobility
- Drainage
- Public spaces
- Urban services
- Priorities and intervention phases

3.2.2. SECOND CHARRETTE

The second charrette was held from the 14th of March, 2016 till the 18th. The whole Charrette process has been structured following the work-plan of the Urban Development Initiative project (UrDI), with concrete deliverables under four main areas that touch upon the different components of urban development such as spatial and strategic urban planning, urban socio-economics, urban law and legislation, governance, capacity development and resilience.

- Analysis and diagnosis
- Strategic urban development plan
- Urban structure and upgrading plan
- Participatory process

The objectives of the second Charrette were threefold:

1- Validation of the preliminary analysis and diagnosis for metropolitan Port-au-Prince and to agree on a vision for the future of Canaan.

2- Identification of the strategic orientations and draft the urban development scenarios for the territorial development of the area.

3- Validation of the work done after the Charrette 1 in terms of analysis, diagnosis, strategies and structural plans.

The five days of the Charrette were structured to ensure a significant participation of the different groups. In this sense, the first day was planned for meetings and a workshop with the community while the second day with the mayoral candidates for the three concerned municipalities. The third and the fourth days were reserved for the plenary discussion with all stakeholders. As for the local government, a preparatory meeting was organized with them a week prior the Charrette.

Fig.17: Focus groups during the second Charrette in Haiti

Fig.18: Focus groups during the first Charrette in Haiti

3.2.3. CHARRETTE OUTPUTS

The conclusions extracted from the different groups in the two charrettes were:

- The area of Canaan, Bon Repos and the developments along the national roads going north are the key to unlock the sustainable development of the northern part of the Port-au-Prince metropolitan area. Planning in advance and providing sufficient space, infrastructure and services will guide growth to create a more compact, connected and resilient city.
- Canaan has the right spatial location, economic and social potential to be developed and become a hub for employment, logistics, commercial and agro-business. Construction related activities and tourism have also the potential to generate employment and provide socially inclusive and affordable housing for the population.
- Agriculture potential has to be properly assessed and quantified in the areas along the Route National 1 and Route 9 in order to decide whether the land should remain for agricultural use or should be proposed for urban development.
- As part of the urban structure of Canaan, the development of the main roads and street network is a key point to improve accessibility to Canaan.
- In order to improve connectivity inside Canaan, the consolidation of the partially existing northeast corridor connecting Onaville and St. Christophe would also promote investments in the area, transforming this corridor into the northeast boulevard of Canaan.
- Creation of a technical mechanism to delimitate urban growth and non-aedificandi areas, linked to the existence of erosion, flooding and ravine risk. A boundary to limit the expansion of Canaan towards the northern hills should be also proposed and implemented (vegetation barrier)
- There is a need to put in place a mechanism to protect the streets and public spaces against encroachments and to allow for the provision of space for facilities and services to balance densification. Creation of sport fields and playgrounds as a way to preserve and generate public space in existing and developing areas
- Limitation of the uncontrolled extension of the area towards risk and non-economically feasible areas to the north and west-east (in these areas, provision of services and infrastructure would become unbearable for the municipalities). Stone fence and vegetation walls could be used as elements to delineate the boundaries of growth and community groups would monitor and ensure respect of the limits
- Intervention in main ravines, land conservation and reforestation. Catalytic projects should be proposed to integrate water management with ravine design, reforestation, urban agriculture and public space. A legal framework (to be further refined), protecting the reforestation areas and non-aedificandi areas, and a community mechanism should be put into place to limit the settlement of newcomers into areas close to the ravines and relocate existing populations.
- Development of centralities in Canaan: promote investment and planning in commercial areas that are informally consolidated as centres of activity to be able to capture revenues for the state that will be reinvested in the area
- Creation of a one-stop administrative centre where the national and local governments can be represented at the neighbourhood level in a central location for all the 15 neighbourhoods
- Land tenure situation should be clarified in order to enable the economic development of the area.

4. REGIONAL SCALE

4.1. INTRODUCTION

Haiti occupies the western part of the Hispaniola Island which is also shared with the Dominican Republic. With an area of 27,750 square kilometres, Haiti is considered the third largest country of the Caribbean nation after Dominican Republic and Cuba.

The urbanization in the country is rapidly growing leaving a high impact on the country's vulnerability to natural disasters. In the past two decades, and with the lack of urban planning and growth regulation, urban areas are witnessing a significant expansion which is putting pressure on the environment. People are resorting to settle in vulnerable and areas of natural protected areas like riparian zones or coastal ecosystems all due to the unplanned urban growth.

Many factors have led Haiti in being one of the poorest and most unequal countries in the world like political instability, natural disasters and lack of investment interest. This has limited the country from achieving its aspirations in urban development.

The regional description focuses on an overall perspective regarding the main infrastructure which connects the region and the economic zones where commercials, governance and state services take place. Further, is the environmental situation reviewed as well as the urban system such as population and density of housing. Planning on this scale helps in identifying how cities grow and where there is need for investments in order to improve and upgrade connections within the region.

6.3 Million Inhabitants

Cannot meet their basic needs

2.5 Million Inhabitants

Cannot cover their food needs.

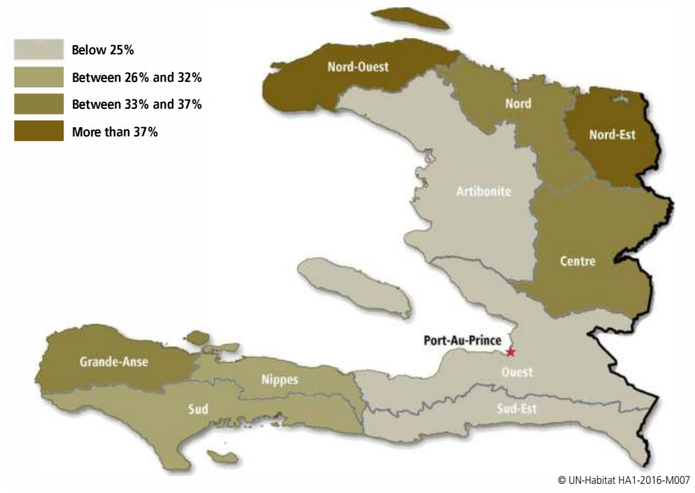


Fig.19: Poverty rate by department. Source: ECVMAS 2012; World Bank and ONPES 2014.

4.2. ENVIRONMENTAL ASPECTS

Haiti is highly prone to environmental hazards like hurricanes, floods, tropical storms and earthquakes. From 1971 till 2014, Haiti has faced more than double the number of disaster than Dominica Republic; knowing that both countries shares the same Island. While Haiti's affected population is 23,427 during the past years, Dominican Republic on the other hand had only 311 (See. Table 4).

These disasters left more than 1 million displaced people and had a huge impact on the decrease of the GDP of the country. It takes a huge toll on people who were settled in flood zones and coastal areas. With limited resources and capacities to cope, the hazards still till today, have a big impact on the infrastructure, the quality of construction and the provision of sufficient basic services.

The development of settlements in off-coast regions, areas more harmless from expected natural disasters, are currently happening. However, the urbanization in regions parted from the coastal line is often restricted either by flooding probabilities or topographical challenges.

Comparison of the impact of Natural Disasters between Haiti and Dominican republic, 1971–2014

Country/ group	Number of natural disasters	Disasters/ year	Disasters/ land surface ('000 sq. km)	Disasters/ population (millions)	Deaths/ population (millions)	Total damage/ GDP
Haiti	137	3.1	5.0	13	23,427	1.776
Excluding earthquake (2010)	136	3.1	4.9	13	1,855	0.22
Dominican Republic	60	1.4	1.2	6	311	0.05

Table 4. Frequency and Impact of Natural Disasters, 1971–2014 Source: EM-DAT: The OFDA/CRED International Disaster Database.

Flood prone areas

Flooding is the most recurrent natural related event that Haiti is affected by and this is partially linked to the deforestation activities that are taking part in the country.

The most affected areas in Haiti are the capital Port-au-Prince, the Cap-Haitien, the southern area of Gonaives and Les Cayes (See. Fig.20). Most of these areas are wide and flat and surrounded by rigorous mountains.

Soil Potential

Haiti has been facing in the past years a problem with soil erosion; especially in the mountains. Some of the causes are man-made activities that are taking place on the foothills. In order to reduce such risk, agroforestry techniques to improve soil fertility will be necessary as well as the prevention of de ation. The condition of the soil seems to be excellent in the areas where the flooding risk is high. The suitable areas are in Port-Au-Prince, Cap-Haitien and Les Cayes (See. Fig.21). The rest of the country has a poor soil condition.

Agriculture

Agriculture supports the economy in Haiti. In the past, the majority of labor force worked in agriculture, but today this has inclined. The reasons behind this decrease are the low levels of agricultural technology, the urbanization and the land tenure insecurity.

Agricultural land are found mainly in the Ouest and the North department where the soil condition is already excellent (See. Fig.22).

Topography

The terrain of Haiti is generally very mountainous. There are three principal mountain chains, one that runs from east to west along the southern peninsula while the two others stretch north west ward across the mainland. In the spaces between are there fertile land plains suitable for agricultural purposes.

Widespread deforestation along many hillslopes in Haiti has led to the occurrence of erosion.

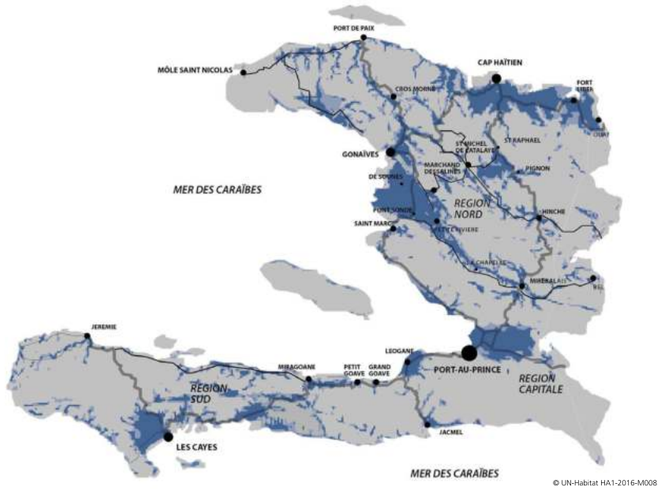


Fig.20: Haiti flood prone areas. Source: Guilland, 2005.

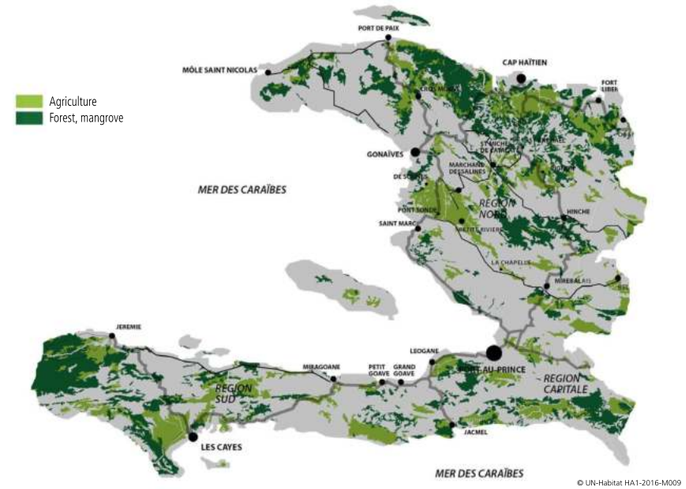


Fig.22: Haiti green and agricultural areas. Source: FAO

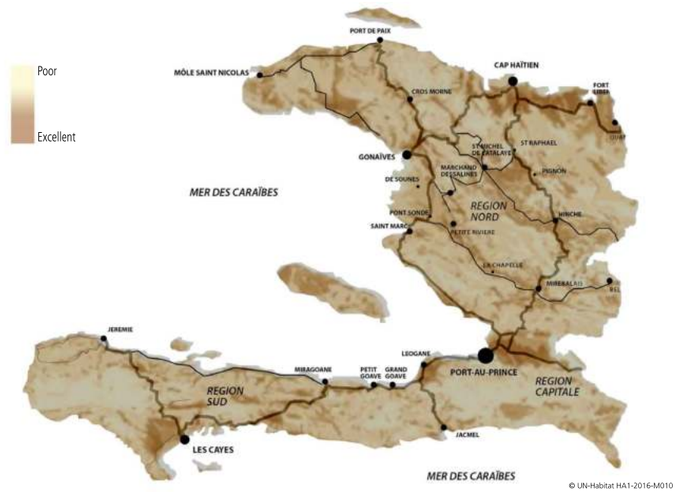


Fig.21: Haiti Soil potential. Source: Ortiz

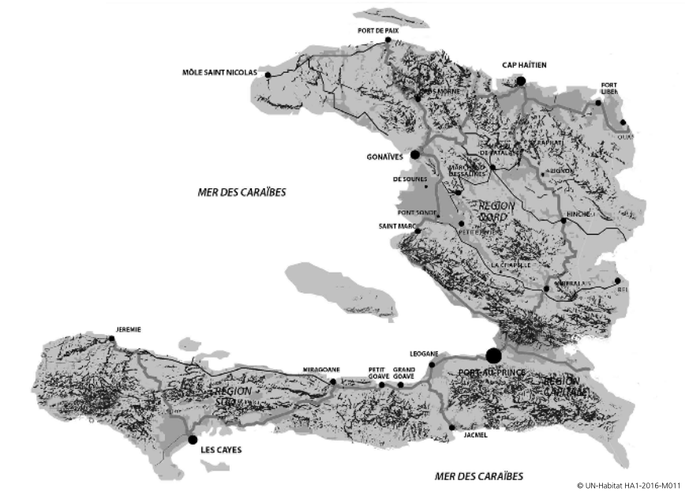


Fig.23: Haiti topographic areas. Source: Library of congress

4.3. POPULATION AND DENSITY OF THE POPULATION

There are currently 10,7 million people living in Haiti (Worldbank, 2015). The density of the population in Haiti, was year 2015, estimated to a number of 388 people per square kilometer. The population is distributed as shown on the map, whilst the on-going urbanization rapidly densifies urban regions including Port-au-prince.

The unemployment rate was 6.8 per cent in 2014 according to the Worldbank unemployment index.

The Gini index is a measurement of the income distribution of a country's residents. This number, which ranges between 0 and 100 and is based on residents' net income, helps define the gap between the rich and the poor, with 0 representing perfect equality and 100 representing absolute inequality. The Gini coefficient for Haiti is 59.2, according to UNDP report issued November the 15th 2013.

Urbanization

In 2015, 53.9% of the population in Haiti lives in urban areas[1].

1. Urban population (% of total). Source: United Nations, World Urbanization Prospects.

Cap-Haitien and Port-Au-Prince are considered as the most urbanized arrondissements in Haiti. This is measured according to the high population density and infrastructure of built environment. For that, people have considered Port-au-Prince as their main destination for relocation. The flux of people that came to Port-au-Prince are not only from different region of the country but also from other countries such as United States and Mexico[2] (See. Fig.24.)

Haiti is the poorest country in the Western Hemisphere, according to the Human Development Index of the United Nations. 3/4 of the population live below the poverty line of $ 2 / person / day and more than half (56%) of absolute poverty of $ 1 / person / day. Extreme poverty is predominantly a rural phenomenon (58% against 20% in the metropolitan area). Agriculture still serves as the main income for the majority of the inhabitants of Haiti. To avoid extreme poverty, moving into metropolitan areas whereas job opportunities can be found are an increasing trend. If not planned properly, urbanization comes with informal settlements, pollution, urban waste and stress on the infrastructure.

2. American Red Cross Baseline Report

ECONOMIC ZONES

Import and Export + business

The national road and arterial roads in a south-western direction are important connections since they facilitates import and export possibilities with the Dominican Republic bordering in east. The coastal strip is of economical value due to tourism and the access to shipping business. Airports are also found in the main economical centres shown on the map below.

Heritage + Tourism

The 1700 km coast line of Haiti attract tourism as well as the three national parks within the country. The historical national park in the north, Macaya National park and La Visite national park in the south. The latter is recently considered a biosphere reserve by UNESCO[3].

3. Ministere du tourisme et des industries creatives

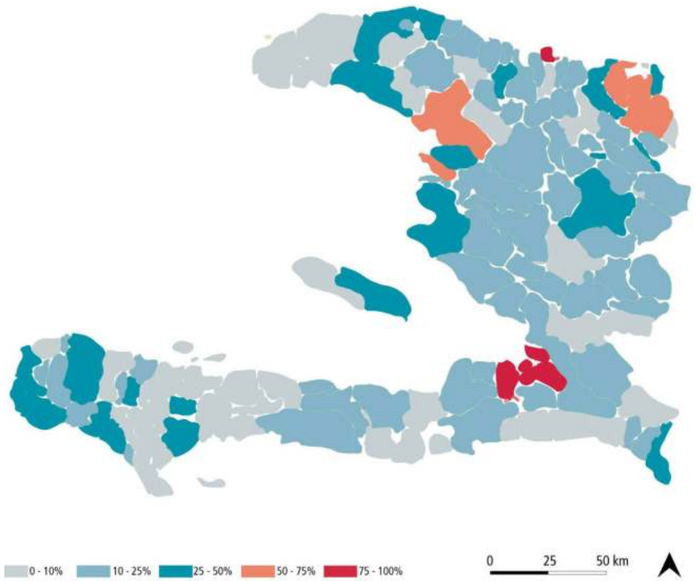


Fig.24: Haiti Urban percentage per commune. Data: IHSI

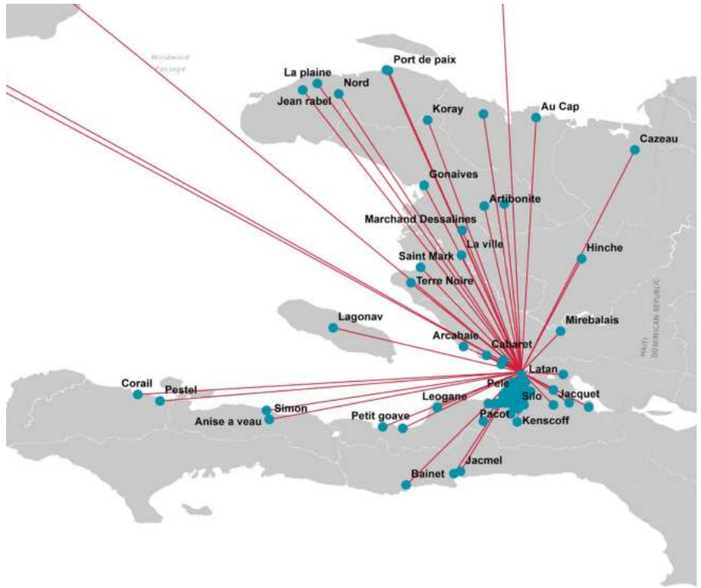


Fig.25: Influx of people to Port-au-Prince and their origins. Source: American Red Cross Baseline report

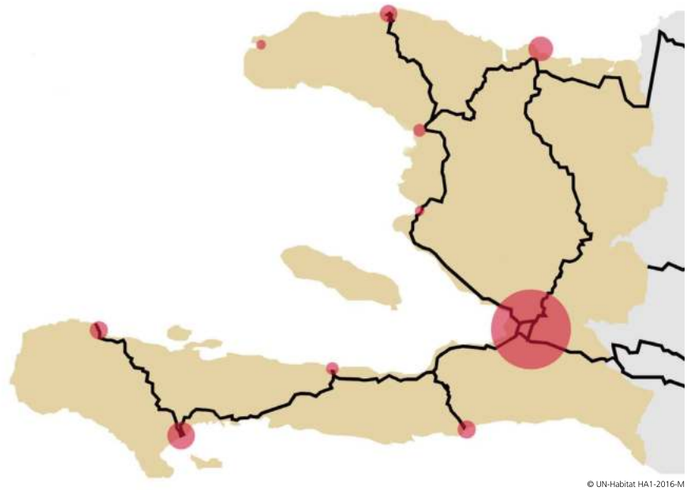


Fig.26: Main economic zones in Haiti on the regional scale. Source: CIAT analysis.

4.4. REGIONAL ROAD NETWORK

Haiti's road network is built up around the four national roads that start at Port-Au-Prince and disperse out in four main directions. (See. Fig.25)

- Route Nationale 1 (RN1) starts in Port-Au-Prince and follows the north coast of the Gonave Golf towards Saint-Marc and Gonaives in the Artibonite Department and then onwards to Cap-Haitian in the North Department.

- Route Nationale 2 (RN2) starts in Port-Au-Prince and runs southwest along the coast until Miragoane, then diverts to the South to Les Cayes and finally takes a turn to the North to reach Jeremie.

- Route Nationale 3 (RN3) connects the capital to Cap-Haitian passing through Mirebalais, Hinche, Pignon, St.Raphael.

- Route Nationale 8 (RN8), follows the valley to the east and connects metropolitan Port-Au-Prince with the Dominican Republic.

- Route Nationale 9 (RN9) is the latest constructed road that connects RN1 with RN2. This road was made to reduce the number of vehicles and trucks to pass through the economic activities on RN1 and thus reducing the congestion.

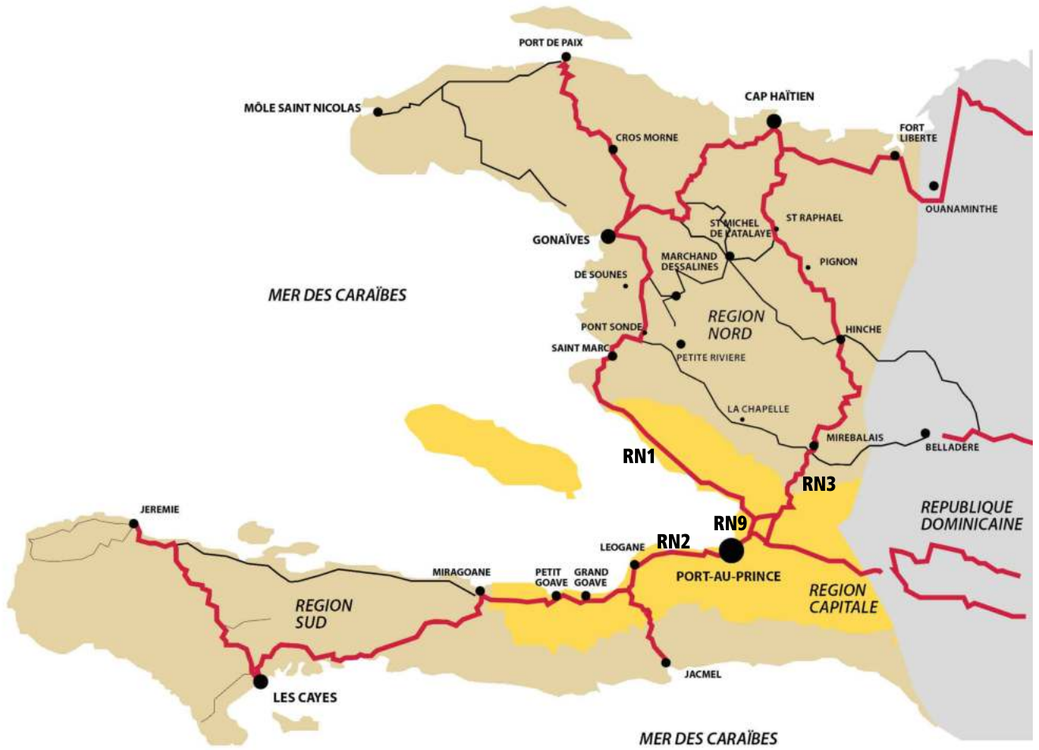


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Fig.27: Road network of Haiti on the regional scale. Source: CIAT analysis.

