

Urban Agriculture as A Strategy for Local Development in Tabarre, Haiti

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Abstract: The municipality of Tabarre, Haiti, was considered rural, but has rapidly urbanized over the past two decades due to population growth. In this way, urban agriculture has become a necessity for some people, and also a potential for the economy of this municipality. This article aims to present the potential of urban agriculture for the economy of Tabarre and also how this activity can contribute to fighting poverty. The methodology had a qualitative and quantitative approach. A bibliographic review relevant to the theme was adopted and also a statistical analysis based on data provided by the Haitian Institute of Statistics and Informatics and the National Coordination of Food Security. The results demonstrate that urban agriculture presents a potential for the economy in the generation of employment, income, food availability, in the fight against climate change, as well as in the local development. Thus, urban agriculture remains an advantage for the city and will continue to be in the future. Therefore, studies should be carried out in this area to take advantage of the potential of urban agriculture. In addition, decision makers should develop public policies that will encourage this activity to generate more profits for the well-being of the population.

Key words: urban agriculture, fighting poverty, Tabarre, Haiti

1. Introduction

Urban agriculture has grown significantly over the past two decades. It is increasingly accepted and used as a tool in local development as, where it is effectively established, it plays an important role in feeding the populations [1]. The growth of the urban population is more evident and faster in underdeveloped countries than in developed countries. Thus, the municipality of Tabarre, Haiti, was considered rural, but rapidly urbanized. This urbanization occurred due to the rapid population growth to the point that urban agriculture became a great potential for the economy of this municipality and also for local development. Since when it was created in 2002, until now, the municipality of Tabarre has gone from an agricultural “communal section” to an urbanized municipality with

the rise of secondary and tertiary activities in opposition to the primary activities previously.

In this context, the local development of the municipality of Tabarre arouses many interests, due to the growth of its population over the years and the well-being of the people who live there. Therefore, urban agriculture can be considered as a strategy for the local development of this municipality. According to Mougeot (2005) [2], urban agriculture is still seen by many as a paradox in itself. However, it is part of a larger set of trends that are forming urban (and rural) space on a massive and unstoppable scale [2]. Local development, according to Sen (2000) [3], allows local communities to be protagonists of their own well-being and of social and technical alternatives appropriate to their cultures and values, based on ties of solidarity and cooperation [3].

Thus, this article aims to demonstrate how much urban agriculture, focused on local development in an

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urbanized municipality like Tabarre, generates income and food security.

1.1 Methodology

To achieve the intended results, this study aims to present urban agriculture as a local development strategy in the municipality of Tabarre, Haiti. Then, a bibliographic review relevant to the theme was adopted. Ahead, there was an analysis of statistical data available in the database of IHSI (Haitian Institute of Informatics and Statistics). Finally, we used the quantitative data published by CNSA¹ (National Food Security Coordination).

The article is divided into six sections in addition to the introduction. The second section of the article deals with the presentation and history of the municipality of Tabarre, Haiti. In the third, the importance of agriculture is described and the situation of food insecurity in the municipality is presented, based on CNSA data. The fourth discusses urban poverty and how it affects the municipality of Tabarre. The fifth section highlights the role of urban agriculture as an element against climate change. The sixth justifies the role of agriculture in local development. Finally, some considerations are made based on these results.

2. Location, Delimitation and History of the Municipality of Tabarre, Haiti

The municipality of Tabarre is equivalent to only 0.49% of the Metropolitan area of Port-au-Prince [4]. In Table 1 we present more information about this municipality.

According to the previous figure, we can clearly say that the municipality of Tabarre, located at the intersection of four (4) municipalities, represents a strategic place for other municipalities in the Metropolitan area of Port-au-Prince.

Table 1 Presentation of the municipality of Tabarre, Haiti [27].

Municipality of Tabarre in Haiti	
Location	Latitudes: 18°36.572' and 18°32.192' North and the meridians: 72°18.322' and 72°13.177' west longitude.
Delimitation	The municipality of Tabarre is located at the intersection of four (4) municipalities: Croix-des-Bouquets in the east, Pétiön-Ville in the southeast, Delmas in the southwest and Cité-Soleil in the northwest.
Area	28.4 km ²

In other words, Tabarre is a necessary crossing point. This strategic position is destined to be economically strengthened, especially when considering the growing importance of the third national road, which facilitates the faster arrival in the eastern part of the North and Northeast regions through the Central Plateau through Croix-des-Bouquets [4]. According to data from the Haitian Institute of Informatics and Statistics, the municipality of Tabarre is divided into two communal sections: the first, Bellevue and the second, Bellevue, with 26 neighborhoods and a population of 130.283 inhabitants [5]. Tabarre arose from an old sugar cane plantation and, for this reason, the municipality has great potential for agriculture. However, before becoming a municipality in 2002, under the administration of Jean Bertrand Aristide and Yvon Neptune, and revised in 2005, by the Administration of Boniface Alexandre and Gérard Latortue, it was an essentially agricultural communal section of the municipality of Delmas [6].

