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POLICY AND REGULATORY CONSTRAINTS TO GOOD LAND GOVERNANCE IN UPPER EGYPT

THE CASE STUDY OF ASWAN–NEW ASWAN

RESEARCH PROJECT ON LAND GOVERNANCE IN THE ARAB REGION

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POLICY AND REGULATORY CONSTRAINTS TO GOOD LAND GOVERNANCE IN UPPER EGYPT: THE CASE STUDY ASWAN–NEW ASWAN

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ABOUT THIS PAPER

The Research Innovation Fund - This paper was developed as part of the Research Innovation Fund of the Arab Land Initiative, addressing students and young land professionals from the Arab region interested in conducting research on land governance-related topics. The Arab Land Initiative, led by UN-Habitat and Global Land Tool Network (GLTN) with the financial support from the Federal Ministry of Economic Cooperation and Development of Germany (BMZ), launched the Research Innovation Fund in July 2020. The GLTN partner Urban Training and Studies Institute based in Cairo, Egypt managed the first edition of the Fund, which assessed over eighty research proposals and selected seventeen to be developed, with the support of a pool of senior reviewers from the Arab Land Initiative's network.

GLTN and the Arab Land Initiative - GLTN is a multi-sectoral alliance of international partners committed to increasing access to land and tenure security for all, with a focus on the poor, women and youth. The Network's partners include international rural and urban civil society organizations, research and training institutions, bilateral and multilateral organizations, and international professional bodies. In 2016, GLTN Partners, led by UN-Habitat and the World Bank, launched the Arab Land Initiative to promote equal access to land, peace, stability and economic growth in the Arab region through good land governance and transparent, efficient and affordable land administration systems. The Initiative aims at empowering land champions from the region by developing capacities, increasing collaboration and promote innovation, learning and sharing of best practices. It also supports the implementation of land gender-responsive and fit-for-purpose land tools and approaches at national and local level. The Research Innovation Fund is one of the streams of work of the Arab Land Initiative..

For more information, please consult the referenced documents, visit **www.gltn.net** or write to **unhabitat-gltn@un.org**

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ABBREVIATIONS

ASRT	Academy of Scientific Research and Technology
BRT	Bus Rapid Transit
CAPMAS	Central Agency for Public Mobilization and Statistics
GARPAD	General Authority for Reconstruction Projects and Agricultural Development
GOPP	General Organization of Physical Planning
GTZ	German Agency for Technical Cooperation
IDA	Industrial Development Authority
ISDF	Informal Settlement Development Fund
MFF	Mortgage Finance Fund
MHUUC	Ministry of Housing, Utilities and Urban Communities
NAA	to New Aswan Apparatus
NUC	New Urban Community
NUCA	New Urban Communities Authority
NUCP	New Urban Communities Program
SHF	Social Housing Fund
SHMFF	Social Housing and Mortgage Finance Fund
TDA	Tourism Development Authority
UDF	Urban Development Fund

EXECUTIVE SUMMARY

Land governance is a cross-sectoral field that touches upon different aspects of the social and economic life of societies, and relates to different sectors including planning, governance, environment, economy, human rights and law. It is concerned with how human settlement manages the competing interests in land as well as the regulations, structures and practices through which decisions are made about land access and its use, and how decisions are put into effect and enforced (Palmer et al., 2009, p. 9).

This research is concerned with identifying key policy and regulatory constraints to good land governance in Upper Egypt. It critically examines the present capacity of land governance policies to stimulate a balanced utilization of land that tackles Egypt's ultimate challenge, to channel population growth out of the congested Nile Valley and Delta, and to the New Urban Communities (NUCs) closely located within its desert fringes. Additionally, it critically investigates how to craft tailor-made policies of reform and a framework for action to initiate a viable transformation towards good land governance. The research investigates the very intricate and special governing rules, processes and structures in which decisions are made about access and exploitation of State land. A critical understanding is developed to assess the present institutional and regulatory moulds contributing to the formulation of decision-making and the defining of the efficiency of land governance.

The research builds on and adds to the current state of knowledge associated with land governance in Egypt. The research method developed addresses the objective of assessing New Urban Communities Programme (NUCP) in Upper Egypt and opts for the analysis of the case study of Aswan–New Aswan as a prominent case of urban development within the region. For exploring the development of NUCs in Upper Egypt and their underlying policy and regulatory measures, various laws and decrees of land governance and administration were collected through digital data mining and critically assessed and investigated. For mapping, the archived materials provided through the General Organization for Physical Planning (GOPP) library in Cairo were scrutinized to collect the sequence and pattern of decision-making regarding the NUCs and case study along with the most recent and detailed national statistics of Egypt by Central Agency for Public Mobilization and Statistics (CAPMAS) in 2017 to support the empirical analysis. The researcher also gained access to New Aswan Apparatus (NAA) and GOPP data, and collected the necessary reports, plans and maps that unveil the historical development of spatial strategic planning and its implication on land governance. Field research was carried out in Aswan, New Aswan as well as other cities in Upper Egypt while mapping, local interviews, observations and meetings with the responsible planning officials and consultants were undertaken to understand the practices of land governance in context.

With more than a quarter of the Arab world's population, Egypt's rapid population growth continues to build up the pressure on its long-standing cities and rural areas, and accelerating the loss of agricultural land in its vulnerable fertile patch of the Nile Valley. In order to countermeasure such a challenge, Egypt envisions to realize an ambitious goal by 2030, "to reach a balanced spatial development and management of land and resources to accommodate population and improve the quality of their lives" (MMAR, 2016, p. 258). Upper Egypt, with its vulnerability to economic stresses, its higher ratio of household overcrowding, higher fertility, population growth rates and rural to urban migration rates, has been the State arena for establishing 15 NUCs to play a major part in decongesting the long-standing cities and villages in eleven governorates.

However, the analysis of official data addressing the detailed population size of governorates, cities, villages and NUCs in 2017 unveiled that the NUCP in Upper Egypt, with mainly 10 out of 15 NUCs initiated between 1985 and 2000, has managed to decongest less than 0.2 per cent of the population living within the region's governorates. Such an extreme level of underperformance is also matched at the level of NUCP in Upper and Lower Egypt together. The programme lasting over four decades and mobilizing immense resources, has only managed to decongest the Nile Valley and Delta by less than 2 per cent (1.6 per cent) of the total population in 2017.

Such alarming and underperforming figures warn of serious drawbacks in the NUCP and demonstrate that its unvalidated endurance would inflict a range of reverberating impacts on the Egyptian long-standing cities and villages including encroachments over proximate agricultural lands, over-congestion and informal growth.

By analysing the historical evolution of the institutional structure, with regard to access to land and economic development, it became evident that desert development either in the form of agricultural reclamation or urban development started to be outstripped from municipal jurisdictions and designated as the sole responsibility of sectoral and ministerial authorities since 1954 and ultimately by the establishment of New Urban Communities Authority (NUCA) in 1979. As a

result, from an economic point of view, NUCs were planned and built-in disassociation from the municipal annexation to governorates and were legally isolated from any mechanisms of coordinated and integrated planning with the governorate and its municipal levels. It became evident that urban growth in desert areas is undergoing expansion with a partial toolbox, using a unilateral, central and non-locally representative capacity of decision-making. Such confinement of local well is not effective in serving good land governance and fails to generate correlated and coordinated growth on the regional level. Additionally, desert land became recognized among the private State properties, '*amlak al-dawla al-khasa*' in Arabic, being subjected to centralized, economic and non-representative authorities for utilization and disposition.

The urban growth limits, or cordons, as administrative borders defining the jurisdictions of a corresponding local administrative unit, or in other words, the municipal jurisdictions, have gained less importance as regulators of urban growth and are used as boundaries that differentiate competing interests and protect extra-territorial economic gains of authorities within governorates. The long-standing governorate- authority conundrum is hindering the activation of coordinated institutional capacity aimed at bottom-up planning and problem-solving for good land governance, the organization of the built environment, welfare production and development.

The impacts of such drawbacks encountered in the institutional structure of land governance were explicitly manifested by analysing the case study of Aswan–New Aswan. New Aswan site selection was to mainly achieve a debatable legal condition that apparently ignored the urban growth limits of Nag el-Fuqani Village to position the city over the Nile banks and allow sectoral and independent economic exploitation of land by NUCA within the jurisdiction of Aswan Governorate. New Aswan missed its target population of 70,000 residents in 2017,

and instead, according to the 2017 official census of the NUCs surveyed by CAPMAS, the inhabitants of New Aswan were 95 (CAPMAS, 2017). The NUCs, with nearly the same area as Aswan City, is sprawling over a massive scale of land forming a gigantic construction site.