4.5. TRANSPORTATION AND MOBILITY

There are four different ports located along the PAP's coastline and the airport is linked to the main existing road infrastructure and the location of the industrial areas along the RN1. (See. Fig.26)

At the regional scale, Port-Au-Prince is connected both by road and by sea with the Nord and Sud, with the main cities of Cap Haitien, Gonaives and Les Cayes. The proximity of secondary cities such as Mirebalais, Saint Marc, Miragoane and Jacmel sets the capital in the centre of the main productive, industrial, logistic, touristic and service activities.

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Fig.28: Transportation and mobility in Haiti on the regional scale. Source: CIAT analysis.

5. METROPOLITAN SCALE

5.1. INTRODUCTION

In the last decades, the population of the municipalities that make the metropolitan area of Port-au-Prince has grown very rapidly, passing from 300.000 inhabitants in the 1960's to around 2.760.000 in 2015 according to the projections from the IHSI1. The city has also expanded exponentially, reaching a surface of 158km2 and occupying most of the suitable land for urbanization but also many areas exposed to natural risks and large parts of the rich agricultural land of the Cul-de-Sac Plain.

Despite some efforts at different times to establish urban planning and management mechanisms to harness its development, the city has grown with very limited guidance and control resulting in a series of dysfunctions particularly in terms of adequate services, infrastructure and accessible housing, transport and mobility, as well as environmental, social and economic conditions.

However, regardless of the harsh conditions for most of its inhabitants, the city continues to attract migrants both from other urban areas and the countryside because it provides a better chance for them to make living.

The 2010 earthquake exposed and exacerbated the many urban challenges of Port-au-Prince and the country as a whole. Besides the numerous human lives lost, around a million and half people were left homeless and great parts of the metropolitan area suffered great damage, including many public and basic service facilities. After many years of decay, the city center suffered a blow from which it's still uncertain it will recover.

1. *IHSI (2015). Population totale, de 18 ans et plus. Ménages et densités estimés en 2015. Port-au-Prince.*

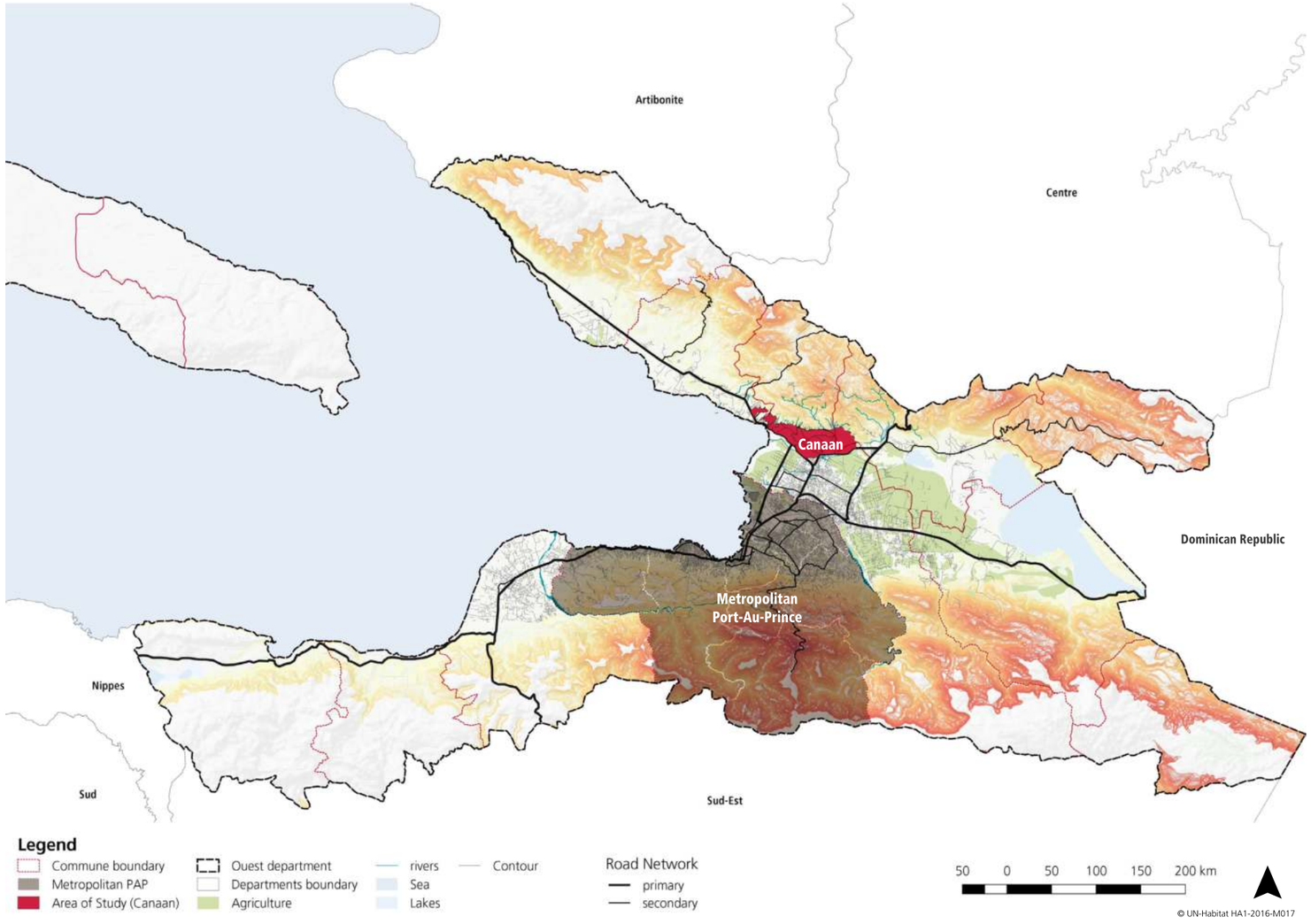


Fig.29: Ouest department with Metropolitan PAP and Canaan.

5.2. STRUCTURAL ELEMENTS

Several elements define the metropolitan structure of the great Port-Au-Prince area like the Gonave Golf on the West, the Cul-de-Sac plain, the rivers and lakes within and around the city and the main roads. The steep slopes from the Matheux chain to north and of the Massif de la Selle to the south create a natural boundary which limits the urban growth of the metropolitan area.

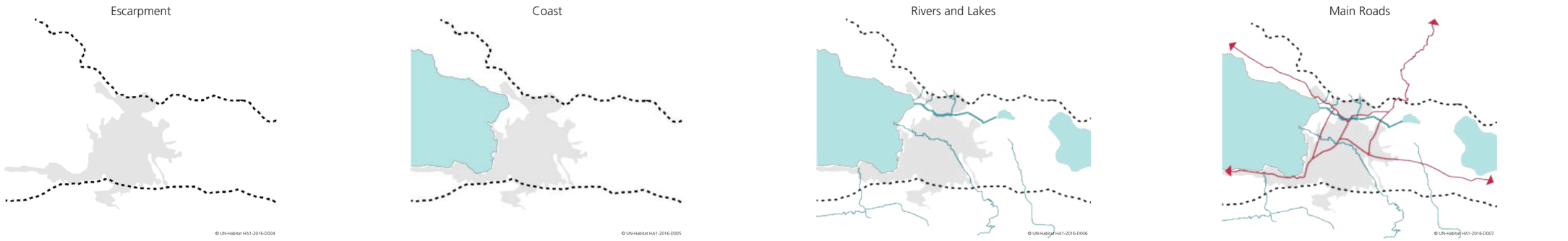


Fig.30: Structural elements diagrams of metropolitan Port-Au-Prince.

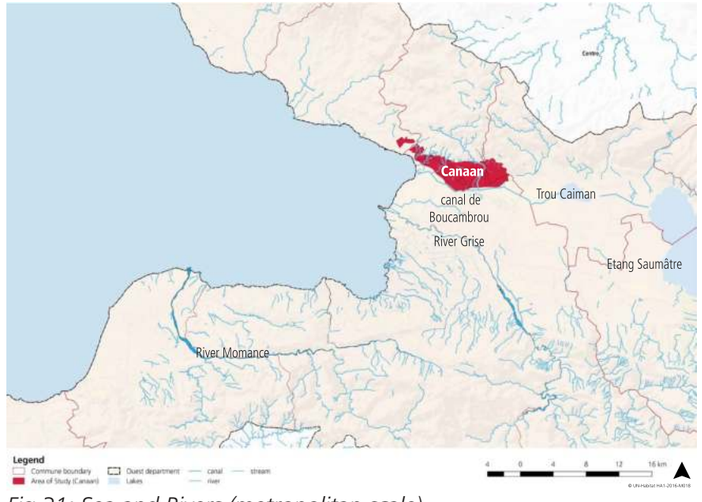


Fig.31: Sea and Rivers (metropolitan scale)

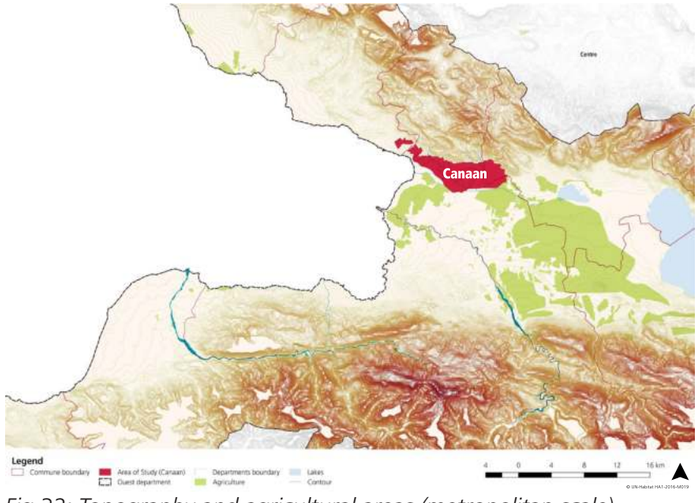


Fig.32: Topography and agricultural areas (metropolitan scale)

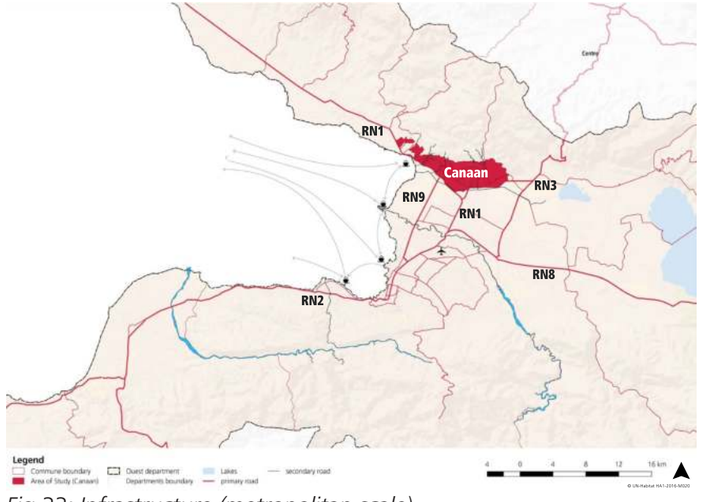


Fig.33: Infrastructure (metropolitan scale)

5.3. POPULATION

In 2015, and according to the projections from the IHSI , the metropolitan area of Port-Au-Prince has a total population of around 2.760.000 inhabitants. It is the most populated arrondissement in the Ouest department. The commune of Port-Au-Prince is considered to be the densest among the other communes. Carrefour and Delmas follow as secondary and tertiary communes, having respectively 465,000 and 359,000 inhabitants. Croix-des-Bouquets (CBD), which is the biggest arrondissements in size, has a population of around 432,000 inhabitants. The area of study, Canaan, is considered the most populated area within the CDB commune and have approximately 200,000 inhabitants (See. Fig.32).

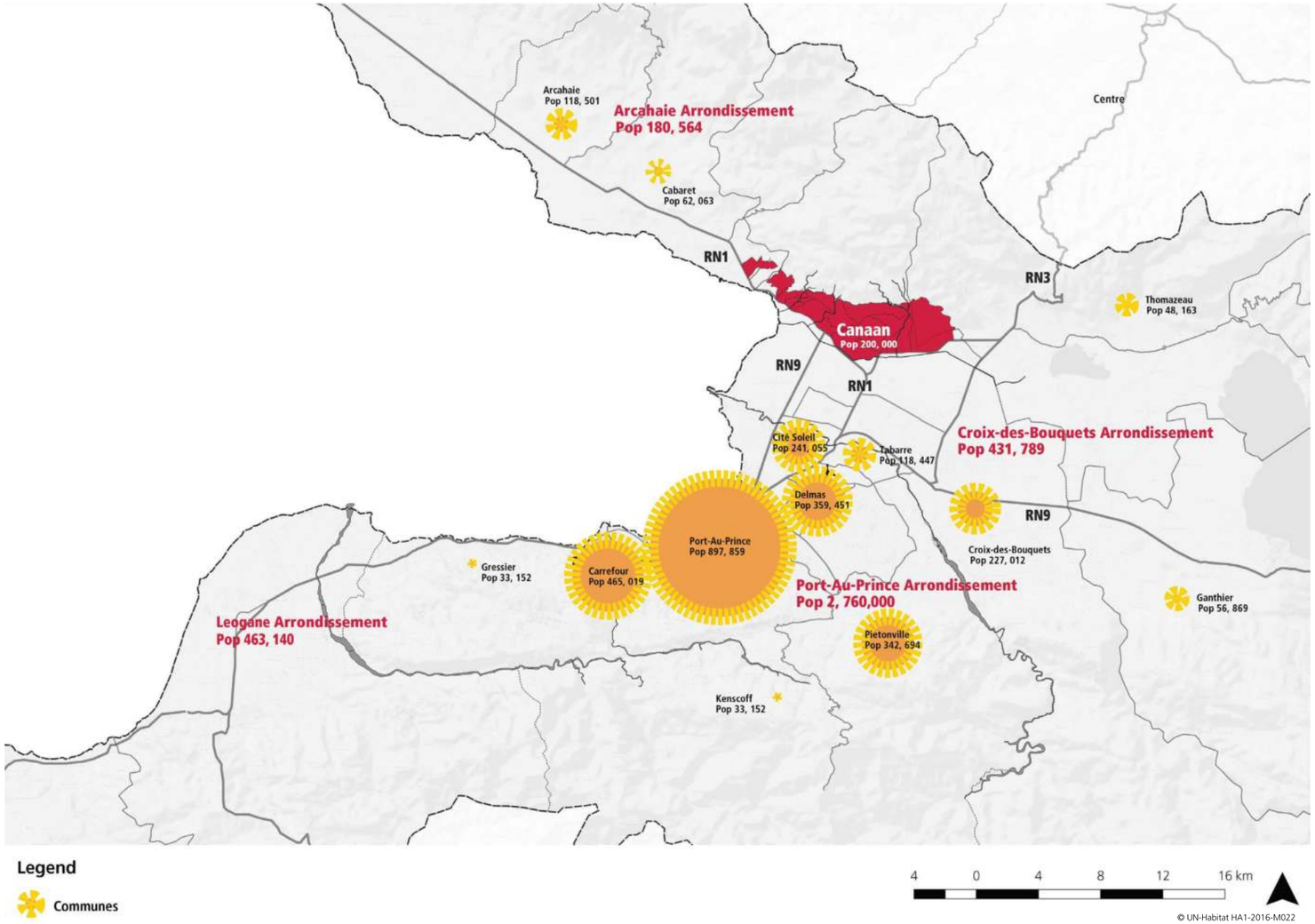


Fig.34: Population of main districts and communes (Data from institute Haitien de statistique et d'informatique, 2009)

5.4. URBAN SPRAWL

The metropolitan area is expected to double its current surface in 20 years. At the current density of 16,500 inhabitants per square kilometer, the metropolitan will require at least 195 km² for urban development in 2035 (See. Table 5).

The population in the metropolitan area of Port-Au-Prince has nearly doubled since 1986 and is now approximately 2.7 million people, with a population increase ratio of 3% during the 2009-2015 period (From 2296386 inhabitants in 2009 to 2618894 in 2015)[2]. In order to cope with the rapid growth, an assessment on available areas will be needed in order to provide the 195 km² required for the expected population growth (See. Fig.33).

2. Data from IHSI.

Metropolitan PAP	Population	Area	Density (INHAB/KM²)
Present year 2015	2,620,000	158 km²	16,500
Projection year 2035	5,850,000	353 km²	16,500

Table 5. Metropolitan growth scenario in 2035. Self-elaboration based on growth estimations. data: (IHSI)

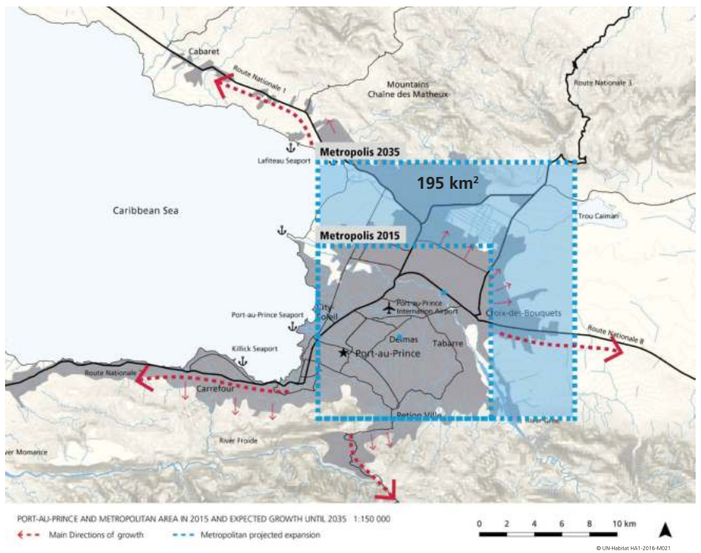


Fig.35: Port-Au-Prince and metropolitan area in 2015 and expected growth until 2035

The growth of the Metropolitan Port-au-Prince has been extensive in the past 6 years. The main direction of extension from 2010 till 2016 was the northern part of the metropolis in an area called Canaan located in the Croix-des-Bouquets commune. The land has been taken over quickly and fifteen neighborhoods has emerged anarchically with no urban development guidance. As for the Cul-de-Sac plain on the east, which is also part of CBD commune, is not only witnessing an urban densification but also extension is taking place over some of the agricultural land (See. Fig.35).

Croix-des-Bouquets, the biggest commune in Haiti, is considered as an opportunity for the extension of the Metropolis. The commune's population has already more than doubled after the earthquake of 2010. For that, an urban development strategy and a growth control study should be further elaborated to prevent the haphazard growth of the Metropolitan area.

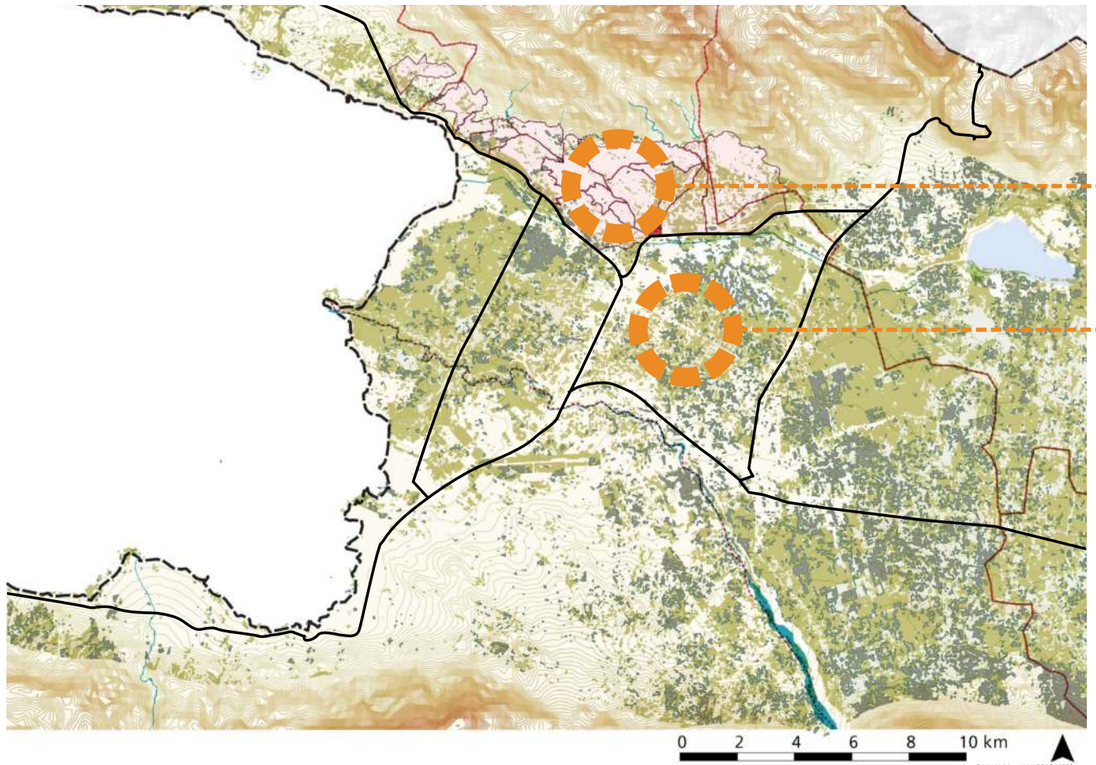


Fig.36: Metropolitan Port-Au-Prince rapidly growing areas

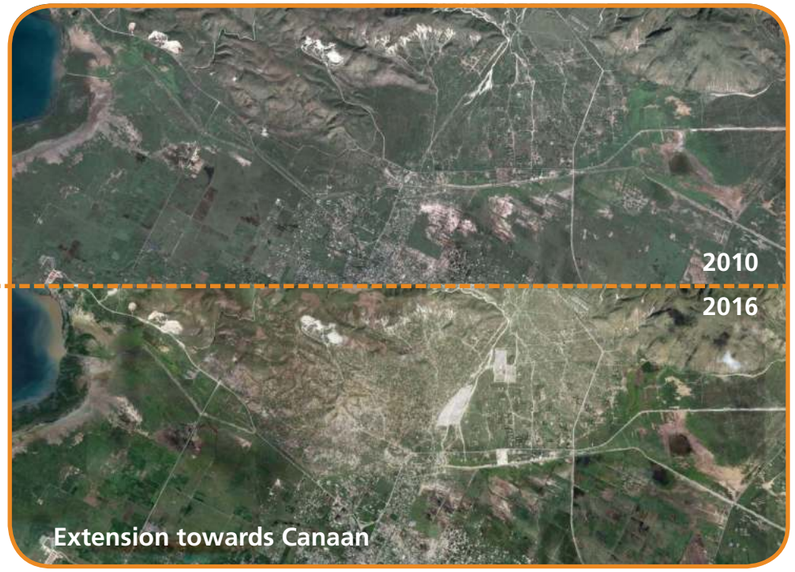


Fig.37: Aerial image comparison of the urban fabric between 2010 and 2016.