3. Urban Agriculture and Food Security

Food security refers to the access of everyone, throughout the year, to a balanced diet while food security, a more recent concept, represents the absence of health risks arising from food intake [7]. According to Boukharaeva et al. (2005) [8], the most studied function of urban agriculture today is to contribute to the food security of populations. This is justified by the fact that half of the people classified as hungry currently live in cities [8].

¹ "Coordination Nationale de la Sécurité Alimentaire" in French, is an institution working on food security in Haiti in agreement with the Ministry of Agriculture, Natural Resources and Rural development.

According to Dubbeling (2005) [9], urban agriculture is not a new phenomenon in cities in the contemporary world, being increasingly considered as an integrated part of urban management (as a strategy to reduce poverty, generate jobs and income and manage environmental). However, only in a few rare cases has urban agriculture been effectively integrated into policy making and planning [9].

In fact, urban agriculture provides substantial food aid in several countries around the world. It is a decisive tool for addressing the growing food needs of the world's urban population and, especially, in large cities and even in some small municipalities. According to the National Food Security Coordination (CNSA) and the World Food Program (WFP), in Haiti, 30% of families are in food insecurity, 2% in severe food insecurity. In addition, 40% of families have inadequate food consumption [10].

According to the aforementioned institutions, food insecurity is mainly due to economic vulnerability,

with 50% of households using more than half of their budget for food. In the case of the Metropolitan Region of Port-au-Prince, 29% of families are in food insecurity in 2016. Thus, the municipality of Tabarre follows this adverse reality, because it is part of the Metropolitan area of Port-au-Prince, where almost all municipalities in this urban area are in the same socioeconomic conditions.

The CNSA, the best known institution in Haiti, published a report on food security conditions in the country, based on a survey launched in the first half of 2019. In chart 1, CNSA showed the evolution of the nominal cost of the basic food basket per capita, from January 2017 to February 2019. The basic food basket, in this case, refers to six basic products of the diet: rice, beans, corn, wheat flour, sugar and vegetable oil, which represents 1870 kilocalories consumed per individual per day [11]. Fig. 1 clearly shows the situation of food insecurity in Haiti and also in the municipality of Tabarre.

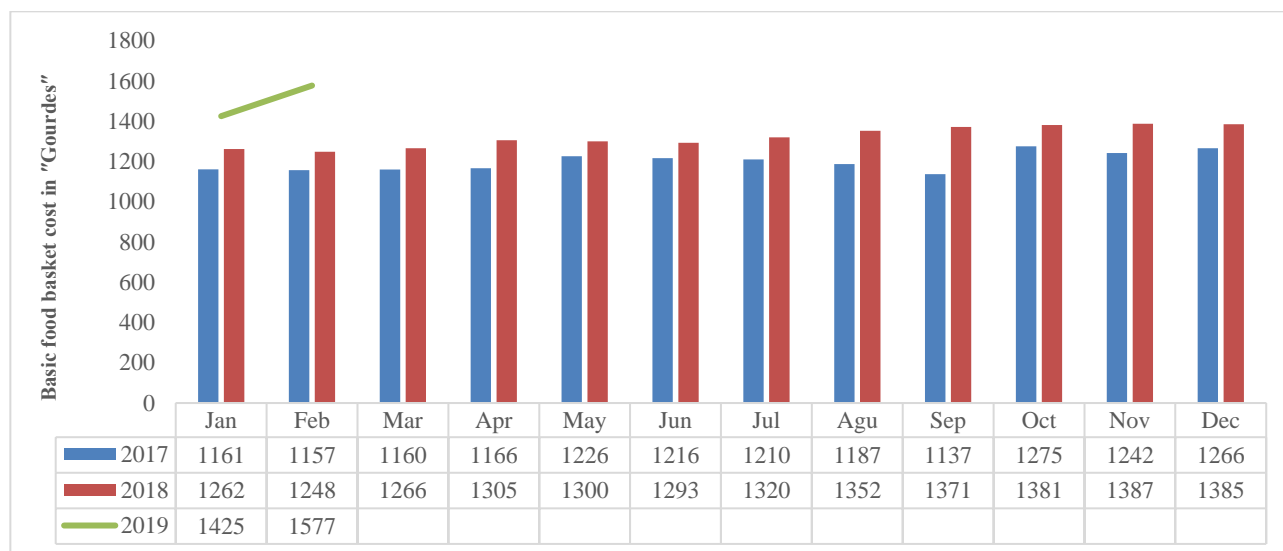


Fig. 1 Evolution of the nominal cost of the basic food basket per capita in “Gourdes” [11].