Overall, the research has identified various constrains to good land governance that are not limited to the following points:

- The development and management of State land is structurally disintegrated and fragmented over various governmental institutions. The legal right of development, utilization and disposition is practised centrally and with insufficient mechanisms of coordination among ministries, authorities and governorates; most importantly, without the contribution of the necessary bottom-up planning to urban planning and governance.
- Conflicts in strategic planning objectives exist between the spatial strategic planning of Egyptian long-standing cities, its rural hinterland and the strategic planning of NUCs.
- Investments in the old cities and villages are imbalanced in favour of NUCs. In certain cases, the dual economic model unveils extreme disparity in supporting public health, public infrastructure, housing and landscape.
- Transit systems between old cities and villages, and NUCs, although being of an imperative necessity to sustain inclusive growth, are not considered or integrated into the regional planning and development mindset. In certain cases, their right of way, when already exists, is not utilized to serve new growth areas. Also, the agricultural land is imperative. The NUCs in governorates with rural nature cannot be distant from the existing bioregional capacity. The proximity of agricultural practice helps reduce the opportunity cost of moving to NUCs and create the base of local economics
- Absence of municipal annexation to new growth territories of NUCs curtails sharing the economic benefits of growth and the support of an integrated development model with shared gains and risks.
- Rapid land sales and real estate purchases do not reflect increased population growth in NUCs but might indicate increased speculation. In this regard, land governance mechanisms manifest no respect to incremental spatial growth, in many cases, priorities are given intensifying revenues over developing competitive and self-sufficient communities.
- Absence of municipal annexation disassociates the planning and development of NUCs from sharing services, facilities and infrastructure in a fair and equitable approach.
- Land governance policies are built on outdated and unverified planning theories that support segregation of land and building use, and monotonous utilization of land. Mixed-use, compact and walkable urban environments, which are the real essence of sustainable and resilient urbanism, are poorly adopted in developing NUCs.

This research advocates for the following:

The top priority for the framework for action is for economic authorities such as NUCA, General Authority for Reconstruction Projects and Agricultural Development (GARPAD), Industrial Development Authority (IDA) and Tourism Development Authority (TDA) to be gradually reformed and embedded into the local municipal structures at governorate level. Instead, municipalities should be in charge and with the sufficient capacity and jurisdiction to develop an active, integrated, inclusive land governance. A process that is enduring in coordination with the participation of local communities and under the institutional supervision and follow up of various ministers for an unremitting feedback and adjustment of plans according to a National Strategic Plan.

In advocating for a post-NUCP era, a framework for action is introduced. First, by restoring municipal jurisdictions and annexation over development in desert areas, it aims to initiate an institutional reform over a long-term plan to disengage from authoritarian management and exploitation of governorate's assets. Second, to develop resilient and sustainable municipal capacities that stimulate societal guidance in strategic spatial planning.

With the present underperforming growth rates in decongesting the Nile Valley and Delta to NUCs, it is highly recommended to bring the expansion and new proliferation of major underperforming NUCs to a halt. The policies of building NUCs must not be granted an open-ended concession without a clear institutional standing and a firm time limit to disengage from the exploitation of governorate's assets. New Aswan is no exception to other underperforming NUCs such as New Qena, New Toshka and others. This research brings no advocation to double or triple their governmental investments but to rationalize their growth and governance institutionally and to rebalance the economic emphasis towards cross-sectoral development areas such as mobility, industry and agriculture.

The environmental, social and economic needs of long-standing cities in Upper Egypt such as Aswan and Qena must gain the upper hand and dominance over the planning and development of settlements and NUCs in their desert hinterland enabling a type of development that starts from the inside out. Annexing existing NUCs to their governorates financially and legally is essential to ensure inclusive and responsive development that correlates with local development priorities and responds to local identity. A metropolitan approach in linking the strategic spatial planning of NUCs with governorates' old cities and villages, must be coherently enforced within its institutional and legal background. The NUCs must be subjected to a municipally guided retrofit, control and intervention through grass-roots legislative amendments. The localization of urban planning and management expertise in municipal units is essential to build local governance mechanism with comprehensive expertise in urban rehabilitation. This study contributes important evidence that the inherited State-led duality, within the institutional and economic structure of planning and managing desert developments, is associated with a record and a trajectory of misguided, uncoordinated and inefficient patterns of urban growth in Upper Egypt.

Aswan Governorate and its centre, Aswan City, are particularly endowed with precious traditional and cultural heritage, unique scenery and rich environmental characteristics. Aswan strategically anchors both sides of the Nubian and African contexts with numerous and diverse potentials to excel and to unleash a significant positive transformation within the social and economic domain. A wise and a comprehensive strategic spatial planning of Aswan City that is oriented towards existing areas is an extremely viable alternative. However, the planning and rehabilitation of old areas in Upper Egypt and in Aswan Governorate in particular, is a very complex and challenging mission. A critical priority is to maintain a bottom-up participatory approach to fulfil the needs of the community and to plan for a resilient future. The future of New Aswan (as many other projects in Aswan Governorate) must be determined within Aswan Governorate, and with a cognitive and collective well towards ameliorating numerous social, environmental and economic complications.

The conclusion of this research can provide no urban model or a masterplan but can refer to ideas that were inspired by various discussions among the society and the academic community in Aswan City. Regrettably, the realization of these ideas is beyond reach due to the current ineffective planning structure that derails rational integrated development efforts.

First, it is advocated that Aswan development should be initiated as a part of an integrated development scheme to Upper Egypt, and Aswan Governorate, otherwise, development effort in Aswan would never be sufficient to serve the ever-increasing migration influx from the less affluent governorates in Upper Egypt. Second, as a touristic city with an African dimension, Aswan needs to convey an urban regeneration strategy with a framework for developing urban in-fill areas, enhancing and improving the liveability of the city. One of the ideas is embodied in an in-fill development and densification scheme along a regional transit-ori-

ented growth model. The idea is to utilise the existing right of way dedicated for railway transport from Lower Egypt to Upper Egypt passing through Luxor to Aswan up to the High Dam's Africa station, an influential harbour for trade with Sudan through Lake Nasser.

The institutional and legal contexts of land governance is detrimental to the efficient use of land. The research strongly advocates for adjustments in the existing structures and practices to shift towards a coordinated and integrated form of active governance. Also, to direct and steer the process of urban growth through an incremental planning and development mechanism where corrective actions become conceivable and eliminate the recurrence of realizing misguided and inefficient planning measures.

CHAPTER ONE: RESEARCH BACKGROUND

In planning and managing cities, good governance acts as a pivotal conduct that sets the difference between well-managed and inclusive cities and poorly managed and exclusive ones. Good land governance supports urban development landscape and extends over various action areas directing growth management. According to Palmer et al., (2009, p. 9), land governance denotes the following: Land governance concerns the rules, processes and structures through which decisions are made about access to land and its use, the manner in which the decisions are implemented and enforced, and the way that competing interests in land are managed.

Good land governance implies the realization of equitable policies, and that the acting laws and institutions reflect an explicit recognition of existing rights that are derived in a participatory manner and with a monitored implementation. It is also associated with initiating a land use planning and taxation to avoid negative externalities, enabling the provision of services at low cost, and support effective decentralization (Deininger et al., 2014, p. 78).

By 2050, over 70 per cent of the Arab world's population will be urban, bringing new challenges in sustaining inclusive, resilient, and safe human settlements (Habitat III, 2020, p. 15). The Habitat III Regional Report on the Arab Region provides a comprehensive diagnosis and illustrates key conclusions and recommendation on good governance in the Arab Region. The report highlights that "the impacts of rapid urbanization across the Arab Region are exacerbated by fragmented and complex legal and institutional structures that are often ineffective in implementing policy" (Habitat III, 2016, p. 57). The report also highlights that the implementation of comprehensive and transparent governance frameworks is impeded by "limited coordination between the different ministries and institutions responsible for urban development, between central and local levels of governance, and among local government units" (Habitat III, 2016, p. 57). Other issues concerned with fragmented governance structures, inefficiency in the field of implementation and limited coordination mechanisms are major problem areas. The reform proposals lie in the areas of strengthening bottom-up approaches, participation and new forms of vertical and horizontal coordination.

With more than a quarter of the Arab world's population, and with an average growth rate of 2.56 per cent between 2006 and 2017 (CAPMAS, 2018, p. 2), Egypt's rapid population growth continues to build up the pressure on land and housing infrastructure. The country is accelerating its efforts on different arenas to reach a level of enabling the resources and capacities that other developed countries took decades to supply and deliver to their nations but with a rather more stable population growth rate. Indeed, as Ikram (2018, p. 5) puts it, "Every two years, Egypt adds a New Zealand or Ireland to its population" … and "every three, a Denmark or Finland". As the time progresses, the alarming population growth rate poses a significant risk to meeting the strategic objectives of the Egyptian State even though it is projected to decline reaching 1.86 percent by 2030. Upper Egypt[1] in particular, remains until very recently with the highest fertility rate and the most concentration of governorates with the higher rates of population growth (CAPMAS, 2020, p. 4).