5.5. MAIN ACTIVITIES

AGRICULTURE + HERITAGE

Many agricultural activities going on along the north-western connection that goes all the way to Cape-Haitien. Also, some heritage sites like sans-souci palace and Citadelle La Ferrière are found on that connection. Employees under the agricultural sector benefits from the fertile land strips found in the region and they should therefore be preserved. If any of the strips border to main roads, the possibility to transit of goods and the instant connection to commercial services increases. Enhancement of living standards in rural areas will contribute to mitigate the current rapid urbanization.

IMPORT AND EXPORT

The south-western connection (RN8) is important mainly because of the import and export activities with the Dominican Republic. Expansion and improvement of the street network, even in a big scale, will reduce possible congestion and the strains on one single road expected to cover all predominately transport across the country.

BUSINESS + AGRICULTURE + TOURISM

The south-eastern is identified as a connection between the residential part and the centre of the city where there are job opportunities. Also it links several universities and hospital in Carrefour' surroundings to the centre. It also connects to the south of the country with important agriculture and tourism.

TOURISM +

The north-eastern connection towards Cabaret links the city with the touristic coast of Arcadins where many hotels and an important new port are found. Tourism may serve as an important source of income.

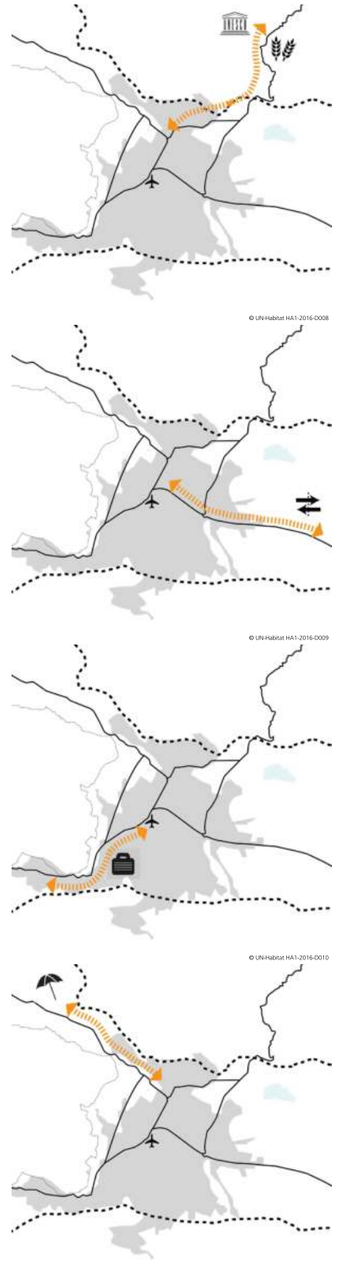


Fig.38: Diagnosis diagrams of the metropolitan region

5.6. DIRECTIONS OF GROWTH PRIORITIES

The four major growth directions of the metropolitan area are (See. Fig.37):

- Direction growth 1 towards Cabaret and Arcahaie along the Route Nationale 1 in the north.
- Direction of growth 2, towards Léogane along the Route Nationale 2 in the south-west.
- Direction of growth 3, towards the plain of Cul-de-Sac in Croix-Des-Bouquets and Ganthier along the Route Nationale 8 in the east.
- Direction of growth 4, towards the hills behind Pétionville and Kenscoff in the south.

Fig.39: Growth direction diagrams in the Metropolitan area

Towards Cabaret and Arcahaie:

The first direction, towards Cabaret and Arcahaie, is the area with the largest urban and economic development potential as it presents the following advantages:

A) Economic potential provided by the access to the sea

B) Availability of land for urban development

C) Existing industrial activities that could promote the clustering of economic activities

D) Most relevant touristic area with around 700 rooms and extension plans

E) Current construction of the cross docking port (port de transbordement) with the creation of 20,000 new jobs.

Towards Léogane:

The second direction, towards Léogane has resulted into a 20 km congested corridor that strongly relies on the city of Port-Au-Prince for jobs and service provision. This insufficient supply of economic activities and services has turned the corridor into a continuous succession of mostly bedroom communities without a strong spatial connection. This type of development has not been able to unlock the potential of the south corridor.

Towards Croix-Des-Bouquets and Ganthier:

The third direction towards Croix-des-Bouquets and Ganthier along the Route Nationale 8 does not present an economic asset, but in contrary, is affecting negatively the agricultural production. The growth towards the plain of Cul-de-Sac is limiting the remaining agricultural land in Croix-des-Bouquets.

Towards the hills behind Pétionville and Kenscoff:

Difficult topography: steep slopes limiting the growth on the south

Finally, the fourth direction is suffering from the lack of connectivity since there is no access to a main road. Also, the topography of the area make it more difficult to provide services.

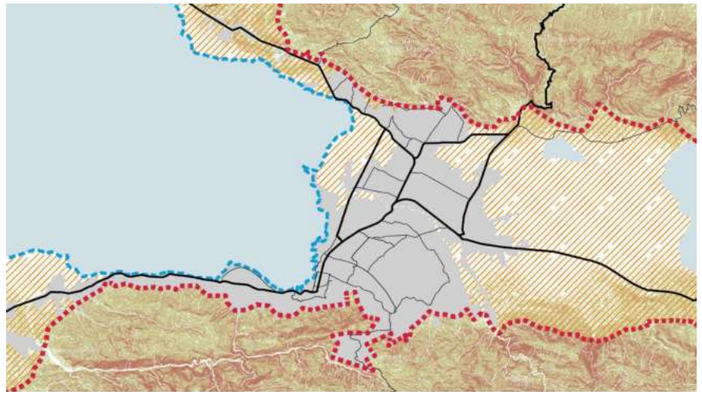
5.7. CONSTRAINTS TO THE URBAN DEVELOPMENT OF THE METROPOLITAN AREA OF PORT-AU-PRINCE

Natural limits

Topographic limit

Sea limit

Possible extension areas



There are natural limitations for the urban growth of Port-au-Prince. The extreme topography limits urbanization and infrastructure to develop further north and south from the city core. The sea on the west is considered as a natural boundary that prevents the area to grow towards the east (See. Fig.38).

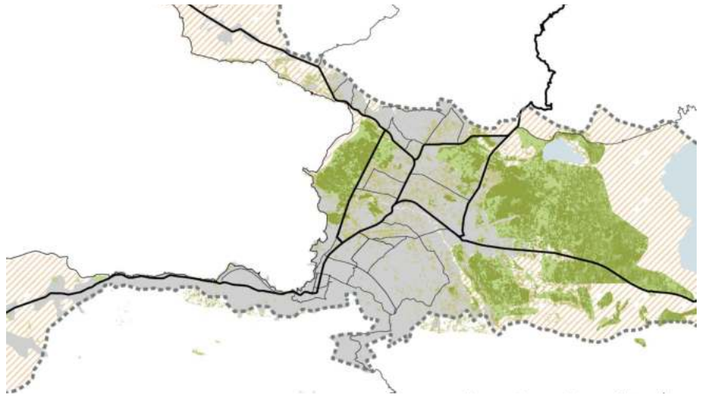
Fig.40: Natural constraints for urban development

Agricultural areas

Agricultural areas

Green areas

Possible extension areas



The agricultural areas found in the western and eastern parts of Port-au-Prince are viewed upon as a constraint for urban growth (See. Fig.39). Yet are areas used for agricultural purposes highly recommended to preserve. The community could benefit from the agricultural areas in terms of enabled activities and green areas gained to the city.

Fig.41: Agricultural constraints for urban development

Environmental risks

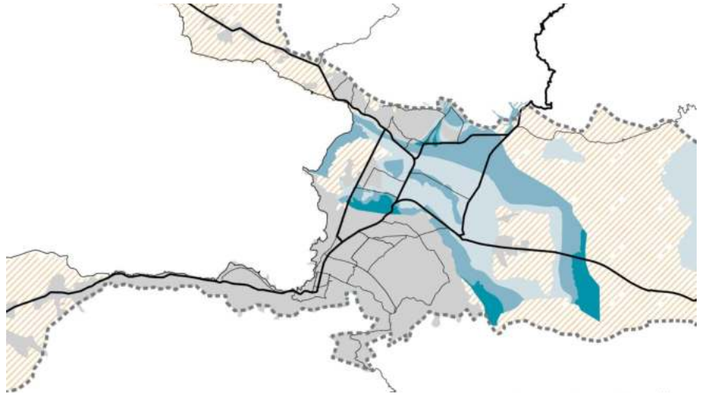
Flood risk

High

Medium

Low

Possible extension areas



The south-eastern parts of Port-au-Prince are areas with high environmental risks of flooding (See. Fig.40). Hence, these areas should not be built upon and extension of the city towards that direction should not be encouraged.

Fig.42: Environmental constraints for urban development

There is a limited amount of land suitable for urban development given the topography, the agricultural areas and the environmental constrains. These suitable land needs to be planned in advance following the principles of compactness, connectivity, social inclusiveness and environmental protection.

Taking the presented obstacles into consideration, the suitable land in the north-west towards Cabaret and along the Route Nationale 1, present the clearest opportunity to develop a new urban area (See. Fig.41).

Through a well-connected system of main roads, main arteries and secondary streets with alternative routes that would prevent congestion, the area would foster the accessibility of the residents of the metropolitan area to jobs and services.

Adding up the different analyzed areas at the metropolitan scale there is a deficit of urban land to be developed to accommodate the expected growth. Therefore, the combination of strategies of planned city extensions and urban densification and regeneration would be used simultaneously.

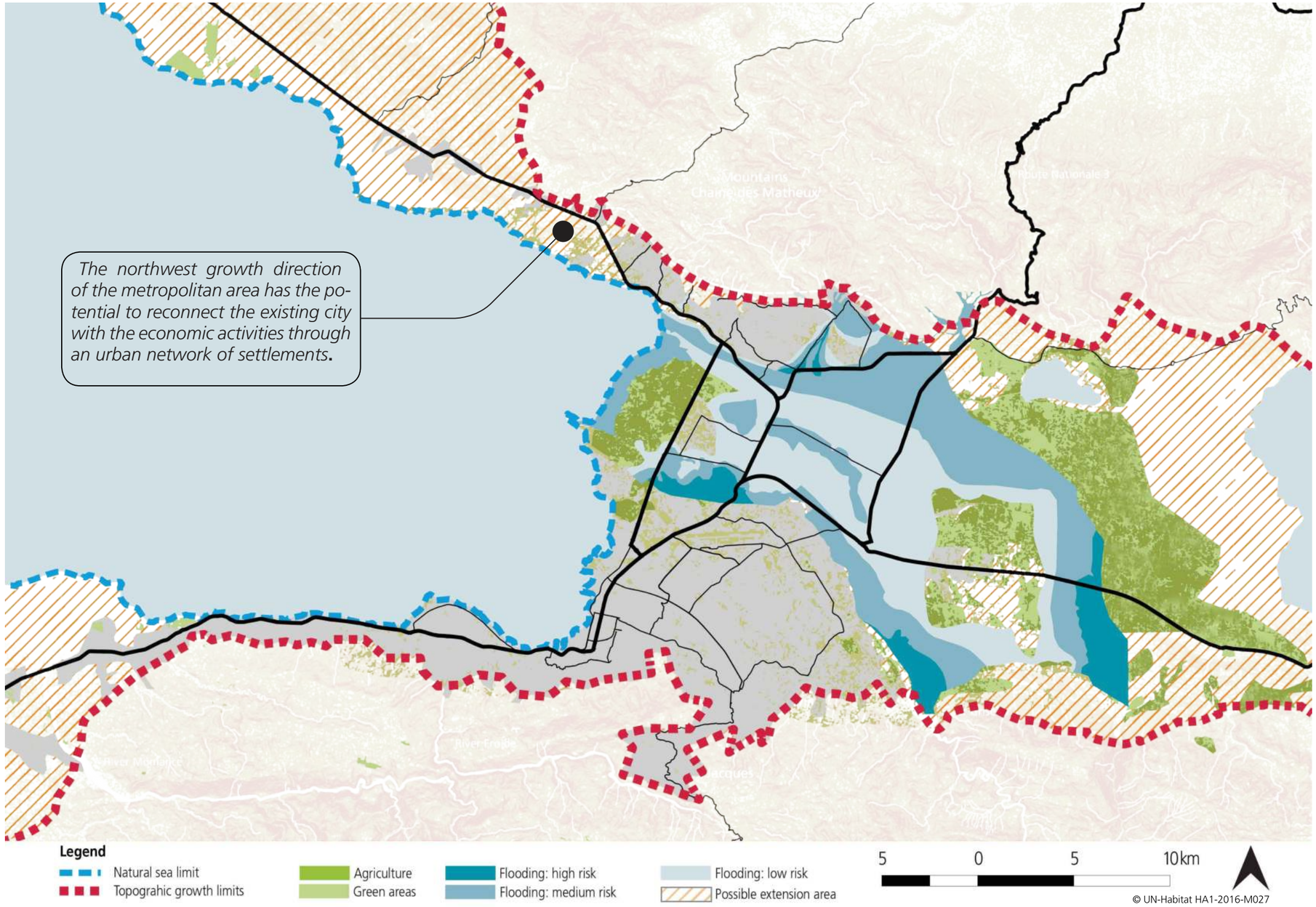


Fig.43: Land availability and growth direction in the Metropolitan area

6. CANAAN WIDE AREA SCALE

6.1. ENVIRONMENTAL SITE CONDITIONS

The **topography** of the northern part of the metropolitan area is shaped by the Cul-de-Sac plain north of the Riviere Grisse to the south, the slopes of the Matheux chain to the north, the coastline of the Gonave Bay to the east and the Trou Caiman and the Saumatre lacs' basin to the east.

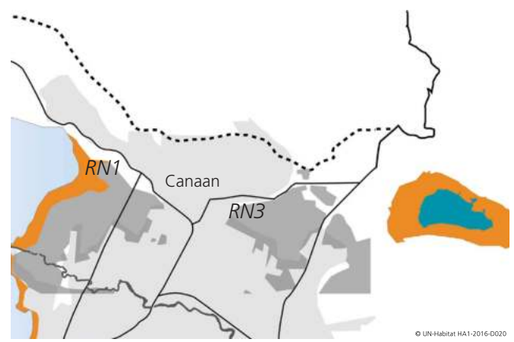
Located to the north of the national roads 1 and 3, as well as the access road between the two, the topography of area of Canaan is determined by the lower slopes of the Matheux chain and the drainage basins of some of its ravines. These slopes are soon too steep for convenient urbanization.

Although urban sprawl has taken over a good part of the Cul-de-Sac plain, there still are some large areas of **agricultural land** with different levels of productivity.

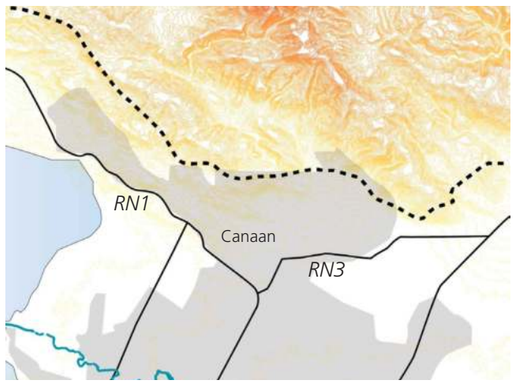
Parts of the Cul-de-Sac plain, the coastal areas and the ejection cones of the main ravines coming from the Matheux chain are exposed to high **flooding risks**. However other low and moderate risk areas could be made suitable for development through a watershed management plan for the area.

Although some parts have started to be occupied, the areas on the steeper slopes at the north of the area are not suitable for development and are exposed to **erosion risks**. Lower areas are suitable for development while a new extension is possible to the northwest where the risk is low.

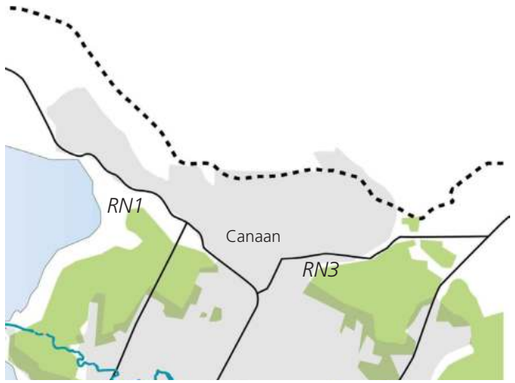
Natural protected areas



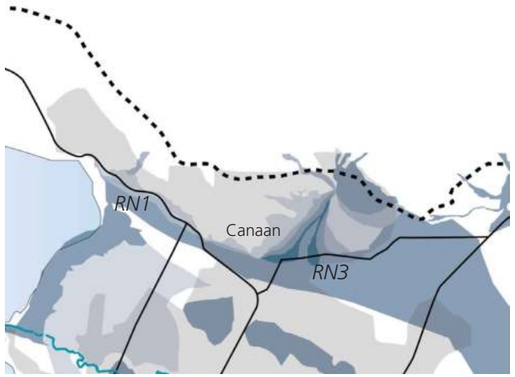
Topography



Agricultural land



Flooding risk



Erosion risk

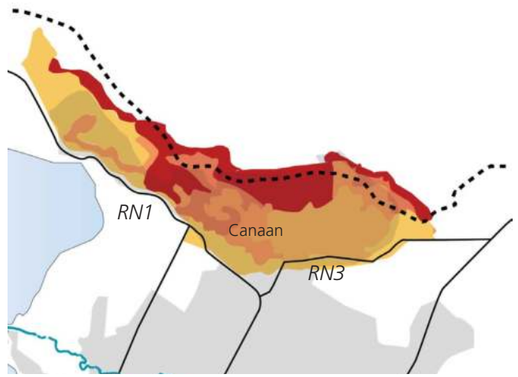


Fig.44: Environmental risk diagrams

Due to the peculiar landscape of Port-au-Prince, some environmental challenges has to be put into consideration when establishing a plan for the region.

From the physical point of view, the topography of Canaan is very complex, with the vast majority of the area with slopes over 8%, rendering it difficult to provide adequate road, street connectivity, infrastructure and services provision.

Another topographic obstacle are low planes such as streams, ravines and rivers. The occurrence of flooding in these areas are highly possible.

The neighborhood of Canaan II are most threatened by erosion (See. Fig.45) together with Bellevue and Sources Puantes which are considered the most affected by steepness of slopes. Whilst Corail, Village Moderne, Canaan III and Onaville leaps the highest risks in for flooding (See. Fig.43).

Typography and Hydrography

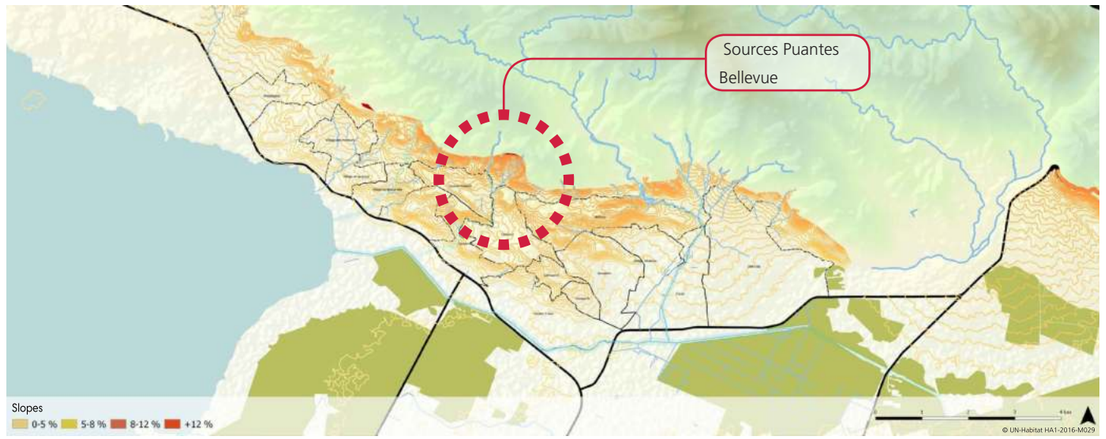


Fig.45: Most affected neighbourhood by the steepness of slopes

Flooding Risk

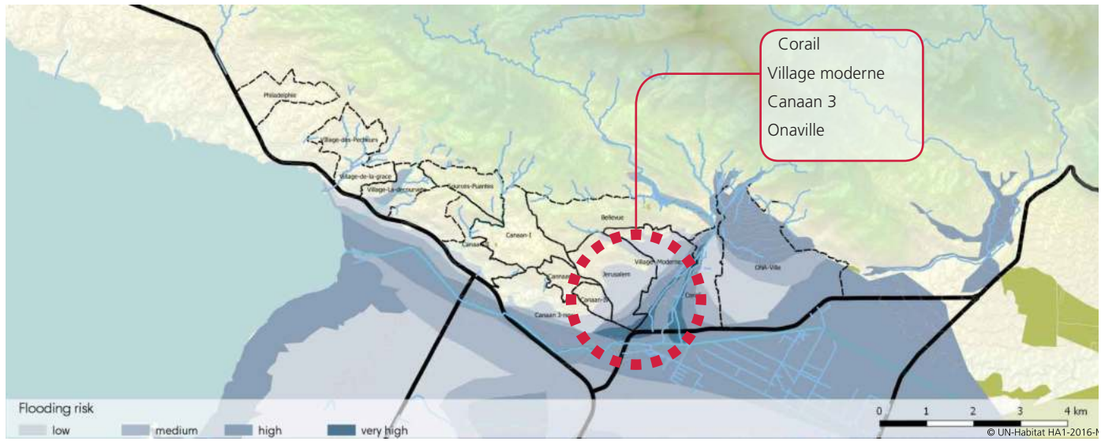


Fig.46: Most affected neighbourhood by flooding

Erosion Risk

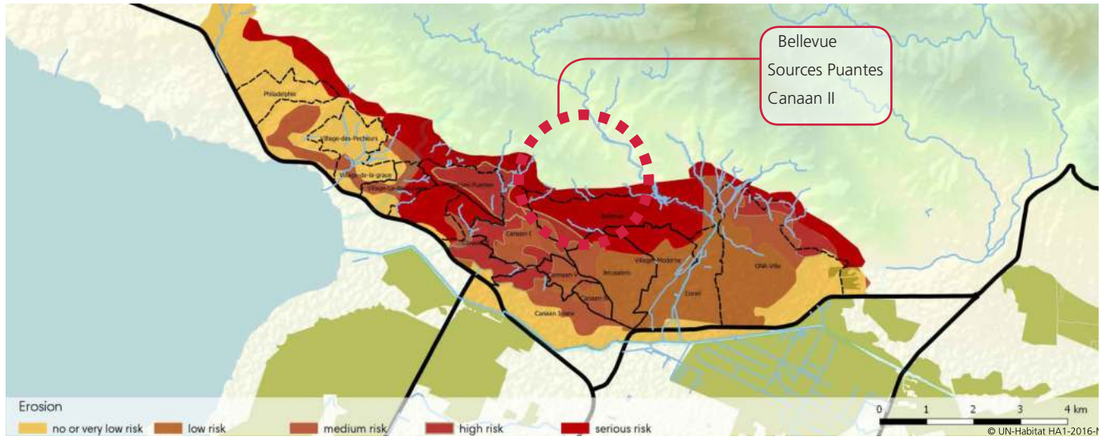


Fig.47: Most affected neighbourhood by erosion

6.2. WATERSHED ANALYSIS

STRAHLER STREAM ORDER ANALYSIS

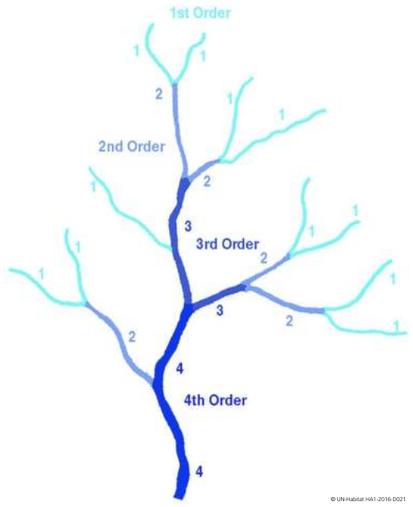


Fig.48: Strahler stream order diagram

The classification of streams lies in relation to other streams in the watershed:

1st order streams can be considered as the starter stream. They are usually located in the upper part of the watershed.