From Fig. 1, it can be seen that during 2017 there is a variation in the nominal cost of the basic food basket, presenting a lower level in September with a quantity of 1.137 “Gourdes”², and higher in October of that

same year with 1.275 “Gourdes”. From these data, we can conclude that, for the year 2017, we have an average annual variation of 1200, 25 Gourdes. For the year 2018, an average annual variation of 1322.5 Gourdes. For the year 2019, only for the months of

² Gourde is Haiti’s currency unit. 1 USD = 93,2171 HTG (reference rate of UNIBANK SA on July 31, 2019).

January and February 2019, an average annual cost of 1501 Gourdes.

Comparing the average annual cost between 2017 and 2018, we see that there is an increase of 9.24% in the average annual cost of the basic food basket per capita. For the year 2019, in the months of January to February, this same scenario continues for the current year, with an increase of 11.89%.

According to data from the years 2017, 2018 and 2019 (*ceteris paribus*), consumers' purchasing power has decreased. The increase in the price of basic products (rice, beans, corn, flour, sugar and vegetable oil) was largely explained by the reduced agricultural production. In this case, agricultural production must be increased to compensate for the scarcity and, at the same time, solve the food needs of the municipality's inhabitants.

For this reason, food insecurity can have serious consequences on the lives of the people of Tabarre, since hunger can cause harm if adequate measures are not taken. In the municipality of Tabarre, urban agriculture is a tool that could serve as a strategy to combat food insecurity and at the same time contribute to local development.

4. Urban Poverty

The problem of poverty has nowadays taken undeniable attention in underdeveloped countries and, above all, in cities [12]. In Haiti, this problem affects both large and small cities, due to a lack of employment and an increase in population, mainly in the municipality of Tabarre, from 118,477 inhabitants in 2009 to 130,283 inhabitants in 2015 [13].

Urban poverty is a phenomenon in which men and women differ in relation to the unemployment rate. This, in turn, is an increasing function of the urbanization rate: relatively low in rural areas (7.3% in 2012), reaching more than one in four inhabitants (25.6%) in the Metropolitan area of Port-au-Prince, where the municipality of Tabarre is located. In addition, poverty is the main cause of vulnerability for

urban inhabitants [5]. The main challenge, therefore, is to ensure that the city is an opportunity for citizens to improve their incomes and living conditions.

In this urbanization process, with the precariousness of the social fabric, urban agriculture appears as the best possibility of creating sustainable employment in the municipality for the well-being of the population. With the rural exodus, people migrate from rural areas of the country to the municipality of Tabarre in search of greater opportunity. The fact leads to an increase in the population. The population increases in the same direction as poverty in the municipality.

In this way, the integration of agriculture allows people to solve their needs and create more opportunities for all the deprived neighborhoods of Tabarre. The issue of urban poverty is complex, we cannot approach it from a simplistic angle. Given the complexity of poverty in cities, this problem must be addressed from its root and, above all, in a technical framework that will lead to the development of urban poverty reduction policies.

This urban phenomenon cannot be seen in isolation, but as a result of the disproportion between the supply and demand of reception in the city, the interaction of factors related to poverty, unemployment, inefficient resource management and insufficiencies in governance [14]. Thus, Fig. 2 explains the factors related to poverty in urban areas.

When checking Fig. 2, the author clearly explains the relationship that exists between economic growth, migration to urban centers and the low capacity of institutions to manage insufficient resources in the context of poverty in the city. The fact reinforces how poverty manifests in the city and affects the life of the population. This is no different from the reality of the municipality of Tabarre.