Egypt's strategic vision for urban development until the year 2030 is ambitious in terms of targets and objectives. It underlines achieving "a balanced spatial development and management of land and resources to accommodate population and improve the quality of their lives" (MMAR, 2016, p. 258). Additionally, the vision for 2030 sets an ambitious key performance indicator that reflects an expansion in the habitable area of land from 7 to 11 per cent of the total Egyptian landscape to meet the upsurge in population growth (MPMAR, 2017, p. 260). Recently, and according to statement of the Ministry of Housing, Utilities and Urban Communities (MHUUC), the percentage of the targeted habitable area exceeded what was announced in Egypt's Vision 2030 to reach between 12 and 14 per cent (Negila and Zamzam, 2019). Such a policy implies that Egypt aims at doubling its habitable area by no less than 17 million feddan which is equivalent to more than double the size of the Nile Delta, sparking many questions on the validity of the present institutional and regulatory set-up to bear and steer such an ambitious policy, especially, within the land governance arena.

1 Upper Egypt is deemed as the division of Egypt generally comprising of the Nile River Valley south of the Nile Delta and the 30th parallel north. It thus includes the entire Valley from south of Cairo to Lake Nasser.

CHAPTER TWO: INTRODUCTION, RESEARCH PROBLEM AND RATIONALE

Within the Egyptian context, good land governance has been fairly addressed and debated in the works of (Sims, 2014; Singerman, 2011; Kassem, 2014; Nada, 2014; Soliman, 2014; Abdel-Ghani, 2016; Reda, 2020). Sims (2014, pp. 261–280) offers a comprehensive analysis arguing that the management of public land in Egypt is fatally disastrous. His heavy criticism is rather based on a comprehensive and detailed analysis and assessment to the policy, institutional foundations, urban management practices and the physical planning of the Egyptian landscape. Singerman (2011, pp. 9–10) argues that the weakness and impermeability of municipal governance in Egypt adversely influence the efficacy of developing urban projects, policies and services. Within the same line of understanding, Kassem, (2014, pp. 1–14) argues that poor land governance in Egypt constitutes an obstacle to economic development, and points to an implementation gap between the institutional practice and the legal reforms undertaken by the State. Nada, (2014, p. 170) claims that in the absence of decentralized governance, the lack of integration and connectivity between sectoral interventions by ministries results in the allocation of investments that might not be consistent, or might even be contradictory, with the national, regional or local strategic plans.

In terms of informal growth and its association with the hardships of land accessibility, Soliman, (2014, p. 118) deems that the Egyptian Government ought to foster an orderly process of land governance to regulate the benefits of the collective resources and enable a practical and logical system that reaches out to informal areas. Abdel-Ghani, (2016, p. 12) brought more emphasis on the importance of reinforcing the role of State over formal growth, especially in terms of the new gated communities that sprung up within the NUCs by allocating low-priced vacant lands to private developers to construct elite gated communities. He suggests that they come as a part of the State's march to neoliberalism; and that the notion of governance within the land dedicated to gated communities manifests a delegation of legal authority being transferred to private entities, which undermines the role of the State (Abdel-Ghani, 2016, p. 12). Reda (2020, pp. 19–22) perceives the criteria for land allocation to investors in NUCs and outside the urban growth boundaries of the long-standing cities and villages to be vague and unclear, and without transparent procedures for assessment. Thus, leaving the door wide open for corruption and possible loss of public money. During the last four decades, Egypt has been marching into the mass construction of NUCs and diverting the lion's share of its planning and financial resources towards establishing and operating them (Sims, 2014, pp. 147–148).

Initially, by the late 1970s, the Egyptian State introduced the NUCP as a strategic programme steering towards three main objectives; to absorb population growth away from the Nile Valley into the desert, to shrink informal growth, and to limit encroachments over agricultural land (Abdel-Kader and Ettouney, 2009, p. 2). The unfortunate fact is that forty years after the programme's initiation, the project is ongoing with limited success in meeting its pre-set goals. Key project drawbacks are slow growth rates, imbalanced population mix in terms of high, middle and low-income groups, and most critically, its low-density sprawling, loose and dispersed urban growth model (Rageh, 2007, pp. 92–96; Sims, 2014, pp. 140–146; Abdel-Kader and Ettouney, 2009, p. 10; Hegazy and Moustafa, 2013, p. 12).

2.1. Research Gap, Questions and Objectives

The research gap addressed in this research is concerned with identifying the constraints to good land governance in Upper Egypt, and in particular, the capacity to stimulate a balanced utilization of land by channelling population growth within the Nile Valley and Delta towards NUCs within its desert fringes. Since the NUCP policy has become persistent despite many of the above-mentioned shortcomings, the research opts to focus on the development of NUCP in Upper Egypt while paying a particular focus on the development of Aswan New–Aswan metropolitan growth model as a case study.

The topic builds on and adds to the current state of knowledge associated with land governance in Egypt. The main question sought out in this research is: What are the policy and regulatory constraints to good practices of land governance in Upper Egypt? The question aims to critically review and understand, by seeking out empirical evidence through mapping and statistics and by focusing on Aswan–New Aswan region, the impediments against initiating good land governance and inclusive development.

The research question also aims to elaborate tailor-made solutions and a framework for action for initiating a viable transformation towards good land governance. Other supplementary sub-questions to reinforce responding to the research aim target the nexus between land governance and spatial strategic planning, the history and influence of previous development schemes that opted for good land governance, the pros and cons of these practices, and the constraints hindering the materialization of the outcomes of new policies thought to facilitate development and access to land (Table **I**).

Main Research Question	Supplementary Research Questions	
What are the policy and regulatory constraints to good practices of land governance in Upper Egypt?	Q1	What is the institutional structure for land governance in Upper Egypt, how does it respond to the needs of good governance and what are the official ?laws and decrees that most influence land governance
	Q2	How was the NUCP policy developed over the establishment of several NUCs in Egypt? What is the real achievement of the NUCP in Upper Egypt during the last 35 years in terms of improving access to land and promoting the decon- ?gestion of old cities and villages
	Q3	What is the history of spatial strategic planning and land governance in Aswan region? What is the present status quo and what are the outcomes of activat- ?ing the NUCP in Aswan Region during the last 20 years
	Q4	What is the impact of the institutional set-up of land governance in Upper ?Egypt? How did it influence the case study of Aswan–New Aswan
	Q5	Based on the analysis of NUCP in Upper Egypt and the case study of Aswan–New Aswan, how is a tailor-made framework articulated for action that con- siders the present disabilities in land governance and enables a transformation ?towards good and innovative practices of land management

Table I: Research questions.

The selection of Upper Egypt and the case study of New Aswan is based on several justifications, among them:

- Most of the NUCs in Upper Egypt (fifteen new cities) are relatively new in comparison to other NUCs in Lower Egypt. Being in an early stage of development and having not yet reached its full physical structure allows for an excellent opportunity to deliver and realize adaptive measures for retrofitting, optimizing its future growth model and extending its develop- ment potential.
- The scale of land planned and developed for NUCs in Upper Egypt is paradoxical with regard to its deficien- cy in attracting population and channelling them outside the long-standing cities and villages. Actual population numbers provided (see Appendix) are based on (CAPMAS, 2017). The total number of inhabitants living in NUCs within Upper Egypt amounts to 55,544. The best performing NUC is New Beni Suef, established in 1986. Until 2017, (31 years) it managed to decongest a population of 27,629 out of 663,187 inhabitants residing in Beni Suef City and its rural centre, and equivalent to 4.1 per cent of the population. Other NUCs are recording drastically lower population numbers raising many critical concerns on their viability.
- From an economic point of view, examining and developing access to land and land governance in Upper Egypt is decisively important in the light of the region's vulnerability to economic stresses and deprived living conditions. According to CAPMAS (2019, p. 79), half of the inhabitants in Upper Egypt are living below poverty line, with less than 45 US dollars per month. Other factors also prioritize the investigation of Upper Egypt. These include the higher rates of household overcrowding and the higher rates of rural-urban migration (CAPMAS, 2017, pp. 25–26).
- In terms of the case study selection, and among several NUCs in Upper Egypt, New Aswan–Aswan metropolitan growth model has special representa- tion to the new urban landscape developed in Upper Egypt. Aswan is Egypt's southern gate to Africa, and among all the cities of Upper Egypt, during the last fifty years, Aswan has witnessed significant growth activities in comparison to other cities in Upper Egypt (Aboukorin, 2017, p. 1823).

Figure I below details and classifies NUCs, and their location in Upper and Lower Egypt (26 and 16 NUCs respectively) along with the location of the key long-standing cities. Additionally, the figure highlights the boundaries of Aswan Governorate and the location of the case study cities, Aswan–New Aswan.