2nd order streams are the result of two or more first order streams joining together.

3rd order streams are fed by second order streams.

The higher the stream order is, the larger its size. Stream orders above 7 are considers large rivers.

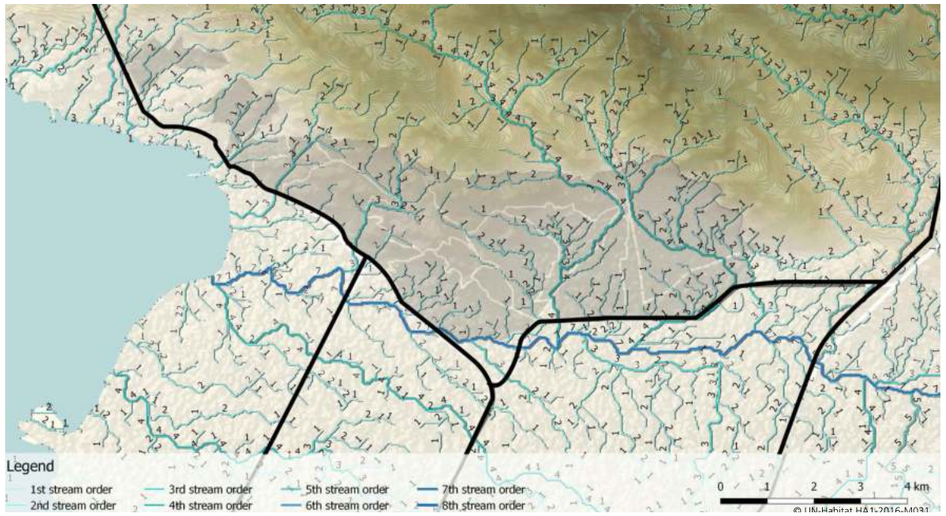


Fig.50: Strahler stream order of the northern area of Port-Au-Prince

WATERSHEDS DELINEATION

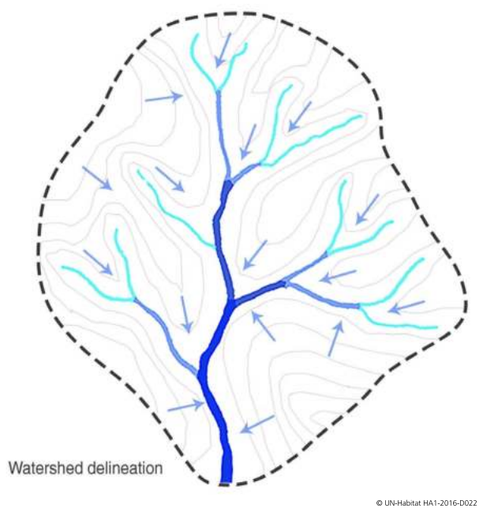


Fig.49: Watershed delineation diagram

The watersheds are classified according to areas of land where water is flowing in the same direction towards different river, basins or seas. The delineation of the watershed is affected by the topography of the area. Each colored area (figure 49) is defined as a watershed where the water flow is directed towards the lowest point of this area.

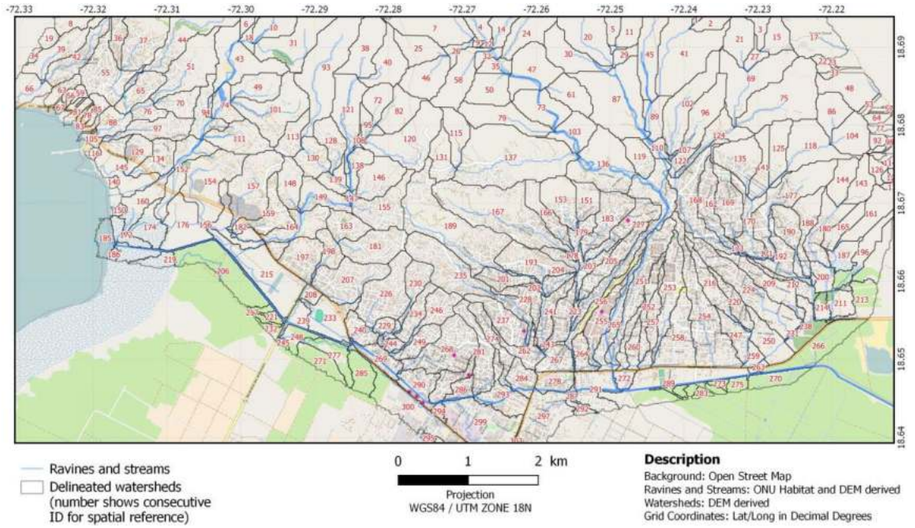


Fig.51: Numbered watersheds and streams on the Open Street Map

NATURAL DEPRESSIONS

Natural depressions are low-lying landscape features that have no natural drainage. Hence, if rain falls, water will pond in these areas. Using GIS analysis, such areas can be identified (Figure 5). It must be stressed that outside these areas flooding will also occur (through overland flow from higher slopes or streams breaching the banks), but that these depression areas are most prone to flooding from precipitation events. As can be seen, especially the region near Route National 3 contains depressions due to the road embankment.

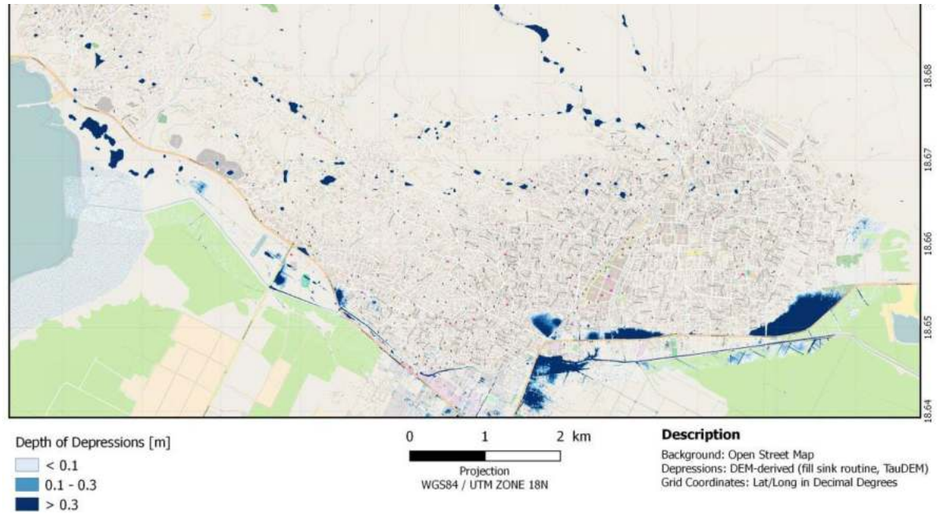


Fig.53: Watershed outlets (pour points) of the northern area of Port-Au-Prince

POUR POINTS ANALYSIS

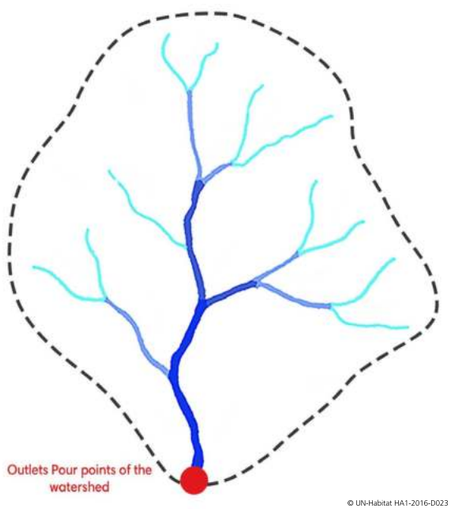


Fig.52: Watershed outlet diagram

The outlet or the pour point is a single location where the contiguous region of the watershed is drained into. It is the lowest point along the boundary of a watershed and where water actually flows out of the area.

Most of the watersheds in the northern part of Port-Au-Prince are drained into outlets located along the Boucambrou Canal. The water is then drained through the Canal to the sea.

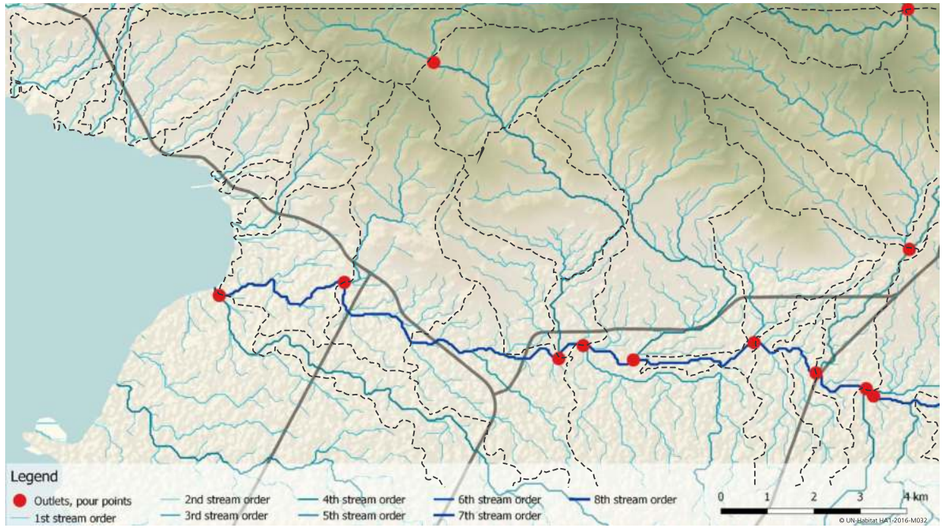


Fig.54: Watershed outlets (pour points) of the northern area of Port-Au-Prince

WATERSHED OVERLAPPING WITH INFRASTRUCTURE

Many streams overlap with the existing roads in the northern area of Port-Au-Prince. When the stream order is big and that it overlaps with a road, the intersection will be considered as a primary point and good management of the water will be needed. When smaller streams coincide with the infrastructure, they are considered as secondary overlapping points.

While the RN1 has many overlapping points, some secondary roads within the northern area have a significant number too. A water management for these roads is mandatory.

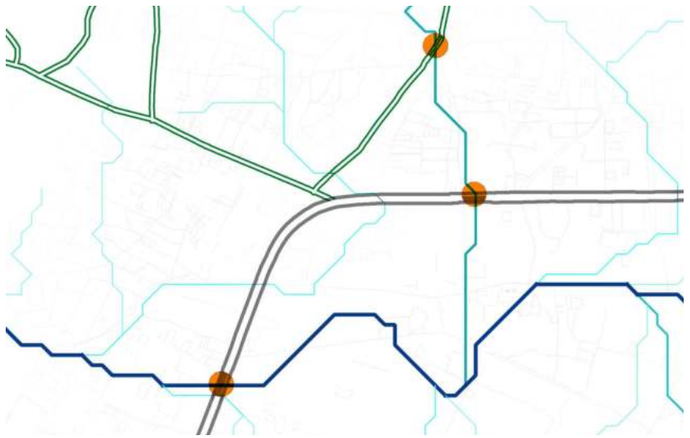


Fig.55: Primary overlapping point diagram

Fig.56: Secondary overlapping point diagram

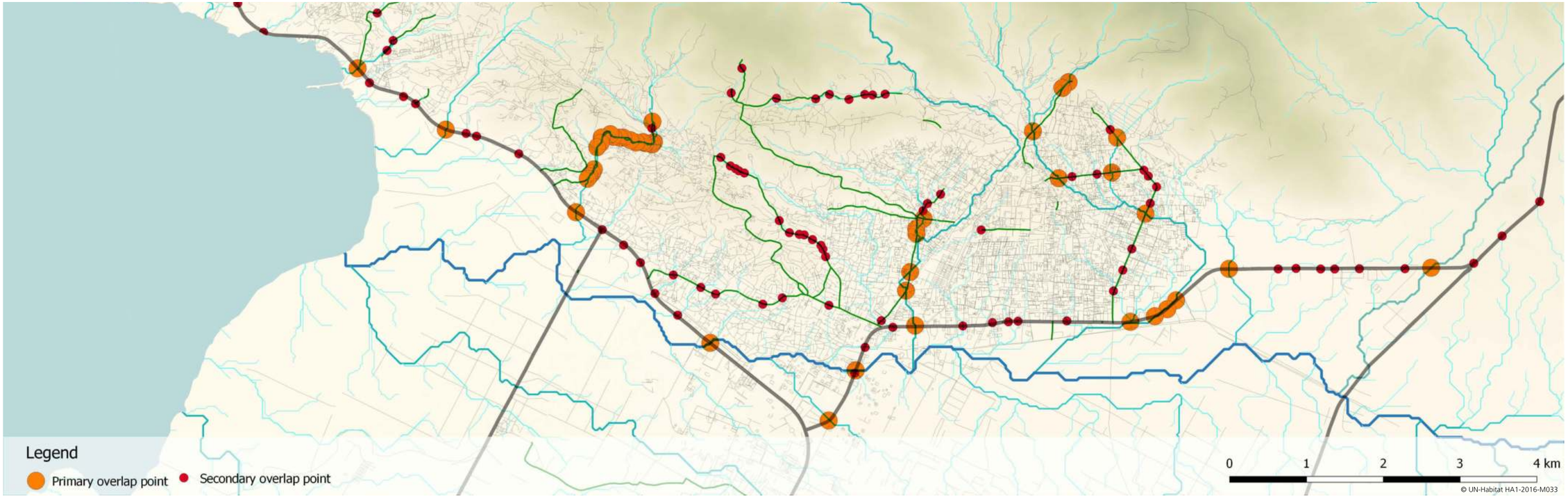


Fig.57: Watershed delineation of the northern area of Port-Au-Prince

6.3. SUITABILITY

Land suitability is the analysis of an area to identify lands which are devoided of any environmental risks or constraints and where a possible development can occur. Once the environmental site conditions are analyzed (topography, agriculture, flooding and erosion), the land suitability is therefore obtained by overlapping the less risk areas together.

Land availability is reduced inside Canaan due to the limitations imposed by topography, flood prone areas and erosion risk areas. Agriculture does not represent a very high percentage of the land use and it appears sporadically in some of the areas of Canaan that are to Boucambrou canal which drain the overflow from the Trou Caiman lake. Once these variables are crossed, there is a limited number of areas that could be used for a planned city extension (as shown in the suitability analysis), strategy that should be complemented with the densification of existing areas.

Following the analysis the most suitable areas are St.Christophe, Philadelphie, Corail, Onaville and some areas of Canaan.

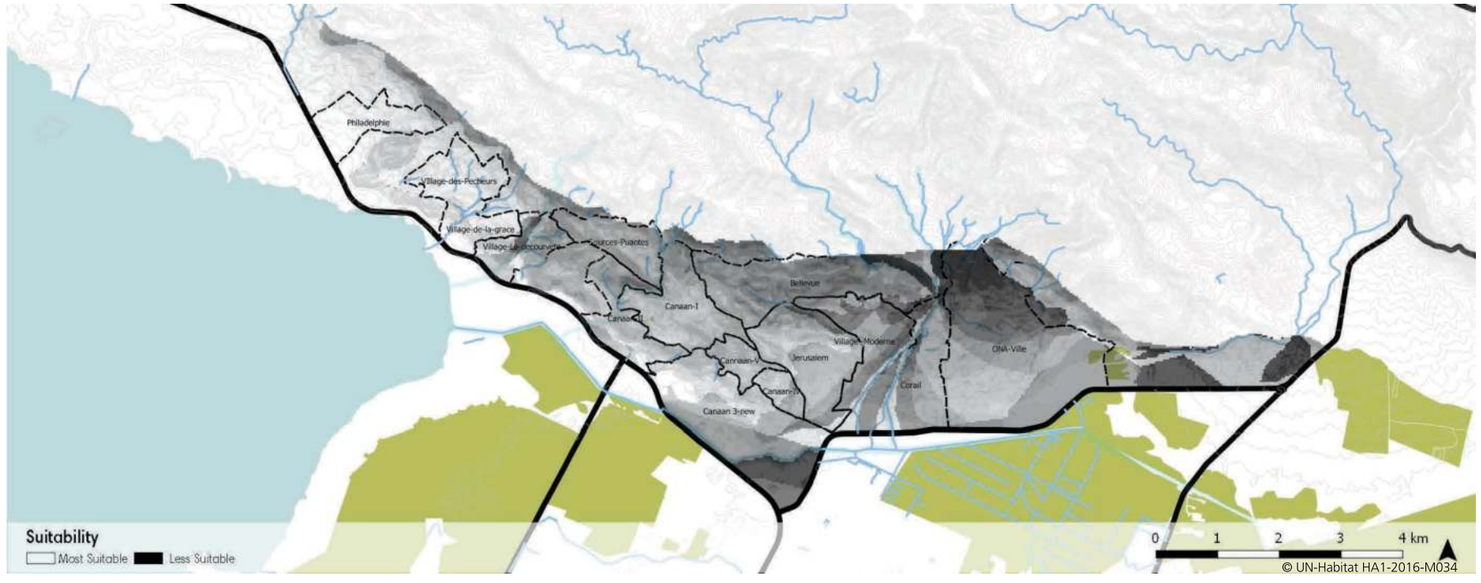


Fig.58: Suitability map of Northern metropolitan Port-Au-Prince and Canaan

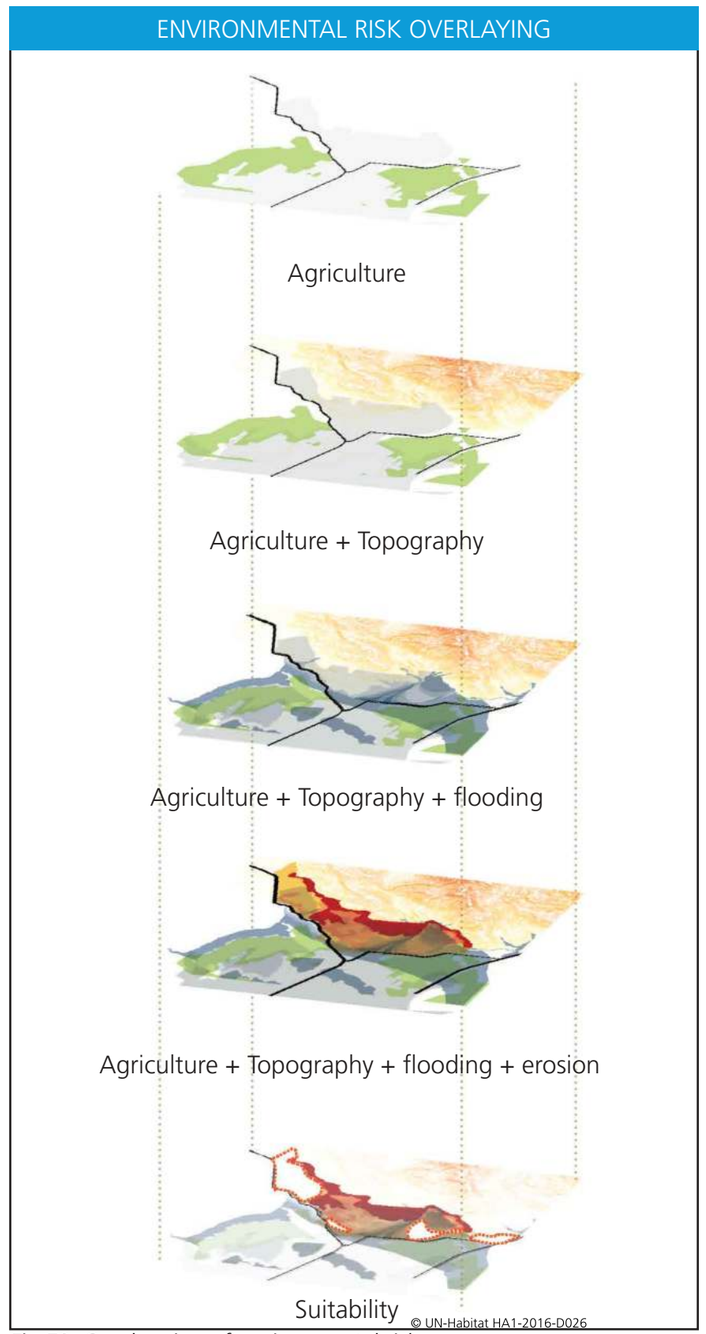
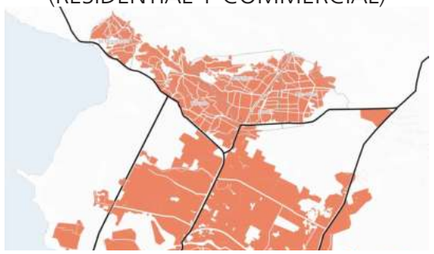


Fig.59: Overlapping of environmental risks to show suitable for development

6.4. EXISTING LAND USES ANALYSIS

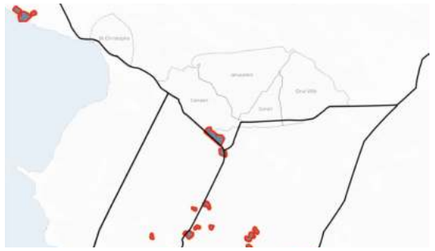
AGRICULTURE

MIXED USE (RESIDENTIAL + COMMERCIAL)



SCRUBLAND

INDUSTRIAL



GREEN AREAS

Fig.60: Land use diagrams of the metropolitan area

Land use in the Canaan wide area:

Agriculture is mainly found in the Cul-de-Sac plain and particularly in the western area between the Route 9, the coast and the north of the city of Croix-des-Bouquets on either side of RN3. Agricultural land is found along irrigation or water management channels.