The Metropolitan area of Port-au-Prince has undergone a series of territorial changes in recent decades and the municipality of Tabarre has also experienced this situation. These changes largely contribute to the vulnerability of the population that

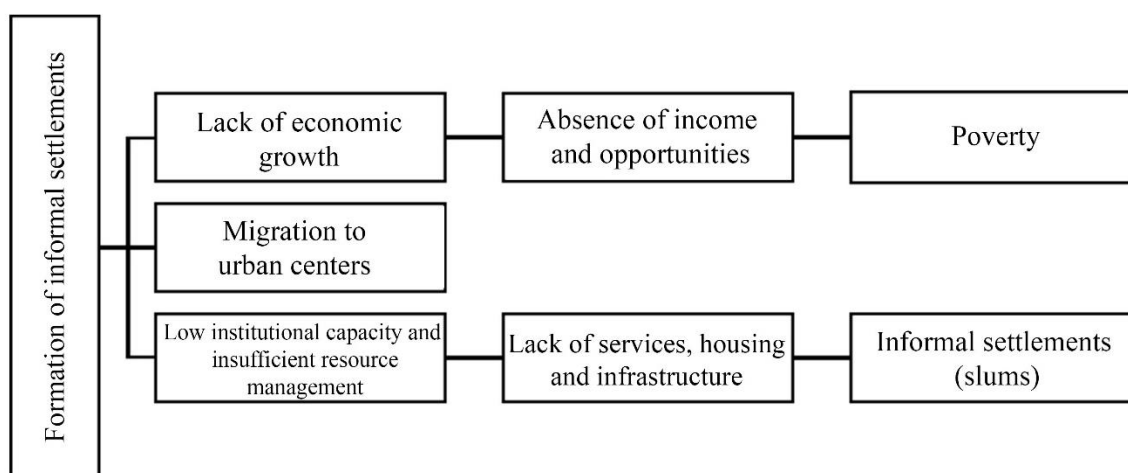


Fig. 2 Scheme of the factors of formation of informal settlements [14].

worsened after the January 12, 2010 earthquake. That earthquake, measuring 7.0 on the Richter scale, left a death toll of around 300,000, according to a report by the Department of Mining and Energy [15].

This situation increased the level of poverty existing in the Metropolitan area of Port-au-Prince, also generating negative macroeconomic effects, such as urban unemployment and the rise in the underemployment rate. There is also a high rate of poverty and extreme poverty, negligible municipal revenues, inadequate and poorly targeted local public spending that increase people's level of vulnerability [16]. The population becomes more vulnerable, especially those living in risk areas. In this context, urban agriculture can play a considerable role in reducing poverty and creating more opportunities.

5. Urban Agriculture in the Fight Against Climate Change

Urban agriculture is important to reduce the effects of climate change, which is a global challenge. Generally, poor people living in urban areas, often located in the most vulnerable areas of the city, need to adapt to climate impacts, as they will be the most affected. The increase in food prices will directly affect the urban poor, because they spend a large percentage of their income buying food [9].

Furthermore, as the author states, with agriculture integrated into the urban fabric, the risks of climate change are reduced, making it possible to create more opportunities, especially for people living in risk areas. In this way, the integration of urban agriculture will allow the inhabitants of Tabarre to better face the effects of climate change. To return to the author's words, "so that urban agriculture can play an optimized role in climate-friendly development, innovations in its own systems and practices are needed to make them more resilient in the face of climate change".

Another important aspect is the innovation that must be increasingly adapted to the new techniques used in agriculture to face challenges. Today, we are witnessing the growing impacts of climate change that aggravate cities, as they need to not only reduce the vulnerability of the most affected people, places and sectors, but also contain greenhouse gas emissions to prevent climate change from becoming uncontrollable and devastating [17].

In this case, the integration of urban agriculture in the municipality of Tabarre would be an ideal strategy to face the challenges of climate change. In addition, this strategy will allow people to reduce the risks of diseases and other types of negative effects resulting from climate change and in the long term contribute to the local development of this municipality.

Then, according to Lwasa (2014) [18], these impacts mainly affect the poor, women, the elderly and urban youth, due to their greater vulnerability. Thus, as there is growing evidence of the positive role of urban agriculture in reducing poverty, its importance in reducing these vulnerabilities in the face of climate change is also perceived [18].

All of this is discussed to explain the role of urban agriculture in the fight against climate change and other types of vulnerabilities that the municipality of Tabarre has been facing. In a broader sense, we can say that urban agriculture is a sustainable solution for the city because it takes into account many essential aspects in the lives of urban residents. For this reason, it can be a strategy for the local development of the municipality of Tabarre.