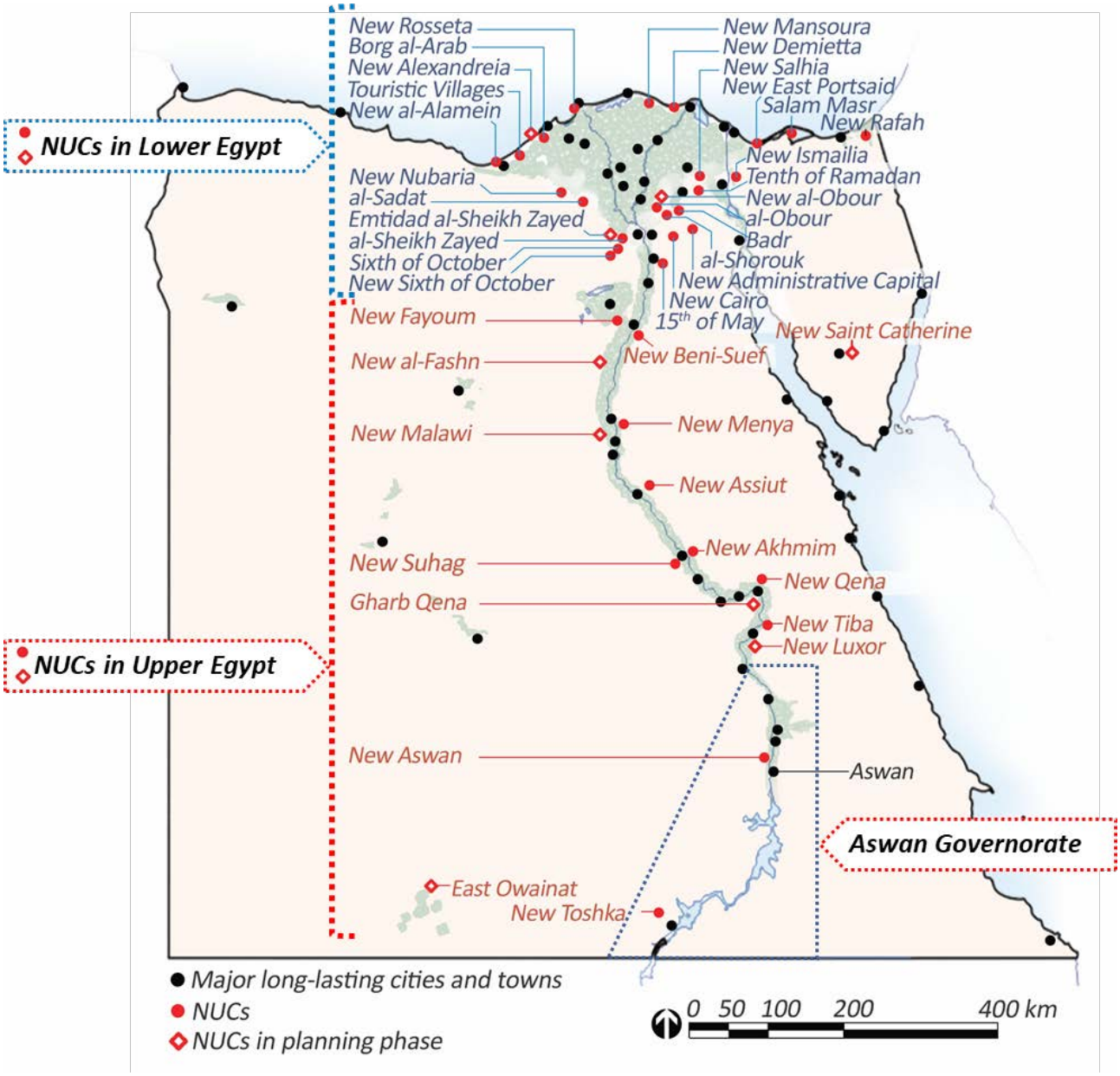


Figure I: Egypt's NUCs developed under the NUCP within Lower and Upper Egypt.
Source: Adapted from NUCA (2018).

2.2. Research Methodology

The method developed for this research addresses the objective of assessing NUCP in Upper Egypt and the case study of Aswan–New Aswan. In terms of NUCs in Upper Egypt, and for exploring the underlying policy and regulatory measures, the relevant laws and decrees of land governance and administration were collected through digital data mining and based on a systematic literature review of various official las and decrees defining their evolution. For empirical evidence on the scale of population growth, the necessary data will be compiled based on the most recent and detailed national statistics of (CAPMAS, 2017). For mapping, the archived materials provided through the GOPP library in Cairo were checked and found to add a great value to this research. The researcher also gained access to archives of other institutions, and accessed the necessary reports, plans and maps that unveil the historical development of spatial strategic

planning and its implication on land governance. In this sense, a retrospective approach will be adopted for elaborating answers, as in particular, for studying the Aswan–New Aswan model. A retrospective case study requires meeting several research conditions, most importantly, the collection of data relating to its history through careful study and historical integrity, defining causal mechanisms, and investigating a large number of intervening variables (Starman, 2013, p. 37).

Mapping, local interviews, observations and meetings with the responsible planning officials and consultants were undertaken to understand the practices of land governance in context. Field studies and engaging with several local institutions and individuals brought much support to gathering credible and realistic data regarding the metropolitan growth of Aswan–New Aswan.

2.3. Research Outline

This research conveys two overarching themes. The first theme investigates NUCP within the Upper Egyptian context through conducting a thorough analysis of the institutional and legal set-up of land governance, access to land and local economic development, and the present progress of NUCs in relation to their initial goals and objectives. The second theme investigates the NUCP case study in Upper Egypt, Aswan–New Aswan mainly, by analysing its urban growth and land governance model. The research then concludes with elaborating a framework for action based on assessing land governance practices in the case study of Aswan–New Aswan and delivers key development measures and recommendations.

In a rapidly transforming geo-political context, Egypt's built environment demonstrates the accumulation of various and diverse planning and development schemes. The most influential urban growth policy in terms of scale and intensity started at the end of the 1973 October War (Rageh, 2007, p. 446; Sims 2014, p. 121). The October Working Paper in 1974 declared a new holistic vision for drawing a new map for Egypt by fostering the establishment of new population concentrations and economic activities outside the Nile Valley and Delta. They act as a civilized magnet for stable, active and productive life, while standing as a strategic stronghold in open desert areas (El-Sadat, 1974, p. 143). The Paper was approved in a public referendum with approval votes accounting for 99.95 per cent of votes according to the Ministry of Interior Decree No. 5/1974.

A few years later, the Egyptian Government established NUCA as the civil battalion for conquering the desert through NUCP, the prime State programme for planning the growth and future housing supply in Egypt. By the virtue of Law No. 59/1979, NUCA is defined as the responsible entity for formulating master plans, establishing, administrating, deciding on NUCs sites and preparing their detailed plans. While being developed over desert land and away from the congested Nile Valley, the NUCP is one of the most ambitious programmes in the world with the construction of more than 33 NUCs[2] all over Egypt. Most of them are separated geographically from old cities and located in desert areas. According to Rageh (2007, pp. 457–458), NUCs are classified into three categories: satellite cities, twin cities and independent cities.

Satellite cities shall host the economic elements that are associated with their mother cities. They are mostly located in Lower Egypt and belong to the early first-generation cities, such as those on the fringes of Cairo and Giza, including the 6th of October City and 15th of May City) (Rageh, 2007, p. 457).

Twin cities have their own economic and service base, but still closely connected to their mother cities. However, in few cases, they are considered as a natural extension to the existing cities. An example is New Damietta, (Rageh, 2007, p. 458). Many of the NUCs in Upper Egypt belong to this category such as the case study of this research, New Aswan, and others, including New Beni Suef and New Menia These cities are associated to the second-generation and third-generation cities.

Independent cities are remotely located from the long-standing cities to support their independence and provide their relatively self-sufficient economic base enabling them, in the long term, to support their independence as economic pols with different socioeconomic activities. These cities are usually located in distant desert areas and away from the Nile Valley, such as East Owinat and New Toshka Cities (Rageh, 2007, p. 458).

3.1. Land Governance and New Urban Communities Programme in Upper Egypt

Since the initiation of NUCP, political commitments were made to decongest the Nile Valley by moving significant parts of its population into desert areas (Harms, 2015, p. 148). The programme was introduced as a strategy to fulfil three main objectives; to absorb population growth away from the Nile Valley into the desert, to shrink informal growth, and to limit encroachments over agricultural land (Abdel-Kader and Ettouney, 2009, p. 2). The unfortunate fact is that forty years after the programme's initiation, the project is ongoing with limited success in meeting its pre-set goals. Key project drawbacks are slow growth rates, imbalanced population mix in terms high, middle and low-income groups, and most critically, its low-density sprawling, loose and dispersed urban growth model (Rageh, 2007, pp. 92–96; Sims, 2014, pp. 140–146; Abdel-Kader and Ettouney, 2009, p. 10; Hegazy and Moustafa, 2013, p. 12).