Residential land is the most prominent land use and it is occupying most of the northern area; the neighbourhoods along the Route National 1 and 3. Bear in mind that **commercial** areas are included in the residential zoning, considered as a mixed use. I.e commercials services facing the street whilst the residential are found on top or behind. The commercial business and small workshops provide jobs to a very small part of the residents.

Scrubland is mostly found in Chambrun which is situated in the south east of Lumane Casimir village.

Industrial areas are not so many and they are located along the Route National 1 concentrated mostly in Croix-des-Bouquets area.

Green areas are limited, and mostly located in the south of Ona-Ville along the Route Nationale 3.

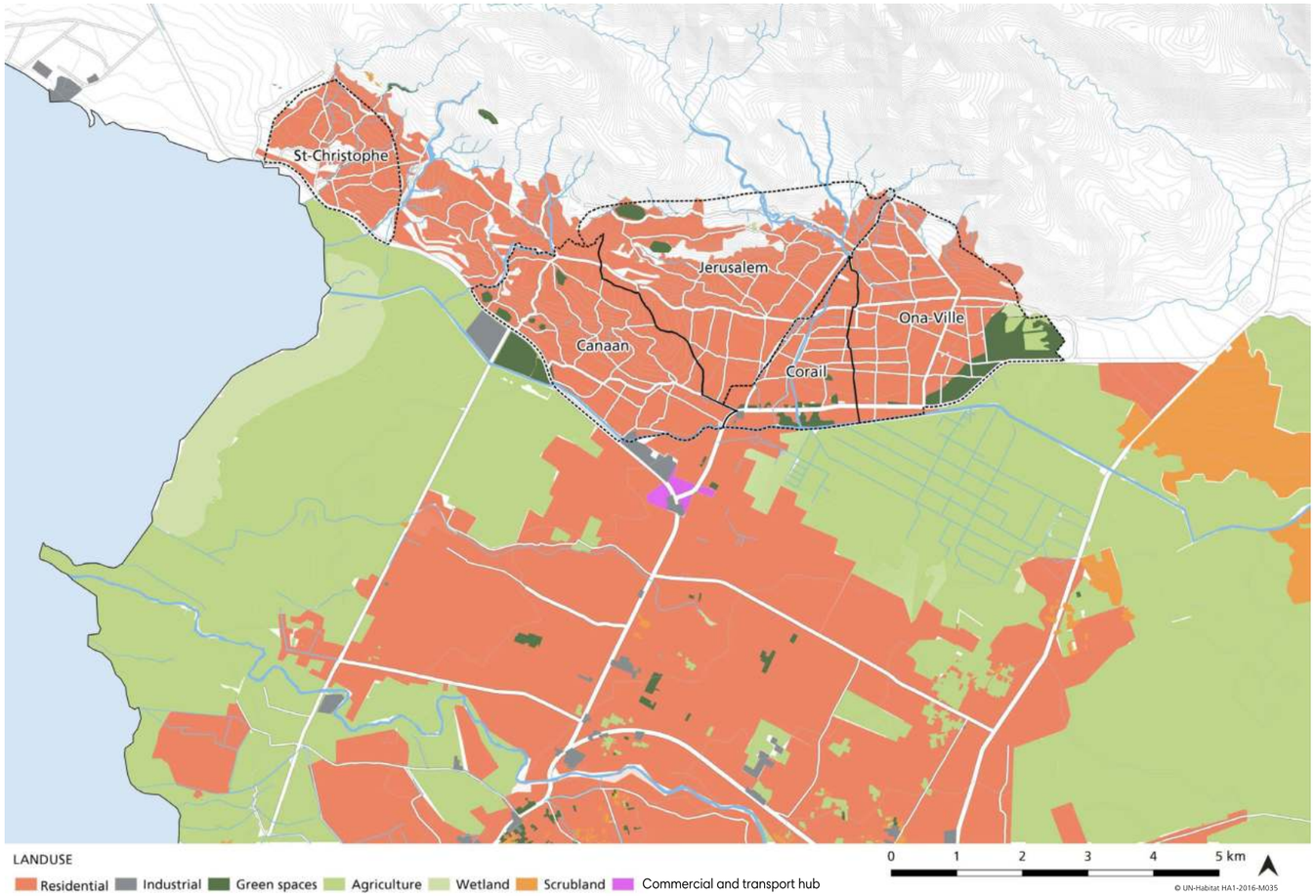


Fig.61: Land use map of the Metropolitan area

6.5. URBAN GROWTH CHALLENGE

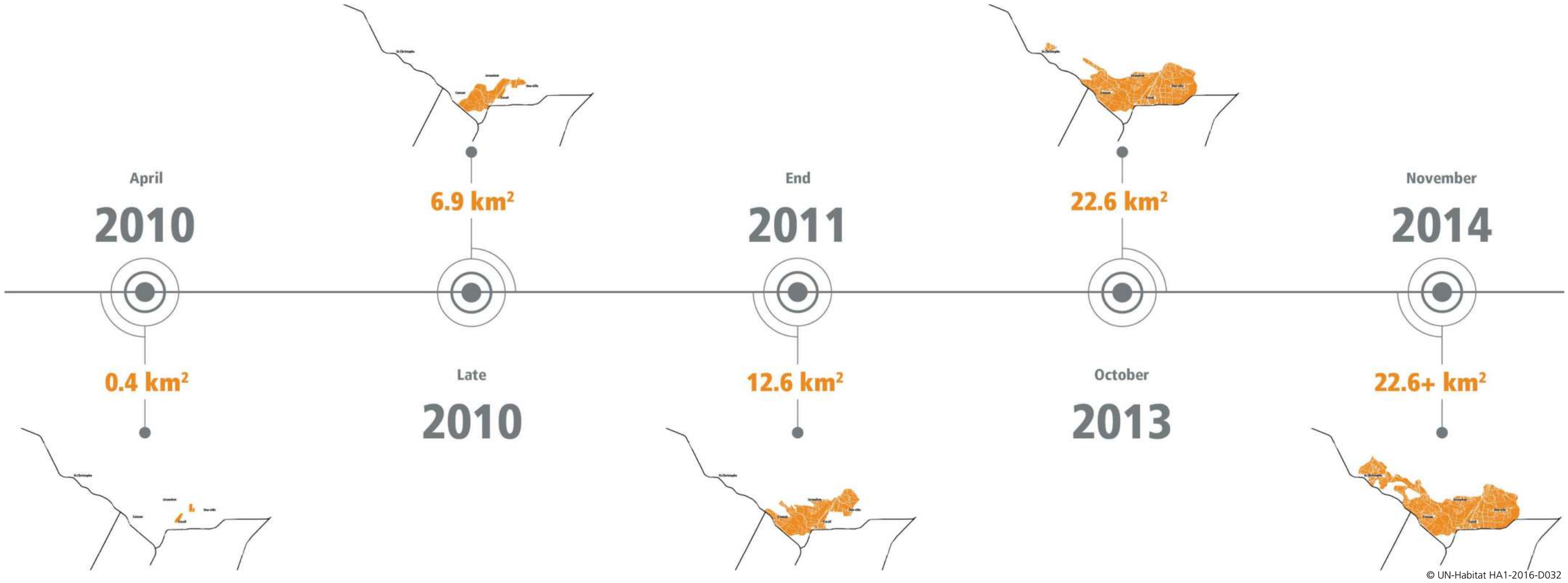


Fig.62: Urban growth from 2010 till 2014 of North Metropolitan Port-Au-Prince

The metropolitan area of Port-Au-Prince had in 2015 an estimated population of over 2.6 million inhabitants. After the earthquake that struck Haiti in 2010, the area of Canaan, located north from the metropolitan area of Port-Au-Prince, was declared as public utility land. This resulted in a large number of inhabitants, many affected by the earthquake but not all, moving to Canaan, from the centre to the outskirts of Port-Au-Prince. Witnessing a very rapid urbanization, the Canaan area has grown from 6.9 km2 in late 2010 to 22.6 km2 in November 2014. The total urban growth of the area in these 4 years equals 15.7 km2. Currently, a population of around 200,000 people is living in this northern suburb, which has developed informally and does not provide an adequate service and infrastructure network. Only about 15% of the settled Canaan area has been formally planned (mostly IDP camps planned with a firm grid layout), while around 85% of the area has been informally developed.

Estimated growth of Canaan

	2015	2020	2025	2030	2035
Average Growth Scenario 1.5%	200,000	215,000	232,000	250,000	269,000
Growth Scenario 4%	200,000	243,000	296,000	360,000	438,000
High Growth Scenario 6%	200,000	248,000	301,700	367,000	446,600

Table 6. Estimated growth of Canaan, Haiti: Current Population 200,000 inhabitants. Source: American Red Cross Baseline report

6.6. URBAN STRUCTURE

6.6.1. ROAD NETWORK

The road network in Canaan wide area is not well developed and neighbourhoods are dispersed according to the mountainous geography with no good inter-connection. The national roads 1 and 3 can be accessed via 5 secondary roads in the northern part of Canaan. However more roads also have direct access to the national road which is something that needs to be avoided. RN1 and RN3 link the North-eastern and the North-western part of Haiti to the South. Industries and some services are found along the RN1 making the road highly congested. RN9 is used by trucks and trailers to cross from Port-au-Prince towards the north-eastern area; this direction is commonly used for by tourist that reach for the coast.

At the planning stage, it is important to consider road hierarchy for it results in better traffic circulation and it improves accessibility for the residents. According to the rules and regulations of urban planning in Haiti[1], no road should be less than 13 metres wide with 7 metres tarmac. The maximum slope should not exceed 5% for the national and the arterial roads, 8% for the main roads and 12% for the secondary streets. The hierarchy of roads as per the regulations[2] is as follow:

- National road: 32 metres wide
- Industrial road: 15 metres
- Arterial roads: 23 metres
- Main roads: 15 metres
- Secondary streets: 13 metres

1. Lois et règlements d'urbanisme, synthèse des textes législatifs et règlementaires de l'urbanisme en vigueur en Haïti, CIAT 2013
2. Décret du 6 Janvier 1982. Article 31

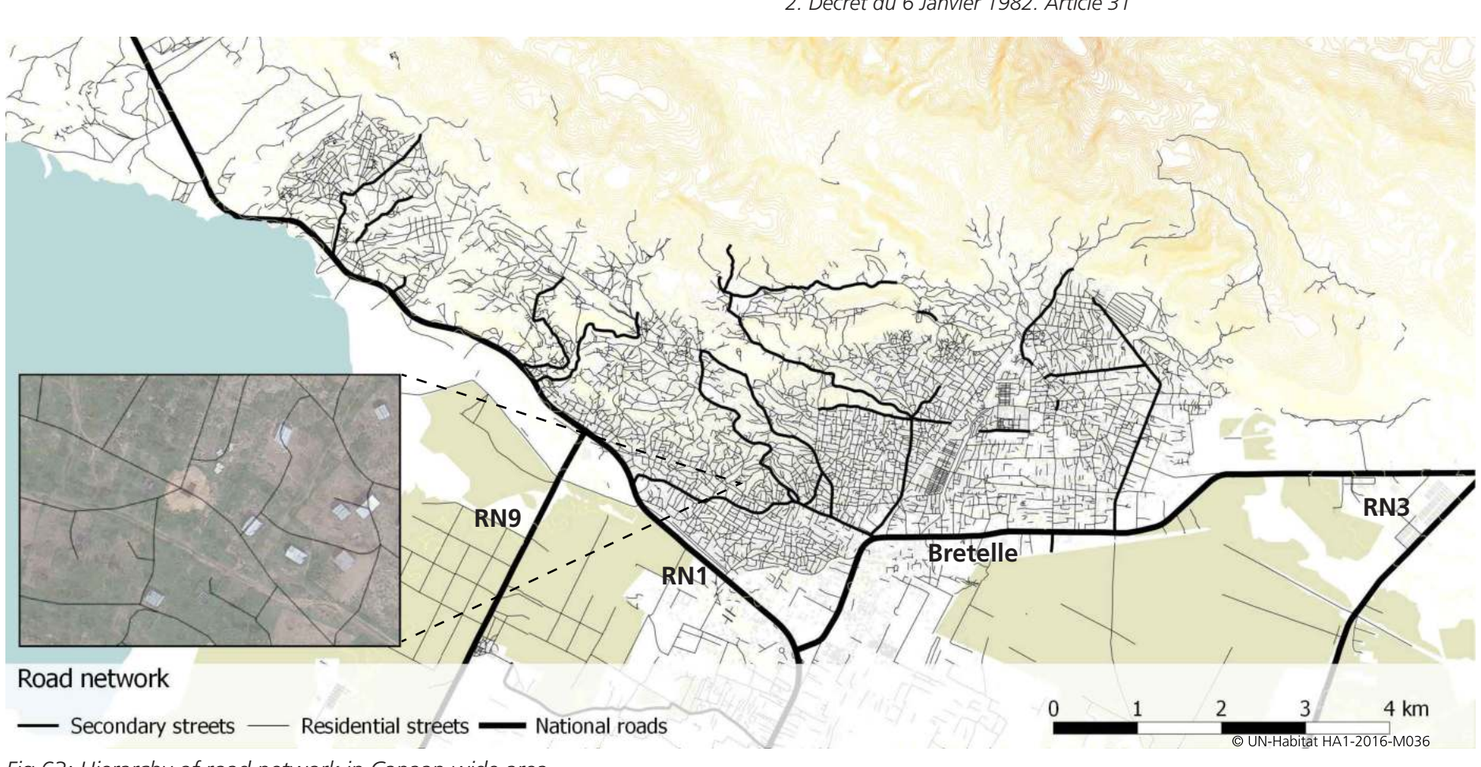
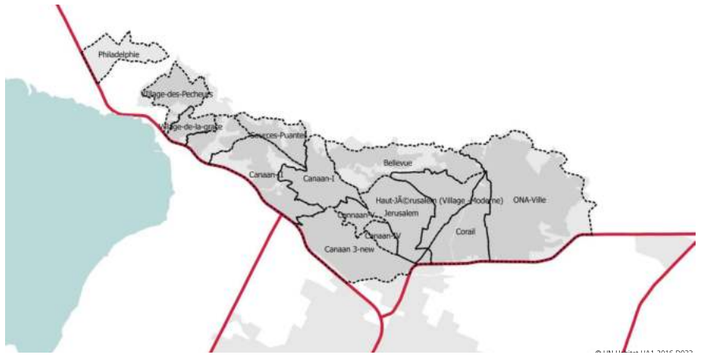
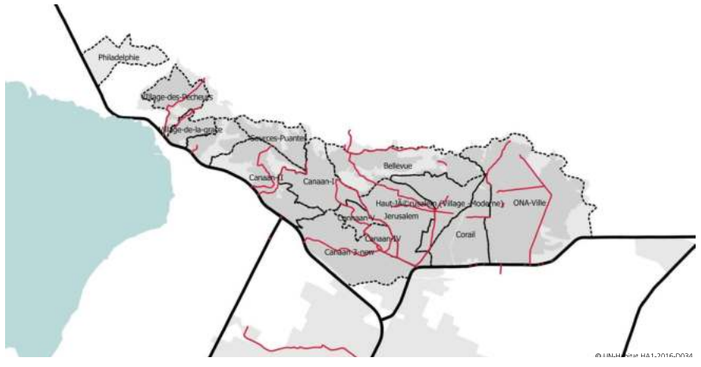


Fig.63: Hierarchy of road network in Canaan wide area.

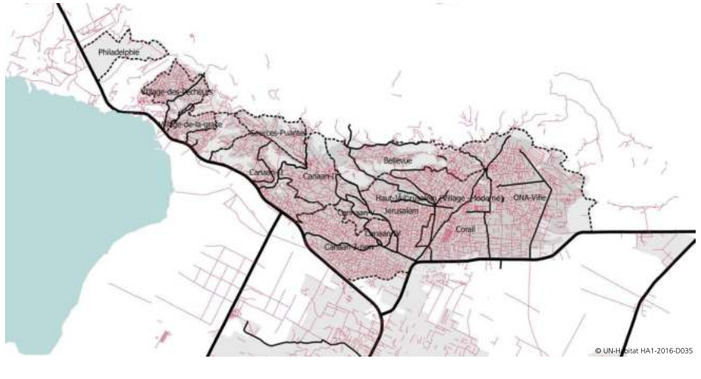
National road



Main roads



Secondary streets



6.6.2. PUBLIC SPACES

The public spaces in the northern area of Canaan are found mostly in Corail and Canaan 3. Some areas like Canaan II, Ona-Ville and Bellevue do not have enough public spaces. The dynamics of these spaces differ according to their social activities, and therefore, design considerations for each of them is mandatory to keep the spaces safe, vibrant and socially inclusive.

According to the World Health Organization (WHO), one should walk no more than 15 minutes to reach a public space. For that, a network of public space should be well though-thoroughly using a buffer radius of 400m distance in-between.

Some existing public spaces are not well maintained and therefore, for the future, it is advisable to think about community participation as a long term solution for the improvement of public spaces and the quality of social life within the city. A similar exercise was conducted for the public space of Bon Repos[3] using Minecraft (digital videogame) with the purpose of engaging the inhabitants in re-designing the market and the bus station area.

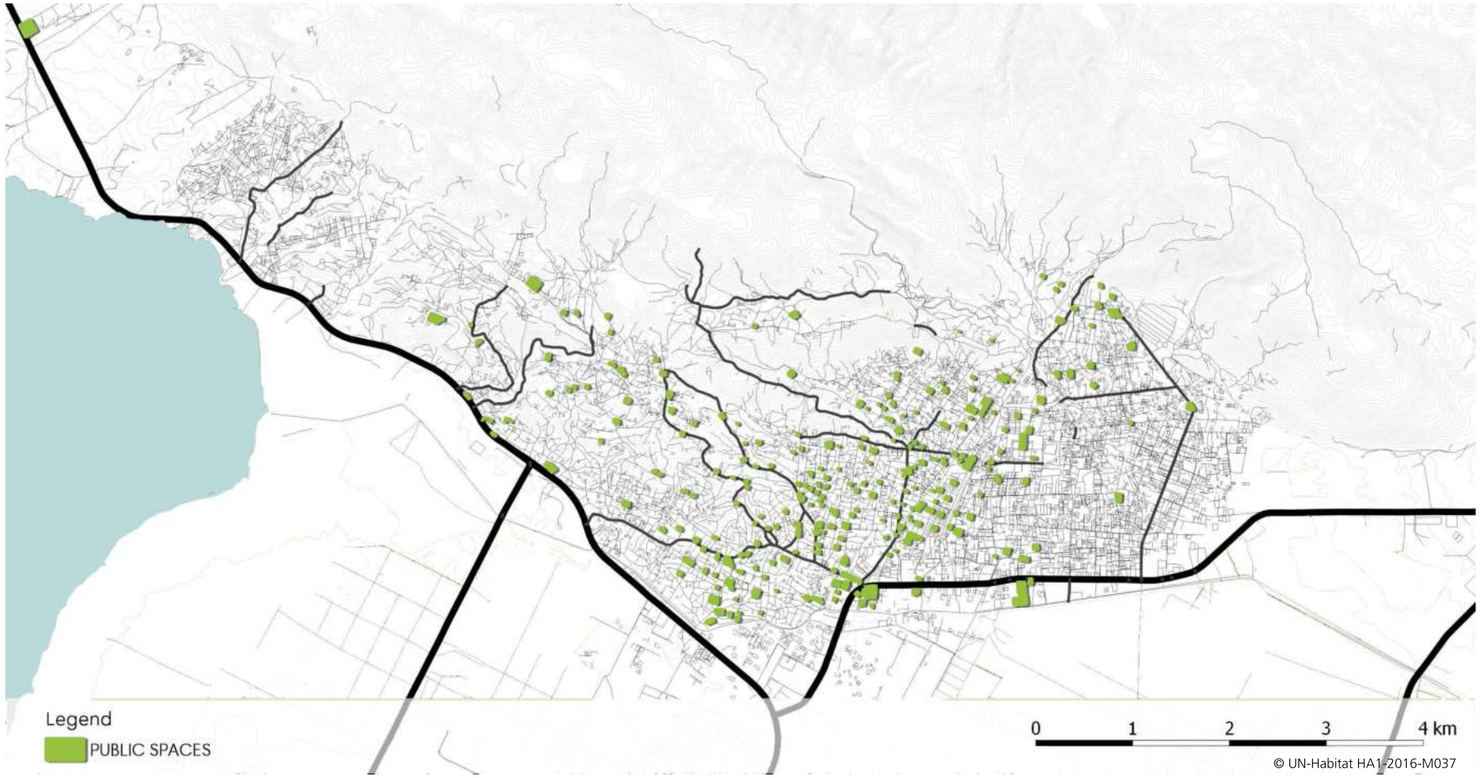


Fig.65: Public spaces in Canaan wide area.