6. The Importance of Urban Agriculture in Local Development

As previously stated, urban agriculture is an ideal strategy for the local development of the municipality of Tabarre, since it can generate satisfactory results for the well-being of residents. According to the United Nations Food and Agriculture Organization [19], Urban Agriculture is understood as a multifunctional and multicomponent activity, which includes the innocuous production or transformation of agricultural and livestock products in intra and peri-urban areas, for self-consumption or commercialization. It is the (re)efficient and sustainable use of local resources and inputs, respecting local knowledge and promoting gender equity through the use and coexistence of appropriate technologies, as well as participatory processes to improve the quality of life urban population and the environmentally sustainable social management of cities [19].

For Aquino and Assis (2006) [20], urban agriculture refers not only to vegetable production, but also to animal breeding (birds, bees, fish, rabbits and others). The urban agricultural system can be a combination of many different activities, including from horticulture

and the cultivation of cereals, such as corn and beans, to integration with animal production, using vegetable remains in their food, through composting alone or in together with manure from Creations [20]. Therefore, urban agriculture has the potential to contribute to the local development of the municipality of Tabarre, that is, the practice of this activity in the municipality allows residents to respond to their food needs and, at the same time, participate in the generation of jobs and income. Its multidimensionality generates more opportunities to fulfill this function.

Local development, in turn, since this is a concept, can receive different and variable definitions, depending on the author's argument used. Thus, the concepts linked to local development, as a response and alternative to the failure of previous attempts to promote development, emerged from the crisis of the 1970s, when local spaces gained relevance in the analysis to rediscover and reintegrate local resources and potential, as well as seeking new logics of articulation and, at the same time, facing regional imbalances [21].

According to Melo (1998) [22], local development, considered by him as a development process, which needs to have a common vision where economic, social, cultural, political and environmental initiatives culminate in the same mission [22]. This common view that the author highlights is necessary to achieve the objectives. To start local development, as stated by Oliveira, Silva and Lavato, a collective will is needed to improve the quality of life of people living in the municipality of Tabarre, seeking to identify the potential existing in these communal sessions [23]. In the same sense, says Bernard Vachon:

Local development is essentially based on mobilizing and exploiting the potential of an environment. This type of development rejects the inevitability of exclusion and tries to find solutions to precariousness and poverty, taking on the challenge of employment and development. It is by focusing on resources, skills, local businesses, current or to be developed, as opposed to significant transfers of industrial activities and public

investment from outside, that local development actors decide to participate in the economic and social recovery of their community [24].

For the aforementioned author, mobilization and exploitation are inevitable to take advantage of the potential of any place in order to allow residents to gather around a project that could improve the quality of life and change people's socioeconomic situation. In any case, the human being must be the center of discussions on local development because there is no sustainable development without the participation of all actors in the municipality.

However, the human dimension of development is based on the valorization of people in their fullness, which assumes economic growth not as an end, but as a means to reduce human deprivation and afflictions. Turning to people and not objects, this is the basic principle of human-scale development [25].

For this reason, the municipality of Tabarre has become a pole of attraction for populations in search of services and economic opportunities. For these reasons, there is an opportunity for economic growth with the practice of urban agriculture [26]. But also, the potential for agriculture makes Tabarre a reference in the Metropolitan area of Port-au-Prince. Therefore, the local development of this municipality should include urban agriculture.

7. Conclusion

It is concluded in this study, that urban agriculture can be considered as a strategy for the local development of the municipality of Tabarre. Urban agriculture, present in several countries of the world as a strategy for both city planning and public policies, has the potential to be a strategic element in the development of the municipality of Tabarre.

It is evident that, in the context of widespread urbanization in Tabarre, urban agriculture proves to be the ideal strategy for the local development of the municipality, which was previously a “communal section” of the municipality of Delmas and is now entirely urbanized and populated. In the context of food

insecurity in the municipality of Tabarre, as shown by the quantitative data from CNSA, the presence of this agriculture can serve as a strategy to create opportunities and respond to the food needs of residents in the municipality.

Thus, the importance of urban agriculture in local development was described, as well as the benefits of this type of development. Urban poverty was addressed in this session based on several authors and some quantitative data from the Haitian Institute of Statistics and Informatics, used to contextualize Haitian poverty and, particularly, the poverty of the municipality of Tabarre.

Finally, the role of urban agriculture in the fight against climate change is considered. In a broader sense, we can say that urban agriculture is a sustainable solution for the city because it takes into account many aspects considered essential in the lives of urban residents.

Urban agriculture remains an advantage for the city and will continue to be in the future. Therefore, studies should be carried out in this area to take advantage of the potential of urban agriculture. Decisions must be made to develop public policies in order to improve the well-being of the population. The strategy of implementing urban agriculture for the local development of the municipality of Tabarre is a decisive element in tackling poverty and food insecurity.

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