The diagnosis of El-Remali (1985, p. 57) to NUCs to the development of the new cities in Egypt in terms of location and scale is argued to reflect very much the same physical planning approach at present. The urban form of new cities was a result of a policy that was initially based on the separation of uses, the segregation between residential and administrative usages, or sometimes, commercial usages. As a result, many argue that this new product is not compatible with local citizen's needs or environmental challenges (Shokry, 2010, p. 210). New Aswan and other NUCs in Upper Egypt, although being situated in a hot arid environment, were planned with urban forms lacking a thorough consideration improved thermal environments (Galal et al., 2020, p. 1–11), an issue that raises many questions regarding the

2 The NUCs are emerging in a rapid pace; several have been recently planned and/or established such as New Alexandria, New Rashied and New Fashn, bringing the total number to 40 NUCs.

future of energy consumption and the other adverse environmental, social and economic impacts. As NUCs in Upper Egypt are undergoing massive expansion, there is a considerable chance for development regarding their planning (Galal et al., 2020, p. 1–11).

The policy of planning and building NUCs remains dominantly anchored to the massive supply and sale of serviced land parcels to individuals in what is called '*tarh* '*aradi*" (note the use of the word *tarh* as an alternative word for baye or sale) or to real estate development companies which are, in many cases, interested in developing gated communities or compounds. In the first model, as soon as the individual land parcels are designated to the purchaser, an obligatory time frame for construction becomes binding. Otherwise, and according to the regulations of NUCA, the land is withdrawn. However, in many cases, NUCA offers time extensions and facilitation to the initial terms and conditions of land sales in order to maintain growth rates. It is essential to stress on what Becard (1985, p. 183) demonstrated on the process of building NUCs as being dependent on self-help. The process places an immense burden on the owner who must facilitate and follow up the construction. With a varying degree of construction progress per land parcel, the policy contributes to undermining the overall image of the city by being set in a long-term construction mode with many incomplete structures. The NUCA occasionally provides great facilitation before land is eventually drawn from the beneficiaries.

3.2. Decongesting the Nile Valley Population

The long-standing Egyptian cities are characterized by a high level of and compactness in terms of built-up area, population density and population size. The inner-city core has an assembly of a peculiar built form and structure, characterized by compact building blocks, mixed land uses, activities and narrow roads and alleys, and this configuration result in very dense urban environment (Acioly, 2000, p. 129). Furthermore, the common public space is limited to narrow streets and plots that are almost utilized for the most space possible in compact urban form with mixed uses and activities (Acioly, 2000, p. 129). On the contrary, NUCs are showing architecture, urban form and population density that are very far from Egyptian long-standing cities. The population data of all NUCs stated by NUCA until the year 2020 is provided in the Appendix. Several key remarks can be drawn from reviewing the numbers. For instance, the official population numbers provided by NUCA for NUCs are exaggerated and might include those actually living in them and commuting for work as well, or they might be calculated roughly based on the average family size multiplied by the number of electricity meters installed. However, the actual population figures can be refuted not only by CAPMAS (2017) census but by investigating the parliamentary representation of population in NUCs. Strikingly, all the NUCs in Egypt[3] recorded.

3 Further details regarding all NUCs are provided in the Appendix.

	NUC	Year estab.	Settlement type	Actual Population 2017*	Population Estimate by NUCA 2018**	Population Targeted	Gross area in feddan **	Target year
1	New Beni Suef	1986	Twin city	27,629	75,000	120,000	1,600	2017
2	New Menia	1995	Twin city	15,036	45,000	157,000	24,639	2050
3	New Aswan	1999	Twin city	95	100	850,000	22,389	2032
4	New Assiut	2000	Twin city	8,003	45,000	638,000	30,300	N/D
5	New Teibah	2000	Twin city	2,684	28,000	238,000	9,496	N/D
6	New Sohag	2000	Twin city	174	N\D	820,000	29,516	2050
7	New Fayom	2000	Twin city	394	3,000	130,000	13,500	N/D
8	New Qena	2000	Twin city	1,529	200	130,000	24,200	N/D
9	New Akhmim	2000	Twin city	0	N/D	N/D	34,868	N/D
10	New Toshka	2000	Twin city	0	N/D	80,000	10,992	N/D
11	Gharb Qena	2017	Twin city	0	N/D	N/D	9,000	N/D
12	Gharb Assiut	2018	Twin city	0	N/D	N/D	Unk.	N/D
13	East Ouwinat	N/D	Independent	0	N/D	45,000	10,730	N/D
14	New Luxor	2018	Twin city	0	N/D	200,000	Unk.	N/D
15	New Malawi	2019	Twin city	0	N/D	1,200,000	18,420.52	N/D
16	New Saint Catherine	N/D	N/D	0	N/D	N/D	N/D	N/D
Sum				55,544	~ 196,300	~4,608,000	~239,651	

Table II: Upper Egypt NUCs establishment dates, population size and gross areas.
Source: compiled by the researcher based on (NUCA, 2018), and (CAPMAS, 2017).
N/D: Not Defined; Unk.: unknown.
(*) Census by (CAPMAS, 2017); (**) Data by (NUCA, 2018).

3.3. The Institutional and Legal Set-Up of Land Governance

From 1954, municipal jurisdictions over desert areas with their underlying mechanisms of decision-making and local participation were confined. The boundary line was gradually laid down through several and persistent attempts during the 1950s and the 1960s to establish authorities superior to municipal councils, and beyond their participatory mechanisms. To cut a long story short, the present institutional structure that has undergone several stages of legal transformations over four decades starting by the 1950s consists of two main sectoral authorities with special land jurisdictions over desert areas that are superior to the governorate level. First, by Decree No. 269/1975, GARPAD had the right of agricultural reclamation within desert areas. Second, NUCA, with the right to utilise, profit from and control desert land not designated to GARPAD for agricultural reclamation and being outside the existing boundaries of cities and villages. However, NUCA remains the dominant authority with the sole responsibility of the spatial planning and development of new settlements beyond the boundaries of the long-standing cities and villages (Law No. 59/1979, Article 1). The Authority is also entitled to select possible sites to build its new settlements and to independently plan and devise the general and detailed plans in compliance with the General State Plan (Article 7). From their early initiation, NUCs remain outside their corresponding governorates' municipal jurisdictions. Only after the realization of its basic components and only relying on the proposal of the MHUUC, can the authority over the NUCs be transferred to the governorate to fulfil its competences (Article 50). Until such a proposal takes place, NUCs remain independent from the local supervision of their governorates, municipalities

and independent from their annexation. As the time progressed, other authorities that were developed with superior spatial jurisdiction similar to NUCA were also established for different sectors such as the TDA, IDA and the General Authority for Investment and Free Zones (GAFI).

It is worth mentioning that in 2013, almost 35 years after the initiation of NUCP, NUCA established a Board of Trustees for each NUC that is self-representative for the NUC population (Decree No. 651/2013). However, strangely, they remain without any legal reference to the governorate's local administrative units. The impact of the Board of Trustees remains extremely debatable since it is only initiated by NUCA and based on its estimate that there is a considerable number of residents within the NUC. Also, it is going to act when the ship has already taken course, when nearly the complete master plan of the corresponding NUC is planned and realized with no room to realize a significant development. Furthermore, its disassociation from the local municipal governorate at the regional level is disregarded by the present governing laws.

3.4. Access to Land and Local Economic Development

Maintaining self-representative, democratic and responsive decision-making mechanisms helps assure that the financial capital invested within new growth areas becomes democratically allocated and utilized. As a centralized governmental authority, NUCA was established neither as a stock-based entity nor a corporation entrusted at the governorate within the municipal level, but as an authority with a legal mandate over vast growth territories. The authority acts apart from inclusive participatory mechanisms for ensuring the co-production of growth within a multi-sectoral set-up of local governance at the governorate level.

Financially, NUCs are planned and built apart from the municipal annexation to governorates, thus, they are disassociated from any mechanisms, if considered existing, of consistent, inclusive and democratic societal guidance in urban planning and development. To further understand the financial model that has much contributed to shaping the landscape of the Egyptian Deserts for decades, it is essential to elaborate on the legal structure governing the relationship between NUCA and the Egyptian Government.

Since the initiation of NUCA in 1979, revenues generated from its development of NUCs were to be transferred to budget for NUCA in the next year (Article 33 of Law No. 59/1979), rendering the financial structure of NUCA as an independent economic authority that is divergent from the State's National Budget including the financial resources of governorates' municipal units. However, this set-up was soon altered by Law No. 86/1997 that amended Article 33 of Law No. 59/1979 and Article 7 of Law No. 7/1991 to end the financial independence of NUCA. Based on the decision of the Prime Minister and the demonstration of a competent minister, the income generated by NUCA from land sales and real estate development was to be deposited in a special bank account at the central bank to fulfil the imperative needs of the General State Budget and the development demands of NUCs. Indeed, as Law No. 86/1997 (Article 1) demonstrates, NUCA should have two bank accounts at the central bank: the first one, is to include its domestic and international resources, and the second one, subject to fulfil the imperative needs of the State's General Budget, is to include income generated by NUCA from the sale, lease and utilization of land and properties owned by the authority. By Laws No. 59/1979, 43/1979, 143/1981 and 7/1991, the income and assets of NUCA are disassociated from governorates and the local governance units at the old cities and villages and the absence of municipal annexation is evident. According to Annual Budget Plans of NUCA issued over the last decade, the dominant trend was for surplus revenues to be directed to MHUUD in order to be spent internally or through NUCA without a governing legislation enabling or regulating the financial share of governorates from NUCs revenues.