Fig.64: Open market

Fig.66: Park

Fig.67: Sports field

3. Bon Repos, project as catalyst for the sustainable urban development of canaan.

Existing urban structure

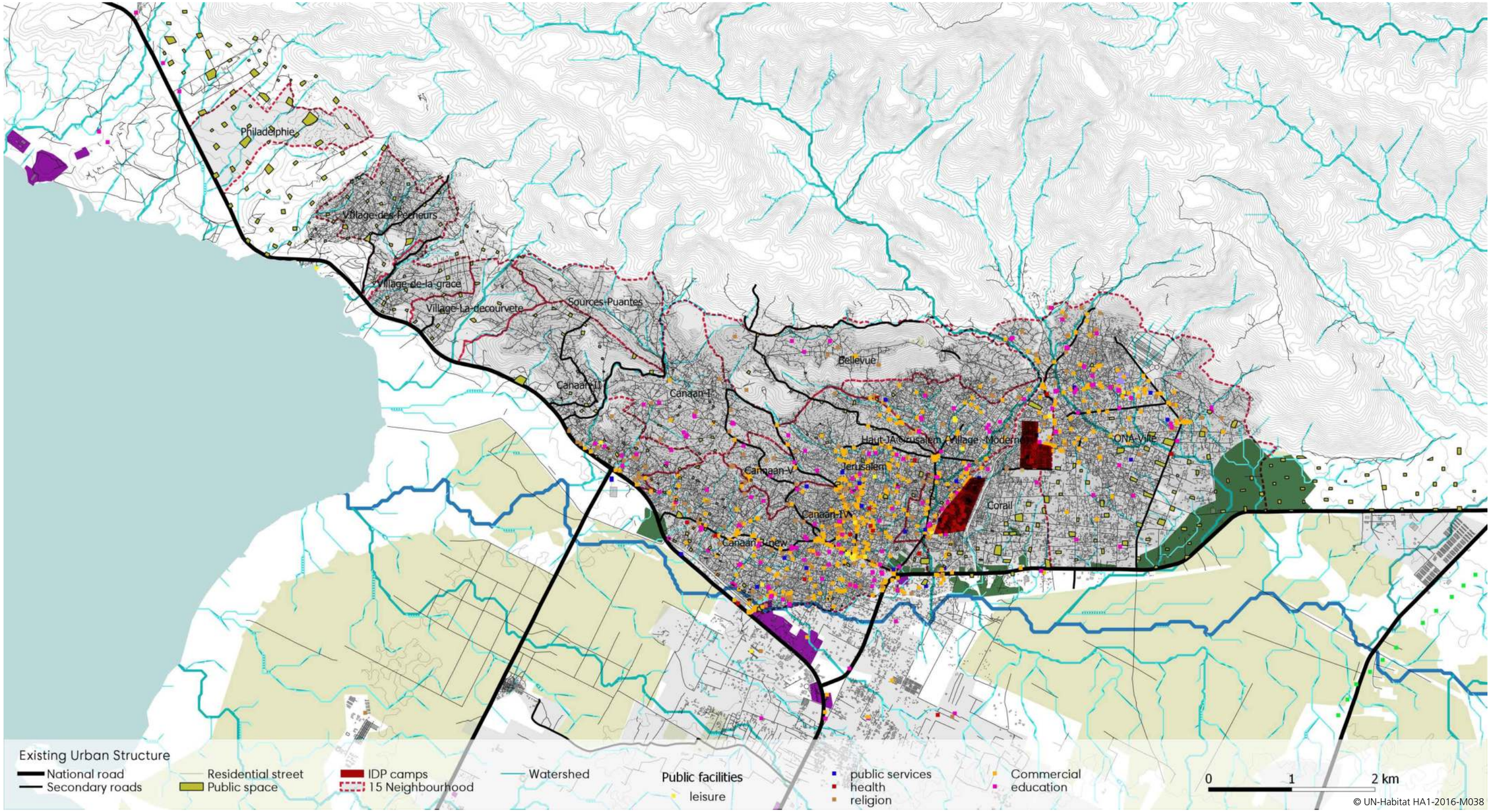


Fig.68: Road network and access points to the Route Nationale 1 at the Canaan wide area

6.7. INFRASTRUCTURE AND PUBLIC SERVICES

6.7.1. WATER AND SANITATION

Haiti faces some constraints in terms of water supply and sanitation. In 2012, only 64,8 % of households had access to water and 31,3% to sanitation. Water and sanitation facilities such as water points, latrines and others are found dispersed around Canaan area but not covering the whole. Some settlements still don't have access to the basic need of water.

Clean water is scarce and many neighborhoods do not have access to it (See. Fig.68). There is a good number of working hand pumps in the lower areas of Canaan, Jerusalem and Ona-Ville. In other areas, families buy water from water trucks. Some families stock rain water. There is also an extensive network of drinking water kiosks.

There is no waste water system and almost 37% of the households have pit latrine with slab and 13% have modern flush toilet with septic tank.

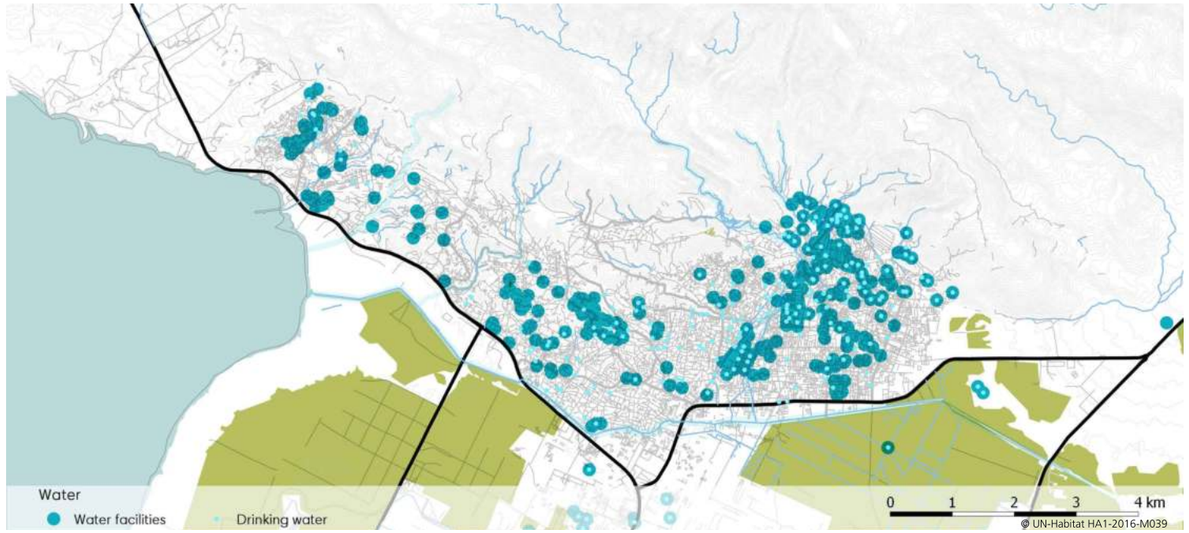


Fig.69: Water supply in Canaan wide area (Source: Open Street Map)

6.7.2. DRAINAGE

A drainage network plan is necessary to increase safety and living quality for the local population. In the case of the Canaan Area, there is no proper drainage network plan other than the natural streams which conflict with the road infrastructure at some points. This results, at multiple locations, in directly flood related problems.

Considering long term sustainability, a watershed management in upstream areas could significantly improve the current runoff characteristics and respectively ease the flood problem.

Further to the directly flood related problems, a solid waste management system should go hand in hand with the sustainable operation and maintenance of drainage systems and their hydraulic structures to prevent any risk of blockages.

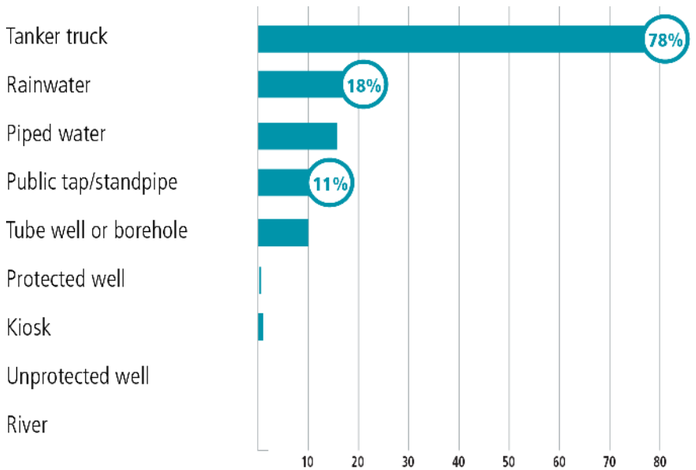


Fig.70: Access to clean water in Canaan wide area. Data: ARC

6.7.3. ELECTRICITY CONNECTIONS

In Haiti, only 12.5% of the population have access to electricity (Ministère des Travaux Publics, Transports et Communications; 2006)

The area has an electrical power deficit. Only the two camps in Corail and parts of the Canaan III neighbourhood have access to electric power. Also, in the Corail camps, generators and solar panels are used, the later for street lighting.

An ever increasing number of informal electrical networks have developed in Canaan over time covering a large portion of the area. In some places local communities set up these systems in a collaborative manner, putting together the necessary funds to buy equipment and materials and pay the skilled labour required as well as the community work to make and put up the electrical posts. In other places, It is private entrepreneurs who built the systems and sell the household connexion for a fee.

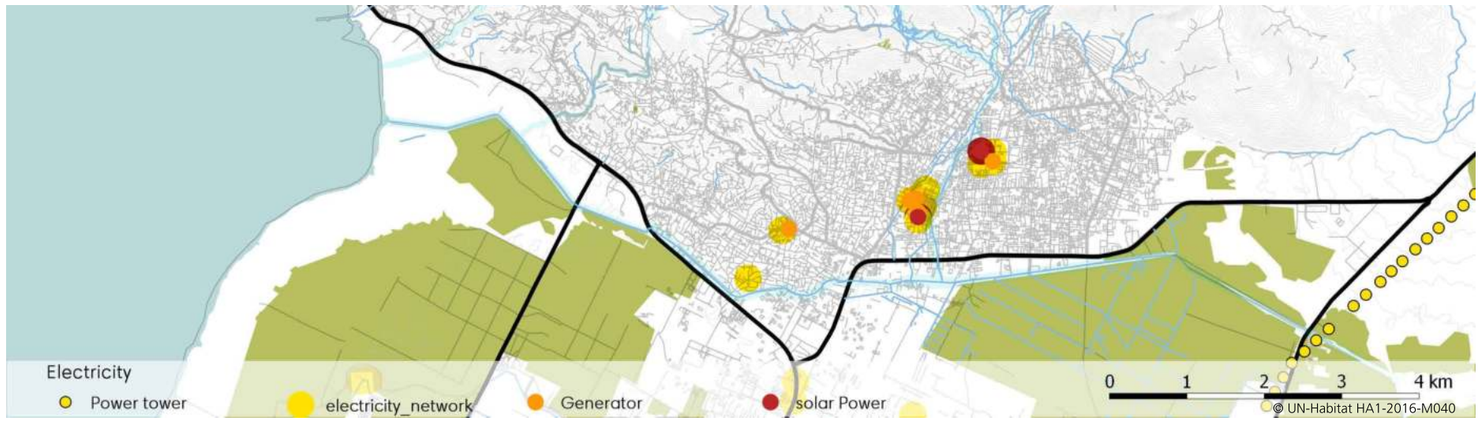


Fig.71: Formal access to electricity (Source: Open Street Map)

6.7.4. TELECOMMUNICATION

Telecommunications in Haiti include radio, television, fixed and mobile telephones, and the Internet. Haiti's telecommunications infrastructure is among the least developed in Latin America and the Caribbean (2010)[4]. In Canaan wide area, there is a cellular phone network availability but no land or Internet lines.

There are three major established providers of high-speed Internet connections in Haiti today: Haiti Networking (or Hainet), Multi-Link and Access Haiti. Most of these companies provide Internet services within Port-Au-Prince and surrounding areas, but to less of an extent in rural areas.

4. World Factbook, U.S. Central Intelligence Agency, 7 January 2014.

6.7.5. EDUCATION

Overall, the educational attainment is low, with 5% (See. Fig.70) of the population being illiterate. The 2010 Haiti earthquake exacerbated the poor educational system by devastating the infrastructures. In Canaan wide area, being newly urbanized, more educational facilities should be put in place to cover the need of the residents.

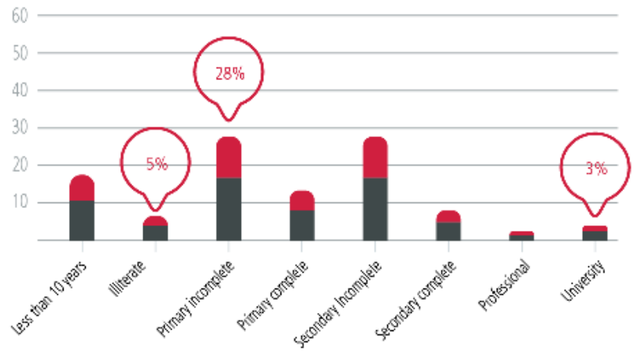


Fig.72: Overall educational attainment of HH members. Data: ARC

6.7.6. HEALTH

Health facilities are not many in Canaan wide area. The existing ones are located in Jerusalem and Canaan III. When asked what urban or public facilities households would like to have access to in their neighborhoods, the most frequently cited answer is health centers (59%) (See. Table 7)

Health Centers	Neighbourhood
61%	Canaan 1
52%	Canaan 2
39%	Canaan 3
58%	Canaan 4
59%	Canaan 5
47%	Sources Puantes
61%	Village Moderne
64%	Bellevue
64%	Jerusalem
60%	Corail Cesselesse
61%	Onaville
65%	La Decouverte
62%	Village Grace de Dieu
75%	Village de Pecheurs
59%	**Total (n=1847)**

Table 7. Main urban/public facility HH would like access to overall and by neighborhood. Data: ARC

6.7.7. OTHER PUBLIC FACILITIES

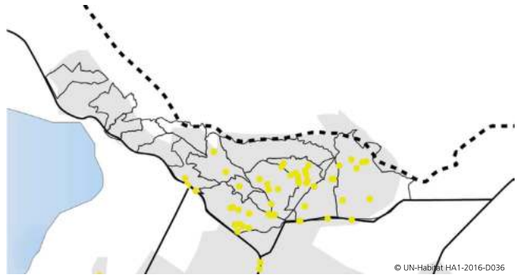
The concentration of public facilities in wide Canaan area is found in Canaan IV, Canaan III and Corail. Commerce facilities are located along main streets and intersections. Religious facilities are dispersed in the area and almost every neighbourhood has a main church.

The north-western part of Canaan is deprived of public utilities, especially in the north part of Canaan II, Sources Puantes, Village de la decouverte, Village de la grace, Village des pecheurs and Philadelphie. A provision of services in these emerging growing neighbourhoods is essential so that they cover the needs of the residents.

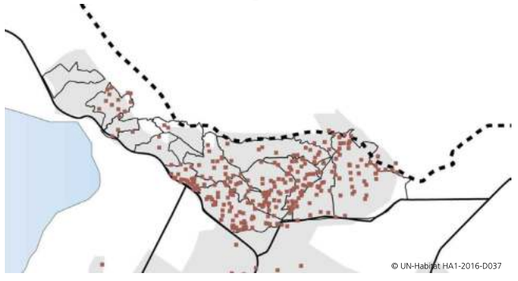
Public facilities should be easily accessible by all and inhabitants should not travel for long distance to reach them. This goes hand-in-hand with the establishment of a good road network that facilitates the access to these public facilities.

To identify the lack of services and the number of necessary added services, a buffer area dimension of 250m is used as an average; note that some services require more as a buffer area (hospital, schools, etc).

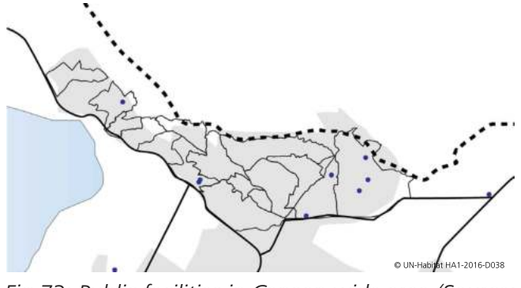
Leisure



Religious



Public services



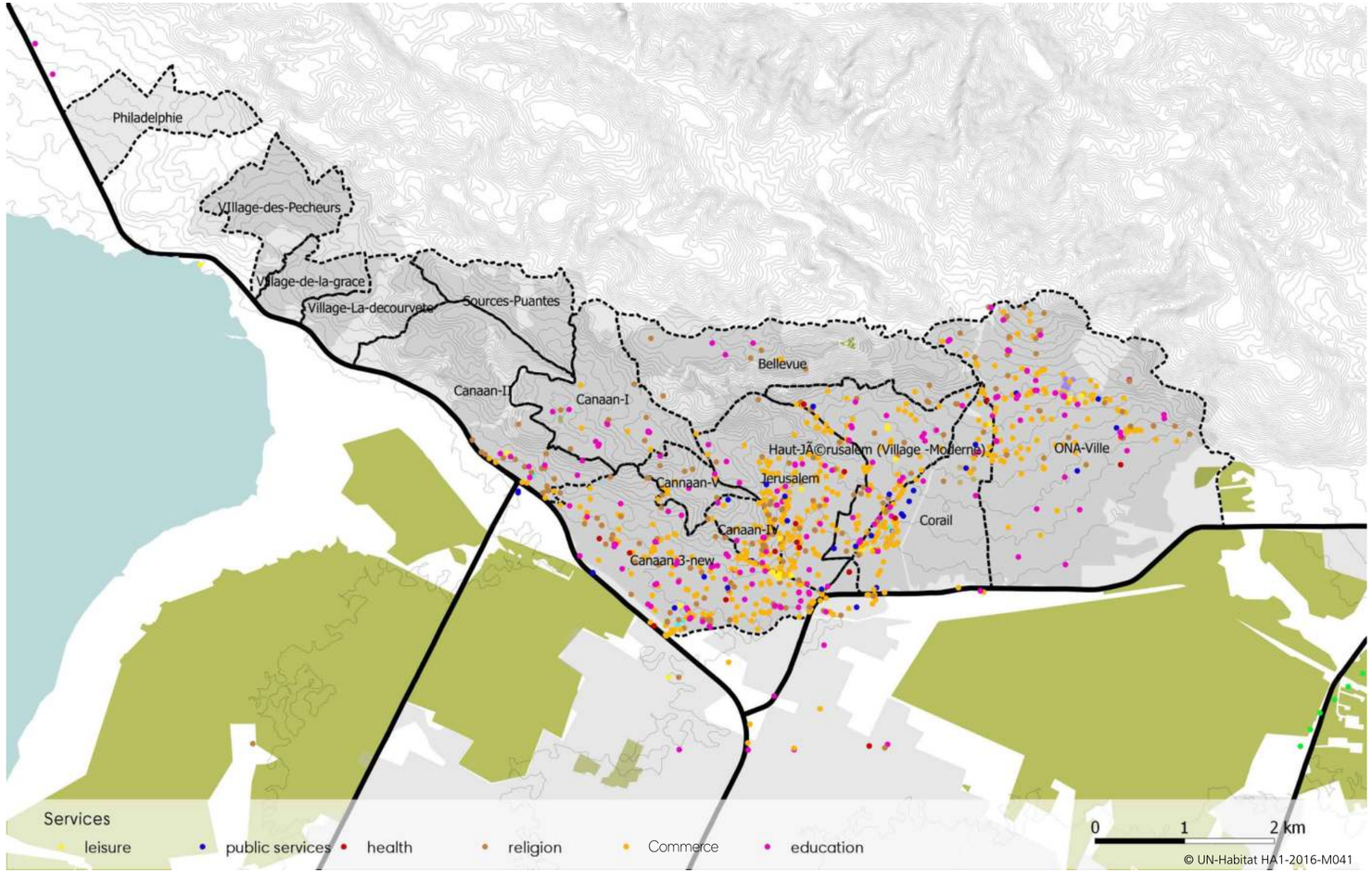


Fig.73: Public facilities in Canaan wide area (Source: Open Street Map)

6.8. URBAN ECONOMY

6.8.1. SPATIAL ECONOMY AND LIVELIHOODS

Canaan is still a bedroom community to some extent, with a large portion of its working population relying on the external economy for their livelihoods as Canaan's internal economy still in a nascent phase. Inputs to Canaan's services sector are primarily sourced from outside Canaan, including for retail, food and clothing.

Mercy Corps estimates that 30-50% of the labor force travels daily to work outside of Canaan, primarily by tap-tap. Another third of the labor force works locally, and the remainder are doing irregular jobs or are unemployed[5]. A 2014 survey found an even bleaker picture, with 73% of a geographically stratified sample not currently working, and 30% of households with no one working regularly[6].

Construction is the sector within Canaan currently providing the most jobs, and it has high potential to expand as the area develops. Construction is also the sector with the most value chain linkages within Canaan, including sand quarrying, gravel, cement block fabrication, hardware stores, and specialized labor: masons/foremen, electricians, plumbers, carpenters, and metal workers.

Other significant employment sectors within Canaan include retail, transport and vehicle repair. Table 3 shows the distribution of work in a sample of 174 people (See. Table 7) (a stratified sample of 100 plus their spouses) by Katelyn Leader (2014)[7].

Mercy Corps has noted that the population growth of Canaan was initially based on push factors resulting from the 2010 earthquake, but now economic pull factors are beginning to drive the area's growth[8]. This suggests that as economic conditions are improved in Canaan, population growth will continue at a corresponding pace, as will demand for land, construction and basic services. Therefore pairing economic interventions with effective spatial planning will be critical to the area's sustainable development.

Type of Work	*Men employed*	*Men Unemployed*	*Women employed*	*Women unemployed*	*Total employed*	*Total unemployed*	**Total**
Commerce/business	24%	16%	83%	64%	42%	44%	**44%**
Mason, Mechanic, carpenter	32%	55%	0%	0%	22%	23%	**23%**
Factory or industrial park	10%	2%	6%	3%	8%	3%	**5%**
Worker tailor	5%	4%	0%	4%	3%	4%	**4%**
Education (Teacher)	2%	6%	0%	4%	2%	5%	**4%**
Driver, including moto taxi	7%	6%	0%	4%	5%	5%	**5%**
Cleaning, domestic work, cooking	0%	0%	6%	6%	2%	3%	**3%**
Security	2%	4%	0%	0%	2%	2%	**2%**
Nothing	0%	0%	0%	7%	0%	4%	**3%**
Other	17%	6%	6%	7%	14%	7%	**9%**
Totals	**23%**	**28%**	**10%**	**39%**	**33%**	**67%**	**100%**

Table 8. Occupations by sex (Sample of 90 men and 84 women)

6.8.2. UNDERLYING ISSUES IMPACTING CANAAN'S ECONOMIC ACTIVITIES

FINANCE

Access to finance is a major barrier to all types of economic activity in Canaan. There are currently no lenders in the area. To fund business startup costs, entrepreneurs typically sell a major asset or pool money from friends and family. Canaan has a bad reputation among banks and micro-finance institutions due to issues of nonpayment and prior instances of loan officer intimidation. Therefore major improvements in both trust on the part of lending institutions and financial literacy on the part of Canaan residents are needed to bridge the financial gap[9].