The annual budget surplus varies substantially from year to year and could be totally dedicated to next year budget for NUCA (Law No. 177/2017, Article 4). By reviewing the general State's budget for the years 2012–2018, the amount of surplus revenues provided to MHUUD, and turning from private allocations or funds to public allocations by being listed in the Annual State's Budget, and if any, are extremely insignificant, and in many cases are set to zero (see the track record of the Annual State's Budget (MOF, 2019)). A visual representation of the financial model of NUCA and its deviation from active contribution to the local circular economy between old and NUCs is illustrated in Figure II. Such a model is a prescription of uneven and imbalanced growth. Absence of municipal annexation continues to be evident by Laws No. 59/1979, 43/1979 and 143/1981. However, one must not ignore Law No. 33/2014 concerning

the social housing programme. In 2014, MHUUD started the social housing programme through its subordinated body, the Social Housing Fund (SHF). The Fund proceeded to carry out the construction of housing units to deliver what is denoted as adequate accommodation for low-income citizens, and also the provision of small land parcels for middle-income families (Article 1). Among the financial resources of SHF are: one per cent of the proceeds of the sale of all government-owned land, public authorities and corporates (including NUCA), and 25 per cent of the total sum of the sale of land owned by the local administrative units (article 11).

It must be noted that informal areas in old cities and rural areas are developed separately by the Informal Settlement Development Fund (ISDF), recognized later as the Urban Development Fund (UDF), and established by Decree No. 305/2008. The Fund, which is subordinated to The Egyptian Cabinet (Article 1), aims to identify and develop informal areas, and to develop the necessary plans for its physical planning. Financed through the General State Budget (Article 9), it aims at providing them with basic facilities, including water, sanitation and electricity (Article 2).

In 2018, Law No. 93/2018 was issued to abolish Law No. 33/2014 and to merge SHF and Mortgage Finance Fund (MFF) into one Fund entitled Social Housing and Mortgage Finance Fund (SHMFF). In a slight progress, the financial resources of SHMFF were adjusted to include 10 per cent of the proceeds of the sale of all units and land that are not allocated to the social housing programme and owned by NUCA, at a minimum of EGP 3.67 billion annually (Article15). Additionally, except the land owned by NUCA, another resource was added by granting 1 per cent of the total sum of the sale of government-owned land. It is worth mentioning that social housing can be built either in old cities and villages or at NUCs according to the decision of MHUUD.

Another significant improvement to spatial equity and social justice is the Real Estate Tax Law No. 196/2008. The amendment of the law estimated that 25 per cent of the real estate tax collected in the cities and villages of any governorate should be transferred to its own budget, another 25 per cent be transferred to the development and rehabilitation of informal areas, and the rest be transferred to the National Treasury. However, legally, and in case the property tax was collected from a NUC, the 25 per cent allocated to the governorate shall be allocated to the NUC Apparatus subordinated to NUCA according to Law No. 59/1979. The NUC Apparatuses are granted all powers and authorities established by law to local units, as well as the financial resources of the local units (Law No. 59/1979, Article 13).

Both, the social housing and real estate tax are recent developments that help in reducing inequalities and improving the sharing of resources in favour of deprived and less fortunate urban and rural areas. However, the social housing policy can be criticised for being centrally managed without adapting the new housing stock to the local needs of each governorate, also, for not being subjected to the local control, management and supervision. The central part of the problem remains manifested in the absence of municipal annexation of governorate land subject to growth and development in desert areas, and the uneven distribution of governmental expenditures through governorates (local administration) and sectoral ministries or authorities (central government). In fact, policies and legislation that enable sharing of revenues and resources cooperatively among municipalities and centres within the region are desperately needed. Figure II presents a visual representation of the legal structure of the financial model of NUCA and its deviation from supporting a circular economy between old cities, villages and NUCs.

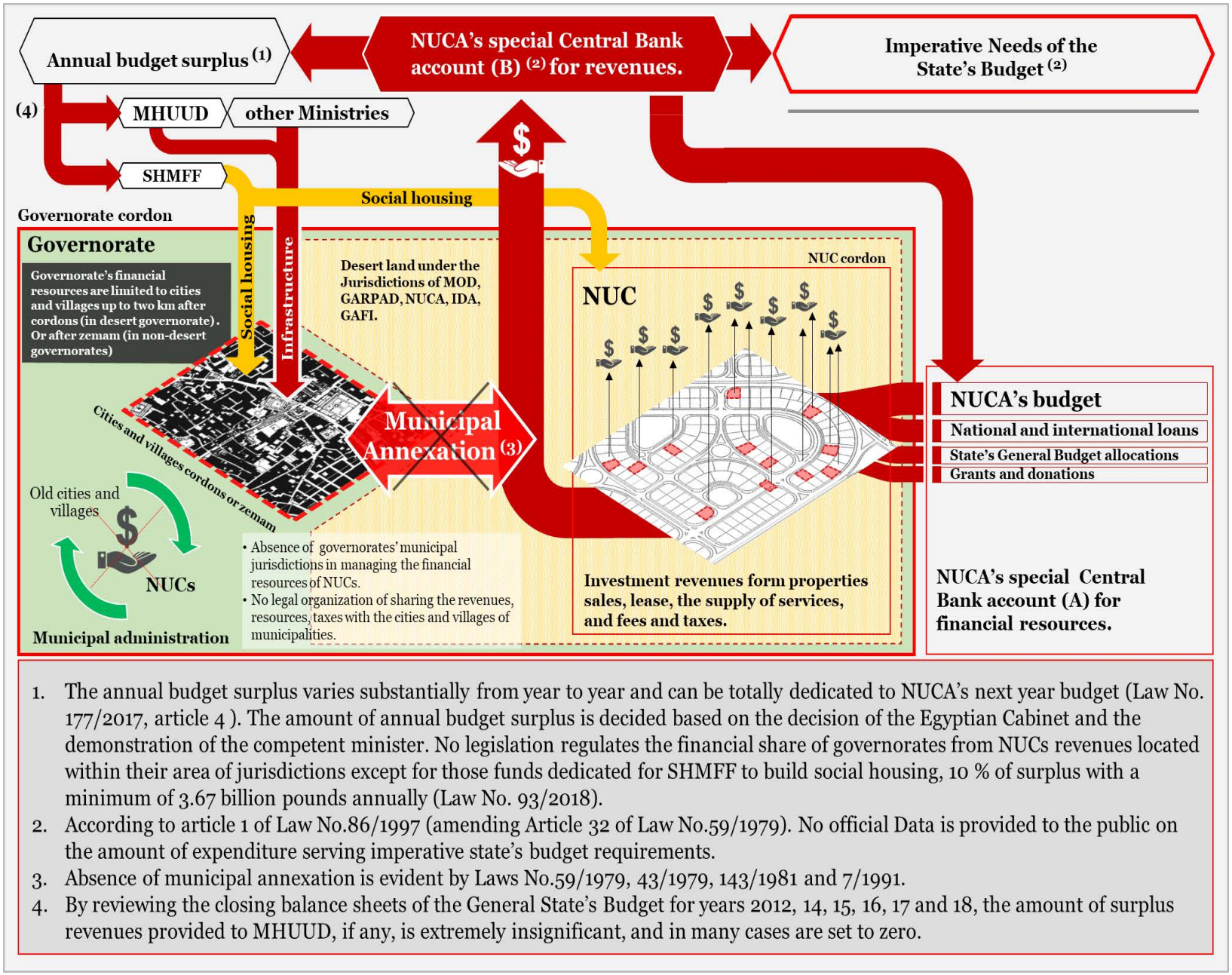
To lend some quantitative evidence to the substantial disparity in the budgets between the local administration budgets of governorates and the NUCs budgets, it must be noted that the governmental financial resources are not only distributed by the governorates throughout the Budget of the Ministry of Local Administration, but also distributed to sectoral bodies of the governments such as Ministries, Authorities, Special Funds, holding companies and Apparatuses (Shawkat and Hendawy, 2017). Therefore, the spatial distribution of resources cannot be defined in relation to governorates only since a considerable amount of these resources is spent regionally, between more than one governorate.

Shawkat and Hendawy (2017), presented, after a thorough and detailed analysis of the Egyptian Government Built Environment Budget 2016/2017, that 66 per cent of local spendings are dedicated to 98 per cent of the population living within existing cities and villages, and 34 per cent are spent on the less than 2 per cent population living within NUCs. Such a disparity in planning the budgets of two different cities located within the same governorate, and with a significant variation in population size, is far from being rationalised by the present institutional

and legislative set-up. The popular councils at the governorate level, and as organised by law, have no jurisdictions over NUCs and neither does the Governor.

Since the establishment of NUCs, there is a conscious decision by the government to spend minimal resources on the existing built environment in regions where NUCs are growing (Shawkat and Khalil, 2016). For the Egyptian Government, land sales are essential to propel the growth of NUCs and to keep a constant supply of infrastructure to individuals or real estate developers. In fact, this policy did not change until recent days. The policy of offering land plots in each NUC all around Egypt is escalating at a massive rate.

In the fiscal year 2018/2019, MHUUD announced a historical plan to offer 75,000 plots of land for residential and service projects in NUCs to help accommodate 100,000 housing units (ElAiss, 2018). The policy seems to be favoured by the Egyptians who consider land parcels as an important asset. Since its establishment until 2018, NUCA estimates its total investment to be around EGP 200.7 billion, and the private sector investment to be EGP 400 billion (NUCA, 2019a). However, based on the data provided by the Annual Budget Plans of NUCA published in the Egyptian Official Gazette since 1980, total investments of NUCA alone refer to more than EGP 400 billion of governmental investments.



1. The annual budget surplus varies substantially from year to year and can be totally dedicated to NUCA's next year budget (Law No. 177/2017, article 4). The amount of annual budget surplus is decided based on the decision of the Egyptian Cabinet and the demonstration of the competent minister. No legislation regulates the financial share of governorates from NUCs revenues located within their area of jurisdictions except for those funds dedicated for SHMFF to build social housing, 10 % of surplus with a minimum of 3.67 billion pounds annually (Law No. 93/2018).
2. According to article 1 of Law No.86/1997 (amending Article 32 of Law No.59/1979). No official Data is provided to the public on the amount of expenditure serving imperative state's budget requirements.
3. Absence of municipal annexation is evident by Laws No.59/1979, 43/1979, 143/1981 and 7/1991.
4. By reviewing the closing balance sheets of the General State's Budget for years 2012, 14, 15, 16, 17 and 18, the amount of surplus revenues provided to MHUUD, if any, is extremely insignificant, and in many cases are set to zero.

Figure II: The legal structure of the financial model of NUCA and its deviation from supporting a circular economy between old cities, villages and NUCs.

What is even more striking is to examine such a massive investment together with the scale of population inhabiting NUCs. The CAPMAS sets the figure within the same year to only 1,587,618 inhabitants (CAPMAS, 2017)[4]. By any mean, the amount of such massive investment is virtually inconsistent with such an insignificant scale of achievement. Regardless of population numbers, the NUCP is keeping an increasing trend of investments from year to year, starting with an annual budget of EGP 40 million in 1980 to more than EGP 95 billion in 2018/2019 Annual Budget Plan (see Figure III).

It is important to stress that according to Decree No. 1056/2003, NUCA and its subordinated Apparatuses at NUCs should have been transferred into a holding company entitled the Urban Communities Holding Company (Article 1) and subordinated to NUCA (Article 4). The new company should have had its legal personality and call for financial capital through the establishment of joint-stock companies (Article 6). Unfortunately, the official Decree No. 1056/2003 was never put into action.

4 In contrast to CAPMAS 2017 detailed national statistics, NUCA argues that in 2017 the number of the population inhabiting NUCs is estimated as 7 million inhabitants (NUCA, 2017a)

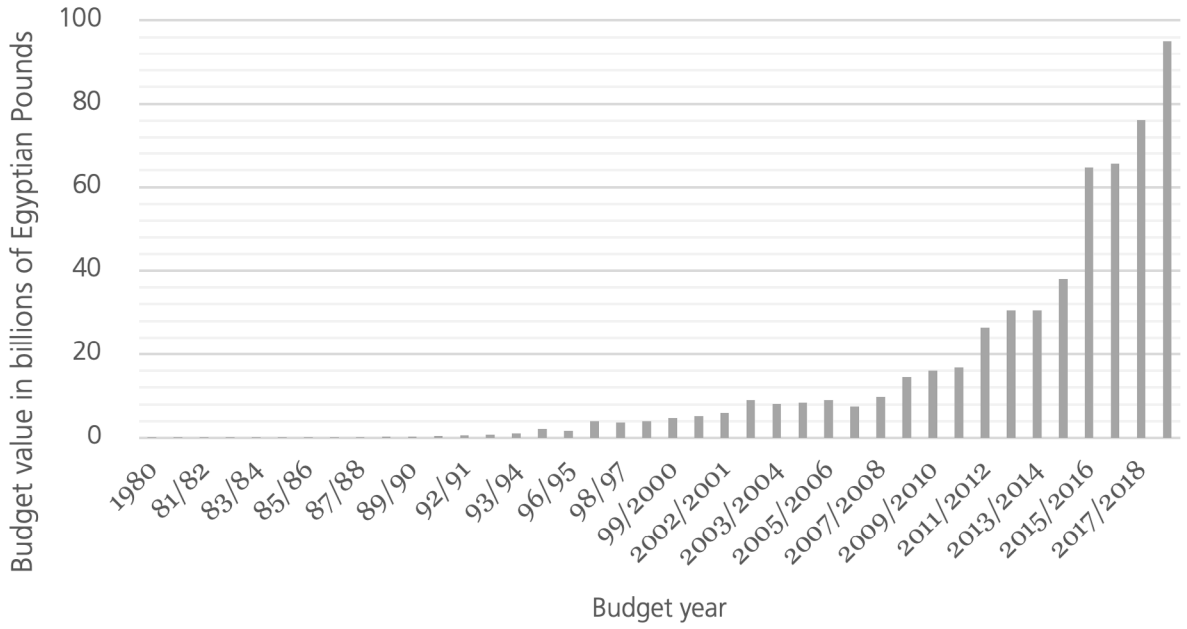


Figure III: Annual Budgets planned between 1980 and 2019 (in billions of Egyptian Pounds).
Source: The data are compiled by author based on NUCA's Annual Budgets Laws No. 189/1980, 92/1981, 85/1982, 67/1983, 179/ 1984, 171/1985, 44/1986, 47/1987, 185/1988, 159/ 1989, 49/ 1990, 152/ 1991, 70/1992, 149/1993, 179/1994, 63/1995, 143/1996, 134/1997, 67/1998, 68/ 1999, 139/ 2000, 64/2001, 130/2002, 140/2003, 123/2004, 129/2005, 119/2006, 134/2007, 89/2008, 105/2009, 105/2010, 83/ 2011, 140/ 2012, 52/2013, 98/2014, 65/2015, 41/2016, 52/2017, 68/ 2018, 133/2018.

3.5. The Urban Growth Limits, the Long-Standing Governorate-Authority Conundrum

More laws were put into action reinforcing the de-annexation of desert areas. Law No. 7/1991 on the provisions of private State properties (*amalk al-dawla al-khassa*) affirmed that all of GAPARD, NUCA and TDA have the right to practice owner authority at land designated to them. Additionally, the Desert Land Law No. 143/1981 affirmed that land that is 2 km from the old cities and villages cordons for desert governorates (outside the Nile Valley and Delta) or land that is 2 km from *zemam* for non-desert governorate and is considered as a desert land where NUCA is the only authority that has the right to carry out the development of NUCs.

Urban growth limits, or cordons, refer to administrative borders defining the jurisdictions of the corresponding local administrative units (Urban Planning Law No. 3/1982), or *zemam* is the limits defining the agricultural and non-agricultural land including the built-up area and what overlaps with it, including water bodies and street networks that belong to the village (Law No. 2008, Article 2). Another definition is provided by CAPMAS as the area of land located in the Nile River Basin, whether it is the property of the government, the people or dedicated for the public benefit. It is calculated and mapped in detail by the General Authority of Survey that prepare documents to calculate its share in the tax records (CAPMAS, 2015, p. 1). Therefore, desert land as defined by Law No. 143/1981 and Law No. 7/1991 can be approximately defined according to (Figure IV). The spatial threshold of private State properties dominates desert land, and the only territories that could be excluded from such a definition are areas within city and village cordons, agricultural land, *zemam*, or areas protected by Law No. 182/1983 as environmental protectorates.