Financial exclusion in Canaan means that small businesses and retail shops are unable to borrow to invest in startup or initial inventories, and unable to access credit to survive the fluctuations of the business and seasonal cycles; the result is that some go out of business in their first year[10].

Access to finance is also a major constraint on the construction sector, with service providers unable to pay for equipment and training, and even more significantly, clients unable to pay upfront for construction. This results in slow and incremental construction of buildings with long pauses between foundation, walls and roof. Additionally, quality of construction is frequently compromised due to financial limitations[11]. It is likely that if access to finance was improved, there would be a major construction boom in Canaan.

On the positive side, Mercy Corps has begun a Village Savings and Loans Associations program, which already has 18 groups in Canaan and 3 trained agents with the potential to start new groups. Each group has up to 30 members, with a total of approximately 400 total participants in Canaan, and makes loans to members of 50-2500 gourdes to be paid over 6, 9, or 12 months[12]. While such loans are too small to finance most business startup costs or house construction, initiatives like this one can be seen as first steps toward financial inclusion in Canaan.

5. Duchier, J.C. (2016). Market Systems Analysis in Canaan Area: Understanding value chain potential and opportunities. [internal report for limited circulation]. Port-au-Prince: Mercy Corps.
6. Leader, K. (2014). Rapport de Stage Professionnel: Étude préliminaire sur la zone de Canaan & Jérusalem. Port-au-Prince: Ministère de la Planification et de la Coopération Externe.
7. Ibid. p. 29
8. Mercy Corps. (2016). Survey of Entrepreneurs in Canaan. [Draft report not for circulation]. Port-au-Prince: Mercy Corps.
9. Personal communication, J. Pearl (Mercy Corps), May 11, 2016.
10. Mercy Corps. (2014). Mercy Corps Livelihood Assessment for Canaan. Port-au-Prince: Mercy Corps.
11. Habitat for Humanity. (2015). Value Chain Program Design for the Low Income Housing Construction Sector in Canaan and Onaville, Haiti.
12. Personal communication, J. Pearl and C. Dochier (Mercy Corps), March 17, 2016

LAND TENURE ISSUES

The lack of clear land records undermines economic activity in Canaan. It is a major barrier to accessing finance since land cannot serve as debt security. This is confirmed by focus group research by Mercy Corps where participants noted that the fear of not meeting bank requirements related to proof of residence and title deed was a barrier to applying for a loan[13].

Insecure tenure is also a major source of stress for communities who fear that their homes may one day be taken from. On a day-to-day basis, residents rely upon informal community enforcement which can lead to group power struggles and vigilante violence in such situations.

Insecure tenure may also be a barrier to investment in Canaan. According to prominent economists such as Hernando de Soto, formalizing land titles could incentivize more investment in homes, properties and the community, open financial access and unlock the creation of additional value[14]. Construction quality is a particular issue in Canaan, and a concern due to earthquake hazards. Improve tenure security could help to incentivize property owners taking the time and resources to build solidly for the future.

Despite the informality of land titles, the majority of land holders in Canaan have paid for their land and consider themselves owners[15]. Some land holders have even paid local municipalities for a license, building permit, or certificate of occupancy[16]. The strength of informal claims to land will likely intensify the disputes that arise as land titles are formalized in the area. A mechanism to fairly resolve these disputes will be required.

13. Mercy Corps. (2016). Survey of Entrepreneurs in Canaan. Port-au-Prince: Mercy Corps.
14. De Soto, H. (2003). The Mystery of Capital: Why capitalism triumphs in the West and fails elsewhere. New York: Basic Books.
15. Leader, K. (2014). Rapport de Stage Professionnel: Étude préliminaire sur la zone de Canaan & Jérusalem. Port-au-Prince: Ministère de la Planification et de la Coopération Externe.
16. Comments during UN-Habitat's second Charette for the Canaan Urban Development Initiative

TRANSPORT

The poor quality of roads in Canaan presents a major barrier and added cost to economic activity. Surveys have suggested that many residents find the cost of travel to Port-au-Prince prohibitive, and many business owners rank the poor quality of roads among the biggest barriers to their work[17]. Slow going on unpaved roads adds lag time to trade and transactions, and causes additional vehicle maintenance costs. Access to the northern part of the area is difficult, and particularly in the rainy season, some areas are cut off by flowing water and impassible roads. If access were improved through paved roads and bridges, it would likely stimulate development in the northern part of Canaan.

UTILITIES AND PUBLIC SERVICES

There is a general lack of public services provided to Canaan, leaving a gap that is filled by illegal connections and informal arrangements. Water is a major challenge, and has been sighted as the number one concern by a sample of households[18]. Electricity is also a major barrier. Informal connections are available, costing approximately USD 110-125 for installation and with no monthly cost other than repairs as needed. However, only 10-20% of the population has a connection, and these typically only work in the evening, with frequent and ongoing outages impacting households and businesses[19]. This is linked to the lack of access to technology (computers and phones) which was cited as the number one barrier by business owners in Canaan[20]. When electricity becomes available during the day, there are bursts of economic activity, particularly in the construction sector, which can occur between waiting periods[21]. Even charging mobile phones can be a costly and time consuming process, with vendors charging 10-15 gourdes to charge a phone[22].

17. Leader (2014); Mercy Corps (2016a).
18. Leader (2014).
19. Ibid.; Mercy Corps (2016).
20. Mercy Corps (2016).
21. Personal communication, J. Pearl and C. Dochier (Mercy Corps), March 17, 2016
22. Leader (2014).

SKILLS AND EDUCATION

While there are many schools in Canaan, there still seems to be an education gap. Private education is expensive (approximately USD 112 per year), and public schools do not have strong quality control[23]. However, the majority of business owners have a secondary education or higher, and many have received vocational training[24]. Despite this training, there is still a skills gap in the construction industry as well as in business services, including marketing and accounting[25].

23. Ibid.
24. Mercy Corps (2016).
25. Habitat for Humanity (2015).

6.8.3. CANAAN'S ECONOMIC SECTORS

CONSTRUCTION

The construction sector in Canaan has much potential due to its large share of local employment, localized value chain linkages and huge opportunities for expansion if there is an increase in the pace of development. However, the sector is constrained by informality of land holdings and a lack of access to finance in the area, as previously noted. The incremental and constricted pace of building in addition to a lack of access to marketing opportunities means that many in the sector face highly variable streams of income as work stops and starts without regularity[26].

A lack of knowledge and a lack of standards enforcement both contribute to poor quality construction which does not follow safety standards. This includes cement block fabrication as well as housing construction. This leaves Canaan's residents at risk of environmental hazards[27].

BUSINESS SERVICES

The businesses service sector is operating in Canaan, with many business owners reporting using and paying for transport, equipment rental and marketing services. Training, coaching and some marketing services were used at subsidized rates or for free. Service providers were split approximately into thirds with local private consultants, NGOs and local government institutions each providing a third of services. Despite the presence of a local business services economy, there are still gaps in service provision. For example, within the construction value chain, hardware stores and cement block fabricators lack adequate marketing, financial planning and financial management. Hardware stores offer informal lines of credit, but in a limited, unorganized manner[28].

FOOD

The local food economy is constrained by a number of factors. Although some people have planted gardens in the rainy season, poor top soil, the dry climate, and the lack of inexpensive and reliable access to water as well as the salinity of water sources is a constraint on the agricultural potential of the area[29].

Food sellers of items such as baked good and fruit are subject to the harsh business climate in the area, including insecure tenure, costly inputs (in part due to costly transport), lack of access to finance and vulnerability to business cycles, lack of access to communications and technology, and underdeveloped business services such as marketing and accounting[30].

POTENTIAL FOR NEW SECTORS

Mercy Corps has done a value chain analysis in the area and identified areas with potential including solid waste management, utilities, and livestock. The livestock sector is already operating in Canaan, but with potential for improvement through better access to water and grazing. The solid waste management sector is promising as there is already demand, and collectors are the missing link between this demand and the established recycling sectors. Utilities also represents an area of existing demand where Global Communities and national utility companies can expand[31].

26. Ibid.
27. Ibid., Groupe URD. (2012). "Reconstruction et environnement dans la région métropolitaine de Port-au-Prince : Cas de Canaan ou la naissance d'un quartier ex-nihilo." Port-au-Prince: Groupe URD.

28. Habitat for Humanity (2015).

29. Leader (2014).
30. Ibid., Mercy Corps (2014).

31. Jean-Christophe Duchier. (2016). "Market Systems Analysis in Canaan Area: Understanding value chain potential and opportunities." Port-au-Prince: Mercy Corps.

6.8.4. MAJOR INVESTMENT PROJECTS

Different investments have taken place in the northern area of Canaan such as the DINEPA's water treatment plant, the Cité Olympique, the transport hub of Bon Repos, the Camps located in Corail, the nearby Village Lumane Casimir which is conceived as a housing rental project for middle to middle-high income residents, the wheat flour mill, port Lafiteau and finally the CINA Cement plant.

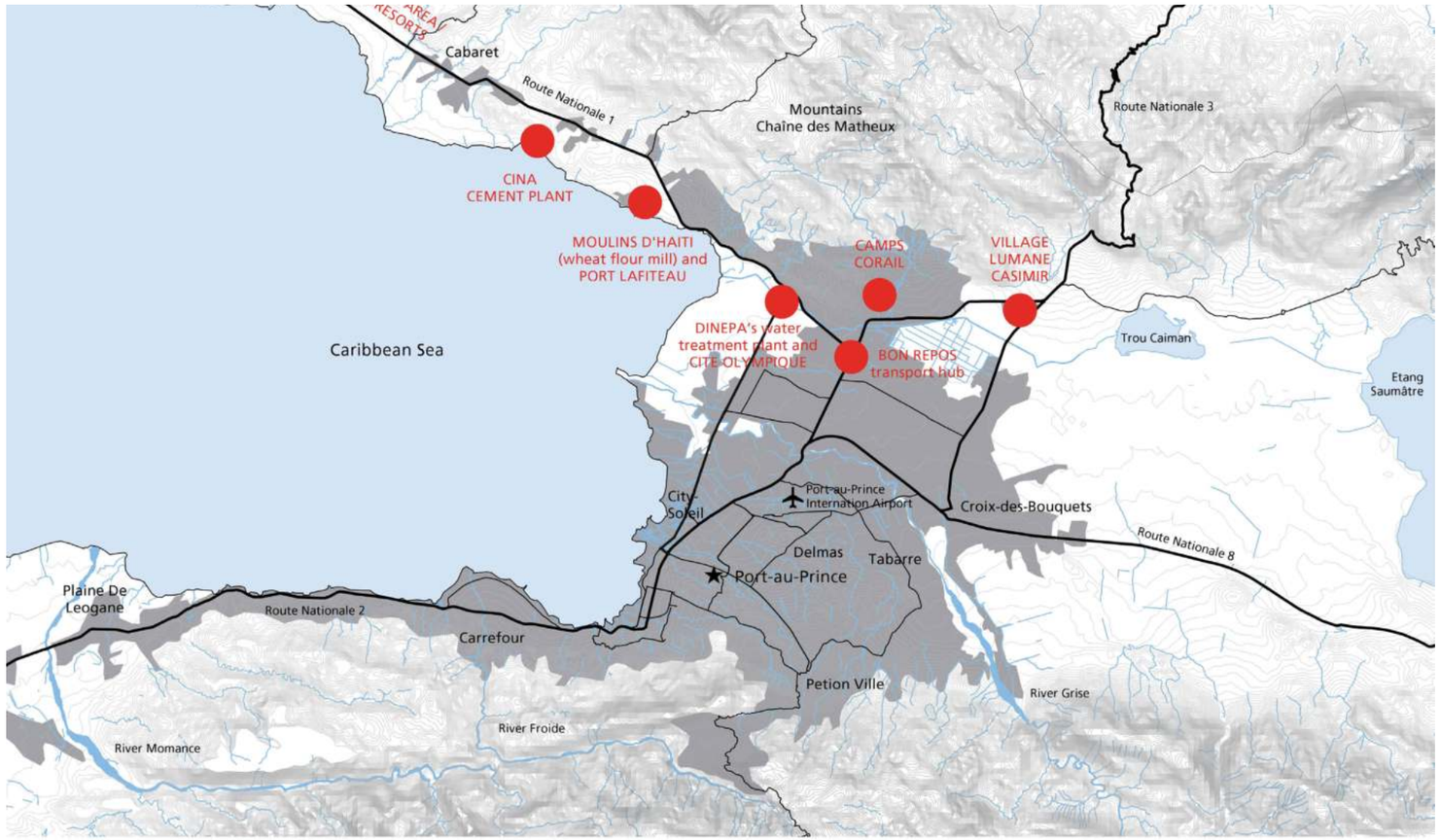


Fig.74: Main investments in Canaan wide area

Fig.75: Bon repos transport hub

Fig.76: Camp Corail in Haiti. Source: Yves Perrier

Fig.77: CINA cement plant. Source: http://flashhaiti.com/

6.9. SOCIO-ECONOMIC DYNAMICS

Residents of Canaan, many of whom come from impoverished socio-economic situations, have diverse needs. The nodal structure of the commercial area of each neighborhood ensures that at each core these needs can be met and accommodated. This means that commercial activities are to be encouraged but not restricted to hubs of transport availability. As services are also needed on the interior of the residential areas of neighborhoods leading to mixed-used development, the 'decaying node' structure is used to encourage higher density at the intersections, and a progressively lower density of commercial enterprises into the neighborhoods. In these areas, cooperatively-run establishments are encouraged to re-assert values of community so as they do not merely involve the simple buying and selling of goods and services. This service-based economy, although secondary to the commercial nodes, is seen as equally important in driving the socio-economic neighborhood development of Canaan. Social-service hubs such as drivers license service centres must be easily accessible. Residents who have jobs in the community will not be able to take time off work during the week to attend drivers training in the main city of Port-Au-Prince so such services must be preemptively introduced. Other community centres for socio-economic development/empowerment activities must be localized to ensure equal opportunity for access for those who dwell in either densely or more sparsely populated areas of the community. Schools should retain possibilities to expand their provided services to include adult learning centres and skills training facilities. For this reason, many learning centres are strategically placed near recreation facilities, with additional land for expansion if needed.

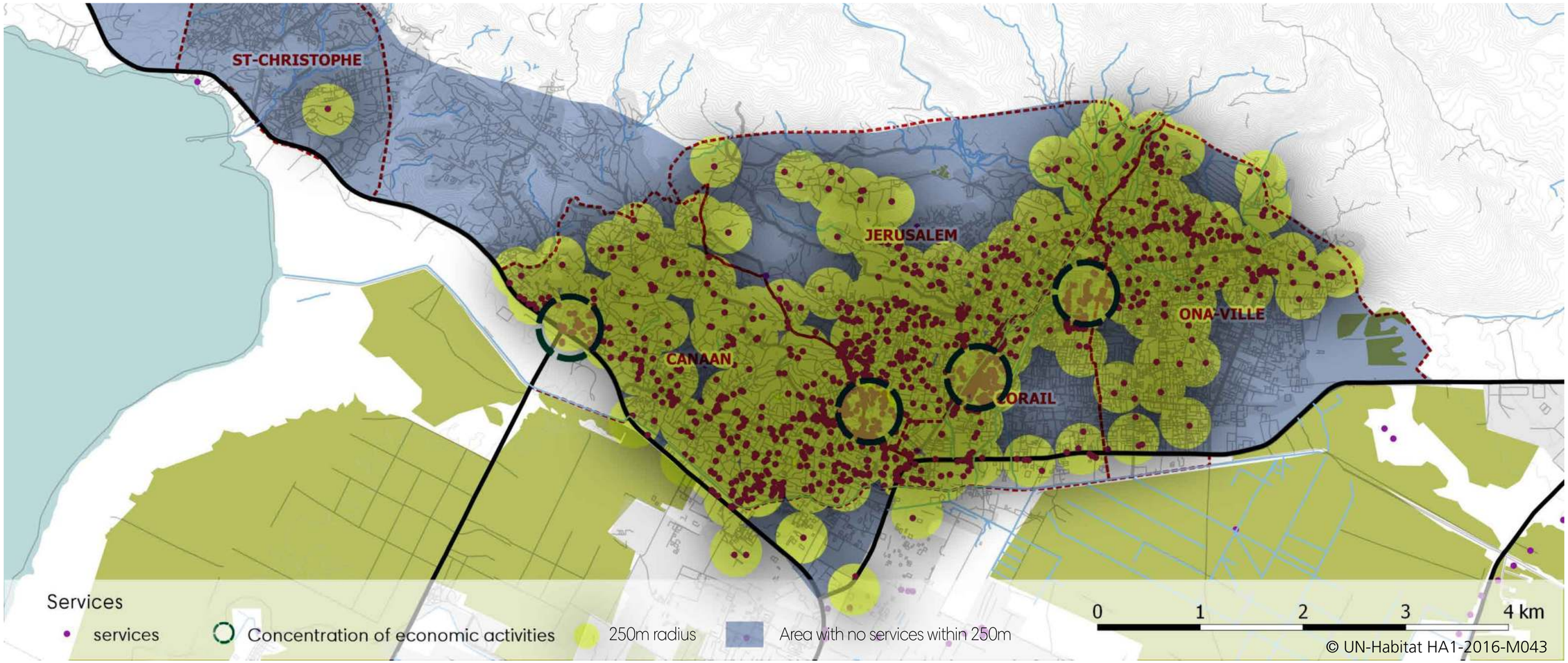


Fig.78: Socio-economic dynamics in the northern area of Port-Au-Prince

6.10. LAND TENURE

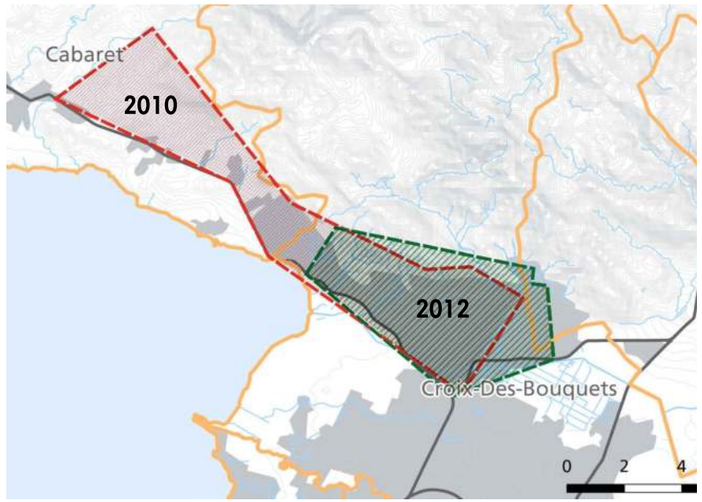


Fig.79: Communes and public utility in the northern metropolitan area of Port-Au-Prince and Canaan.

After the earthquake of 2010 and the declaration of public utility of a large portion of land north of the national road 1 and the connecting road to route national 3, two different boundaries for the declaration of public utility were established first in 2010 and then in 2012. Since then the area has extended rapidly, having an estimated population of 200,000 residents in 2016 .

The city of Port-au-Prince has extended towards the north along the Route Nationale 1 and 3. As a result, areas such as Marin, Santo, Monpeau and Bon Repos have become part of the metropolitan dynamics and are now low density areas where growth is taking place.

After the second boundary of the public utility area was set in 2012, the area has grown towards the northwest, going beyond the limits established then.

DISCLAIMER:

In this document the analysis is a broad study of the northern area including also some lands outside the public boundary of 2012. For these lands, a negotiation with the private owners needs to take place.

6.11. URBAN GOVERNANCE

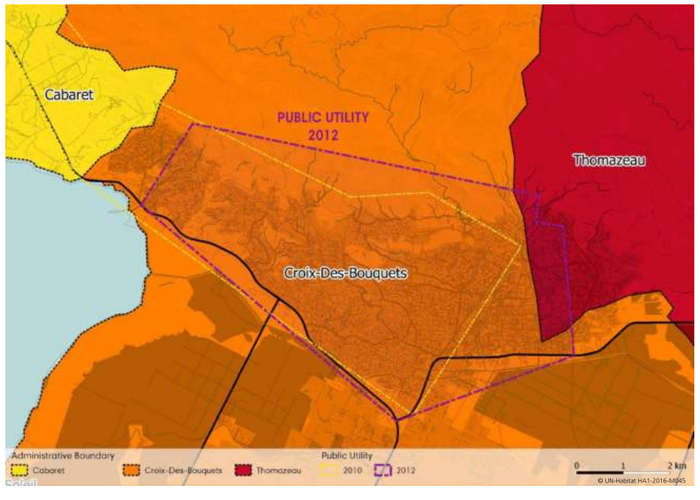


Fig.80: Public utility within the administrative boundary

Canaan is mostly populated by internally displaced families who resettled after the devastating 2010 earthquake on a previously unexploited stretch of land spanning three communal sections of Croix de Bouquet, and one communal section each in the adjacent communes of Cabaret and Thomazeau. The strategic location of Canaan in the crossroad of the Route Nationale 1, Route 9 and the connecting road to National Road 3 makes it a key area to unlock the potential of the northern corridor by creating a more compact, connected and socially integrated urban structure that can foster a sustainable urban development for the north of the metropolitan area.

It is therefore necessary to acknowledge the existence of Canaan and to plan in advance to cater for its projected growth as an important part of the metropolitan strategy.

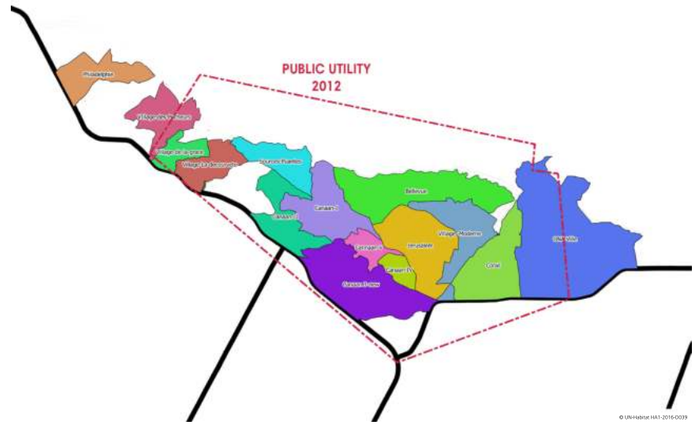


Fig.81: The fifteen neighbourhood of the area of study.

Areas	Neighborhoods	Population
Canaan	Canaan 1	13,779
	Canaan 2	12,098
	Canaan 3	22,413
	Canaan 4	19,860
	Canaan 5	21,119
	Sources Puantes	2,989
	Village Moderne	24,578
	Bellevue	12,916
	Jerusalem	21,624
	Corail Cesselesse	16,753
	Onaville	22,663
	La Decouverte	3,979
	Village grace de Dieu	4,861
	Village de Pecheurs	8,756
Total Canaan Population		208,387

Table 9. Population distribution of the fifteen neighbourhood

7. DIAGNOSTIC

The pace and scale of the problems and challenges of Haiti's current urbanization urge for a robust plan in order to ensure a sustainable development. These challenges will not be resolved all at once, but an effort is needed to organize strategic directions in a concerted structure where strategies and guidelines are well defined.

Urban planning is a continuous engagement with the needs and demands of the city and must ensure an equilibrium between a healthy environment and the urban growth. A well planned city would reduce the exposure of environmental risks on the urban fabric, guarantee a good accessibility in order to nourish the economic activity, and provide a better quality of life with social equity and equality.

7.1. MAIN CHALLENGES AND CONSTRAINTS :

The summary of challenges presented in the present section are based upon the analysis of the previous chapters. In means to find solution for these constraints, it is essential to conduct a series of measures that can be translated into a guiding plan for the urban growth of Canaan.

However, short, medium and long term priorities are equally important, as a well-managed growth guided by future-proof infrastructure investments contributes to sustainable urbanization. In the absence of development guidelines and implementation mechanism, private developments are expected to contribute little to the public realm, for example on the provision of services for all residences.

The main constraints are listed below:

A- UNCONTROLLED URBANIZATION

Taking into account the fast pace urban growth, Haiti needs a guiding plan that can accommodate its growth in subtle manner with no hindrances. Failure to do so may lead to economic, social and environmental problems such as congestion, flooding and social segregation and evictions.

B- CONNECTIVITY

The road network in the region has to be improved in order to meet the demand of a growing population and urbanization. Neighborhoods are dispersed according to the mountainous geography with no good inter-connection. All transportation currently relies on a few roads, primarily the national roads RN1 and RN3. Congestion, meagre connectivity and poor mobility within the region is an existing problem and can only be avoided by establishment of a good street network and a clear hierarchy of streets.

C - LACK OF BASIC SERVICES

In order to have a prosperous city, it is essential to ensure access to basic services such as clean water and energy, sanitation and solid waste removal (collection and treatment of waste) and others. These services are vital to reach a healthy and decent habitat and environment. Canaan is not well served by basic services, and therefore the provision of the growing city with these utilities, will help fight poverty.

While the supply of the population with water is low, some water point are dispersed in the neighbourhoods. However, sanitation remains poor and therefore measures should be taken to overcome these difficulties.

D – ACCESS TO PUBLIC SPACES AND FACILITIES

Only few public spaces are found in the fifteen neighbourhood inside Canaan. Generally, they are not well maintained, and in consequence, under-utilized. Public spaces are a vital element in prosperous cities and it is therefore necessary to increase their number and make them accessible.

Also, access to public facilities like education and health, and community centres is essential. Education for example, plays a major role in reducing poverty and inequalities. For that, it is advisable to always reserve lands for future extension of existing facilities or for the provision of new ones.

E – CONFRONTATION TO ENVIRONMENTAL RISKS

Earthquakes, hurricanes, flooding and erosions are natural disasters that Haiti is always confronted to. The country have limited resources and capacities to overcome these risks. The environmental challenges have a big impact on the infrastructure, the quality of construction and the provision of basic services.

In order to limit and reduce the interferences of the risks with the urban development, it is imperative to come up with prevention measures. The implementation of strategies that manage the natural risks and reduce them, including mitigation and adaptation measures is mandatory.

F- INSECURE TENURE

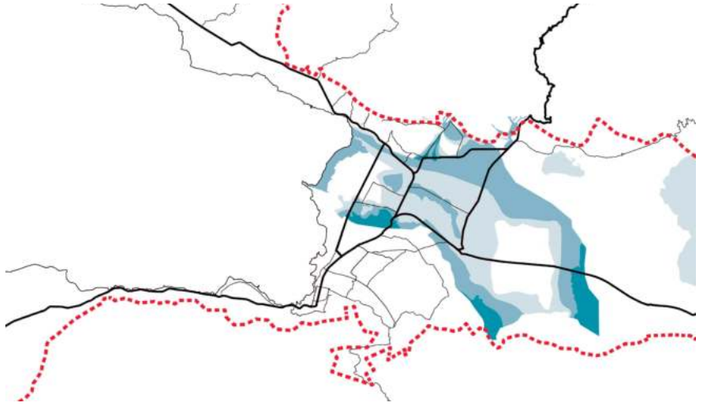
The lack of good land management is seen as a major obstacle in Haiti. Land tenure is important for development interventions and projects. Lack of land documents can lead to poor land management, environmental degradation and the risk of undermining economic activity. A fine reading of land and its management is needed before taking any further development action.

CONCLUSION

The problems cited require immediate action in order to resolve the constraints related with the continuous informal growth and the rapid urbanization of the Canaan. In the following section, pragmatic recommendations, based on the analysis carried out, are formulated with the purpose of improving the existing situation and ensuring sustainable development.

7.2. PROPOSED RECOMMENDATIONS

1
PREVENT ENVIRONMENTAL RISKS



The implementation of preventive strategies against environmental threats is essential for strengthening resilience. Several measures can be taken to deal with the different types of environmental hazards:

A- Floodings:

- Protective areas or buffer zones on both sides of the ravines can minimize interference with built-up areas.
- Limiting urbanization in floodable areas by defining them as no-built zones.
- Concerning existing structures in risk areas, adaptation measures and activities can eventually reduce their vulnerability.
- In highly exposed areas, it may be necessary to relocate buildings that are most threatened.
- Create retention basins and slowing stormwater runoff.

B- Erosion:

- Vegetation cover is a natural soil protection against erosion which helps to reduce the erosive force of the water, to absorb water from the roots and to stabilize the soil.
- Planning new interventions by avoiding sensitive areas
- Delineate steep as high risk areas and therefore as no-built areas.

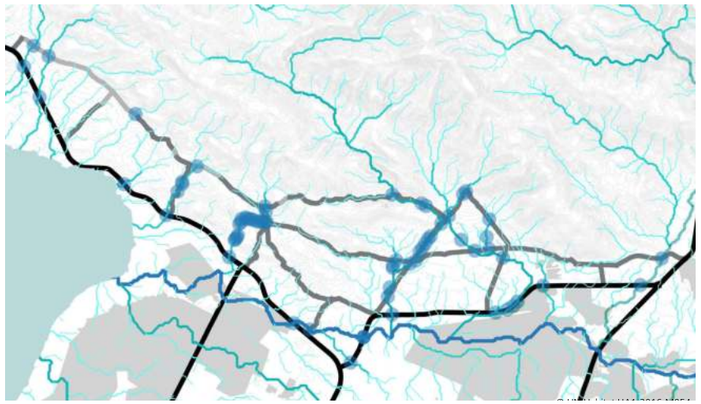
In order to establish sustainable urbanization, it is of paramount importance and considered compulsory to fight for the mitigation of environmental risks.

2
PRESERVE AGRICULTURAL LAND

Agricultural land should be seen as an asset rather than a constraint to the urban growth. The role and contribution of agriculture seems paramount, it is a vital element in the context of the local economy in Haiti. However, their values go beyond economic criteria. Farmland contributes to the uniqueness of a community and provides landmarks in space. They also improve the quality of life and create ecological benefits such as the maintenance of biodiversity, the recharge of groundwater, and the contribution to air quality.

These natural areas should also be protected for tax purposes; in general, farmland is a source of amenities that increase property values and incomes.

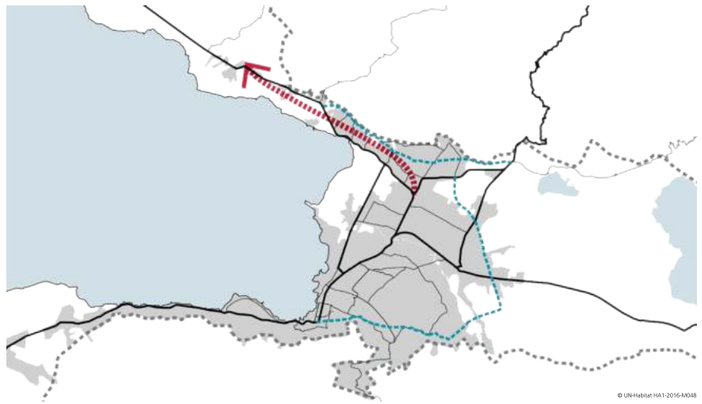
3
DEVELOP WATER MANAGEMENT STRATEGIES



The water supply in Canaan is low, a few water points are dispersed in the neighbourhoods but are not enough. Ideally, water management planning will seek to allocate water equitably to meet all uses and demands; agriculture, domestic and industrial.

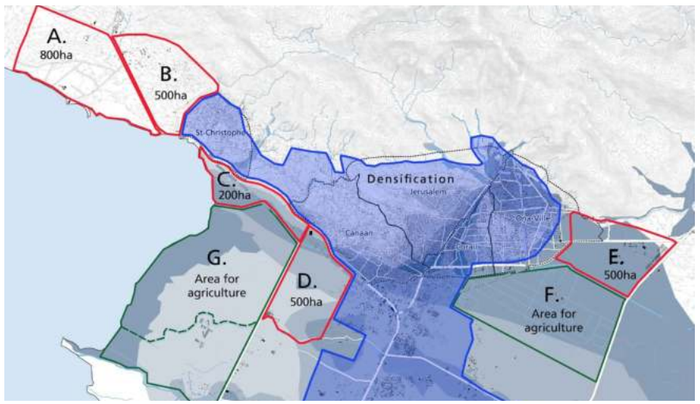
The topography of the northern area of Port-au-Prince and the presence of multiple ravines crossing the area, advise to have a good water management to reduce risks and damages to the infrastructure. Also, water management aims to find ways to treat wastewater through a functional drainage system which can contribute to environmental safety and ensure resilience to water-related events.

4
GUIDE THE URBAN GROWTH



It is advisable to direct the direction of the metropolitan growth and decentralize part of the population of the business districts of the cities. The growth direction which is directed towards one way rather than several is therefore favoured. This will help to focus the planning study, rather than extending it to a larger scale. Following the analysis, and among the four directions of growth of the metropolis, the Northwest one is the most suitable. This is due to the fact that there is more land to be urbanized in this direction that does not interfere with agricultural land. The choice of the direction of the urban extension must take into account the existing environmental constraints. Since the South-East and North-East directions are confronted with problems of flooding, the growth of the metropolis is then defined in only one direction, the North-West.

5
ENCOURAGE DENSIFICATION AND PLAN FOR EXTENSION



Densification is key solution that helps to meet the demand of a growing population in an area where physical constraints are tangible. Densification will limit urban sprawl and increase accessibility to the services. However, densification alone is not enough to accommodate the growth of Canaan in the next 15 years. To do this, planning for an extension plan is imperative. Seven vacant or semi-vacant areas are identified and taken into account for extension.

A: 800 Ha: Located outside the public utility

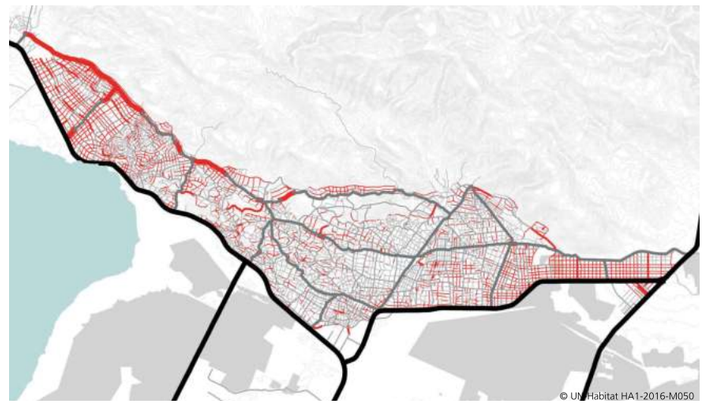
B: 550 Ha: Located outside the public utility, slopes in the north are steep, the southern area is suitable for development.

C: 200 Ha: Face environmental risks; high risks of flooding.

D and E: 500 Ha: Located outside the public utility and face environmental risks; flood-prone area.

F and G: Agricultural land to preserve.

6
IMPROVE THE STREET NETWORK

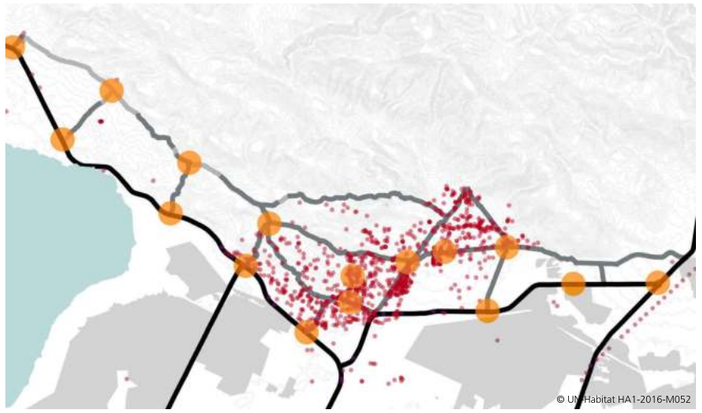


Sustainable planning is based on the provision of sufficient street space and a good street network. The absence and discontinuity of a street network in the northern area of Port-au-Prince is evident and must therefore be improved by restructuring the network. This can ensure a better mobility, accessibility and connectivity.

A well-planned grid would eventually prevent the recurrent presence of dead-end roads, alleviate traffic loads on certain roads and reduce congestion. A limited but well planned amount of main and secondary roads will release the pressure caused by the rapid growth. Establishing a network of streets with a certain hierarchy would ultimately induce employment opportunities and reduce travel distance.

Four types of streets will be proposed, national roads, arterial roads, main roads and secondary streets.

7
ENSURE A FAIR DISTRIBUTION OF ECONOMIC ACTIVITIES



Since businesses are concentrated in a single region, in the centre of the Canaan estate, the recommendation will be to decentralize them so that they are accessible to all. Now, the majority of the jobs are in Port-au-Prince, which forces the inhabitants to travel on daily basis. An equitable distribution of economic services is essential for sustainable development. In order to promote employment opportunities, economic centres along the main roads will be advised to take place.

The location of these activities must be reinforced by an efficient transport system and infrastructure, since the workers normally seek geographical proximity and ease of movement and travel.

8
PROPOSE A NETWORK OF PUBLIC SPACES

St.Christophe

Public spaces are a key element of prosperous cities as they contribute in building community essence, strengthening civic engagement, enhancing the social capital and the economic development. Public space, if used continuously as a public good, can lead to better environments that are healthy, safe and well maintained making the city a more attractive place to live and work.

According to the principles of UN-Habitat, every inhabitant of the city should have at least one type of public space located at a distance of 400 meters from his settlement. Urban planning in Canaan must consider empty pockets for public use.

A single public space is not able to create an impact on a city, so it is advisable to have a green network, interconnected through a good hierarchy of urban roads, to create a greater impact.

A strategy of community participation could be a long-term solution for the improvement and the maintenance of public spaces and the better quality of social life in the city.

9
PROMOTE MIXED-USE

Onaville

Most of the land uses in Canaan are mono-functional where residential, commercial and public facilities are located in separate areas. The proposed recommendation promotes a new sustainable urban form (form, density and land use) that reduces the overexploitation of natural resources, promotes economic viability, quality of life, environmental quality and social equity and security. The compact urban space aims to increase the population density of a built-up area; to strengthen the urban economy, and reinforce social and cultural activities.

A holistic approach to urban development that links the various dimensions of urban life, social, economic, environmental, political and cultural is encouraged. Emphasis is placed on the link between the spatial aspects of urban development and the various dimensions already mentioned, in order to attain both mixed use and social mix.

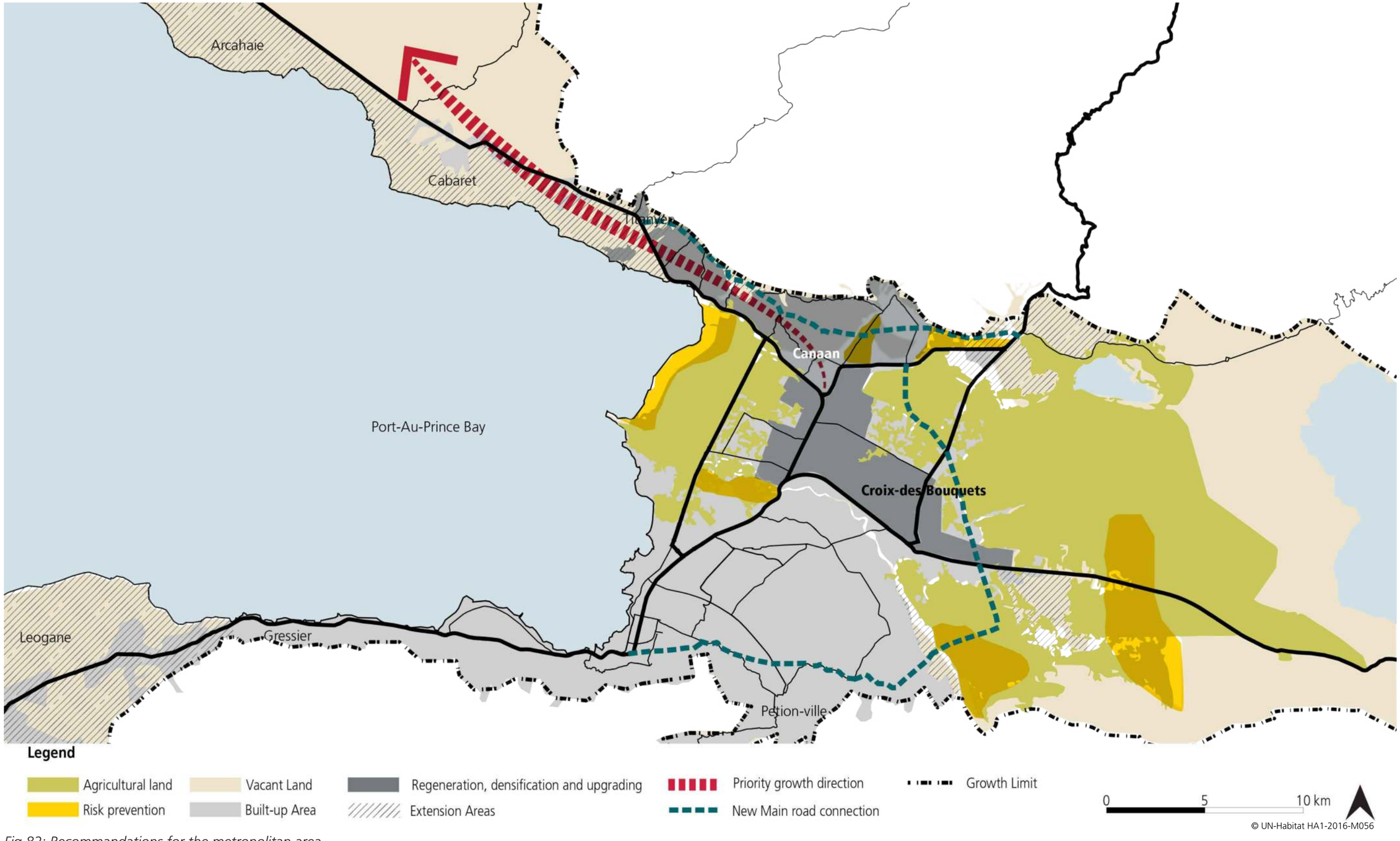


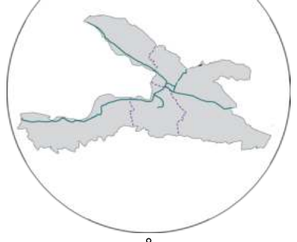
Fig.82: Recommandations for the metropolitan area

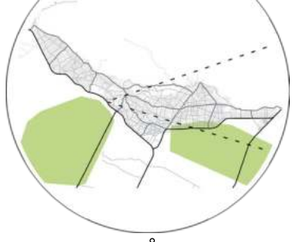
8. WAY FORWARD

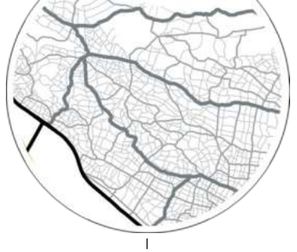
The urban development initiative - Comprehensive Analysis and Diagnosis is a report that support the argument to the strategic development framework on the metropolitan scale and the urban structure plan on the Canaan wide area scale. A set of recommendations and propositions will be delivered in the following documents.

URBAN DEVELOPMENT INITIATIVE URDI

URBAN DEVELOPMENT INITIATIVE URDI
COMPREHENSIVE ANALYSIS AND DIAGNOSIS

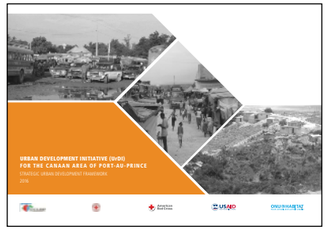






Diagnosis

STRATEGIC DEVELOPMENT FRAMEWORK → URBAN STRUCTURE PLAN → NEIGHBOURHOOD PLANNING METHODOLOGY



CATALYTIC PROJECTS

THE URBAN DEVELOPMENT INITIATIVE

The urban development initiative is a holistic approach that uncovers different strata of studies on many levels. It has been developed as a collaborative effort between international and local stakeholders under the supervision and guidance of the Unité de Construction de Logements et de Bâtiments Publics (UCLBP). Financial and human resources provided by the American Red Cross, USAID, Haitian Red Cross and the UN-Habitat country team office in Haiti, have been instrumental in the development of the project as well as in the mobilization of different community groups engaged in the planning exercise.

The project has brought together, through a series of charrettes, participants from the national government, municipal government, international and local organizations, academia, community groups and planning experts to discuss these three key components of sustainable urbanization in the reconstruction of Haiti.

UCLBP

CROIX-ROUGE HAITIENNE

American Red Cross

USAID FROM THE AMERICAN PEOPLE

UN HABITAT FOR A BETTER URBAN FUTURE