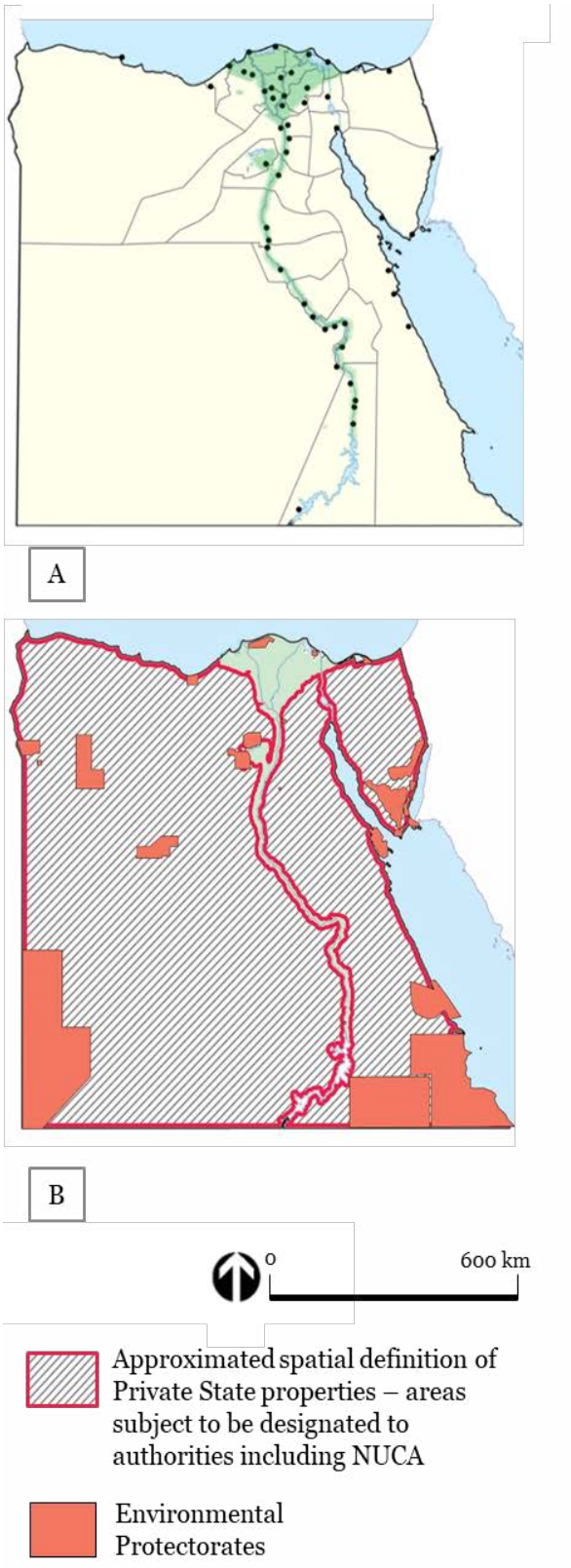


Figure IV: Governorates' boundary lines presented in Map (A) do not imply that governorates practice owner authority over desert land outside the Nile Valley and Delta and Map (B) presents an approximated spatial definition to Private State Properties.
Source: Based on Law No. 143/1981 and Law No. 7/1991.

In parallel to the establishment of institutional mechanisms for centralised non-municipal control of desert land, new laws significantly reforming the local governance system were issued starting with Law No. 124/1960, disintegrating all the directorates, municipal and rural councils that were established since 1890. Instead of municipalities, local administrative units that constituted of popular councils were established, and elected from the National Social Union, *alaitihad alqawmy alaishtiraki* (Allam and Abdelazeim, 2000, p. 142), and they had the right to oversee the appointed council without a legislative authority (Rageh, 2007, p. 38).

The law was criticized for lacking real popular participation, central ministries have dominated the management and finance of the administrative units of each governorate, city or village, and they appoint corresponding officials at each level (Rageh, 2007, pp. 38–40). Furthermore, the Ministry of Housing and Infrastructure (Decree No. 1356/1961) was established in 1961 instead of the Ministry of Municipal and Rural Affairs, and later, the Ministry of Local Development (Decree No. 380/1999) in 1999, but without authority over urban planning. As time progressed, other laws for local governance and administration based on Law No. 124/1960 were drafted, such as Law No. 57/1971, Law No. 52/1975 and Law No. 43/1979.

Although they constitute a significant empowerment to local administration and governance system, and despite the deprived capacities to implement them locally (Houaidy, 1981, p. 234), none of these laws engaged with the jurisdictions adhered to the civil authorities of GARPAD, NUCA, TDA or IDA at the urban planning level.

The present Local Administration Law, Law No. 43/1979, is partially suspended by Law No. 116/2011 as local popular councils were dismantled (Article 1) and replaced by temporary councils appointed by the Prime Minister based on the presentation of the Minister for Local Development and the Governors (Article 2).

The main challenge facing a correlated and coordinated land governance is the centralized and sectoral administrative structure resulting in the present uncoordinated growth between Egypt's long-standing cities and their proximate NUCs. The government, through its sectoral ministries, centrally controls regional or local authorities and corporates that carry out infrastructure and service delivery. The MHUUD undertakes the most prominent role, a role that is superior to governorates or even to the Ministry of Local Development. Additionally, it is responsible for dealing with service delivery in NUCs through its subordinated authority NUCA and without a legal obligation to coordinate with governorates. Even more authority and jurisdiction was given to NUCA with the most recent amendment of Law No. 59/1979 by Law No. 1/2018 that stipulates the establishment of NUCs within areas of re-planning in existing cities and villages upon the approval of the Cabinet, NUCA and the competent authority of the corresponding area.

Apart from the governance and management system for service delivery, the urban planning structure also manifests a duality that is not only manifested in dealing with old cities, villages and NUCs, but also between the competencies and responsibilities of Ministry of Planning and Follow-up and the Ministry of Housing Utilities and Urban Development, and the Supreme Councils that are centrally in charge of planning and urban planning.

The separate and sectoral mandates of governorates and authorities, and the inactive civil representation at the local level is ameliorated to a certain extent by the spatial strategic planning put into effect by the GOPP. The organisation was established in 1973 as a central authority subordinated to the Ministry of Housing and Construction and subject to its supervision and control (Decree No. 1093/1973, Article 1). It sets out the general policy of urban planning and prepares the urban development programmes all over the State through its regional centres. It also coordinates between them and the production programmes and public services to meet present and future needs (Article 1). However, the planning and development of NUCs is more influenced by NUCA than the GOPP in terms of physical planning, the realization and expansion of NUC master plans. The Authority has the right to modify the General Plan of NUCs through its subordinated body entitled the Planning and Projects Department, '*qeta'a altakhteit wal mashareie*'', according to (Decree No. 165/2018, Article 2).

CHAPTER FOUR: NEW URBAN COMMUNITIES PROGRAMME CASE STUDY, ASWAN–NEW ASWAN

This section is dedicated to the analysis of the case study, Aswan–New Aswan, as an integrated and development context. The time frame for analysis covers the first 25 years of growth of New Aswan, from 1999 to 2019. The section will start with two introductory parts on Aswan City urban growth and development, and the present situation of the NUC, New Aswan. Afterwards, Aswan–New Aswan will be investigated in terms of land governance.

4.1. Aswan City, Urban Growth and Development

Aswan City is a landmark touristic destination and an international resort, especially in winter, with marvellous assets of natural and cultural heritage. Despite the fact that many of its exceptional and unique landscape has faded or altered during the last decades, the city is nonetheless full of charm and remains the most picturesque river city in Egypt (Kamil, 1993, p. 2).

Aswan oversees several Nile islands such as Aswan Botanic Island, Elephantine Island and Suhail Island. The River Nile smoothly flows in magnificence around them and through the granite rocks, with rare environmental features and a multitude of flora and fauna species. Besides Aswan Museum, the Unfinished Obelisk and the Botanic Garden being the key cultural and touristic assets of the city, major parts of the city are still permeated with palm trees and tropical plants, portraying an excellent view for the Nile with fantastic scenery and a perfect starting point for Nile cruises (SIS, nd, pp. 3–9).

Regionally and historically, Aswan acted as Egypt's southern gate to Africa, in Ancient Egypt. Its name was derived from the word 'Sono', or the market, due to its traditional role as a commercial centre for convoys travelling from and to Nubia. Its unique and exceptional location was determined by the Nile cataracts that challenged naval navigation (Kamil, 1993, p. 4). During the Ancient Egyptian civilization, Aswan City was the entrepot for the transhipment of products along the Nile from Nubia to Lower Egypt.

Vessels were challenged by sailing above the rapids, first they delivered their shipments to a harbour before Aswan cataracts, and then, shipments had to be portaged to Aswan to start another naval trip to the north from another harbour (Kamil, 1993, pp. 4–12). In Aswan, several nuclei constituted the city structure and urban growth permeated through the rough terrain. Land use within Aswan and its region started to change significantly starting from 1902.

The Nubian Community witnessed four waves of displacements, three of which were partial while the last one was almost a full wave of displacement. The first was under the British influence with the construction of the Old Aswan Dam in 1902, the second was in 1911 with the heightening of the Dam and the third was during the second heightening in 1933. For the construction of the High Dam starting in 1960, the forced migration of the Nubians took place within the Egyptian region of the Nile, and they were resettled to the north of Aswan, mainly in Kom Ombo Desert land (Riad and Abd-Alrasoul, 2010, p. 156). As time progressed, urban growth increased exponentially in Aswan with settlements extending out over city valleys with steep terrain and over environmentally sensitive areas. The phenomenon can be examined by analysing Figure V illustrating the built-up area of Aswan in 1914 and 2015.

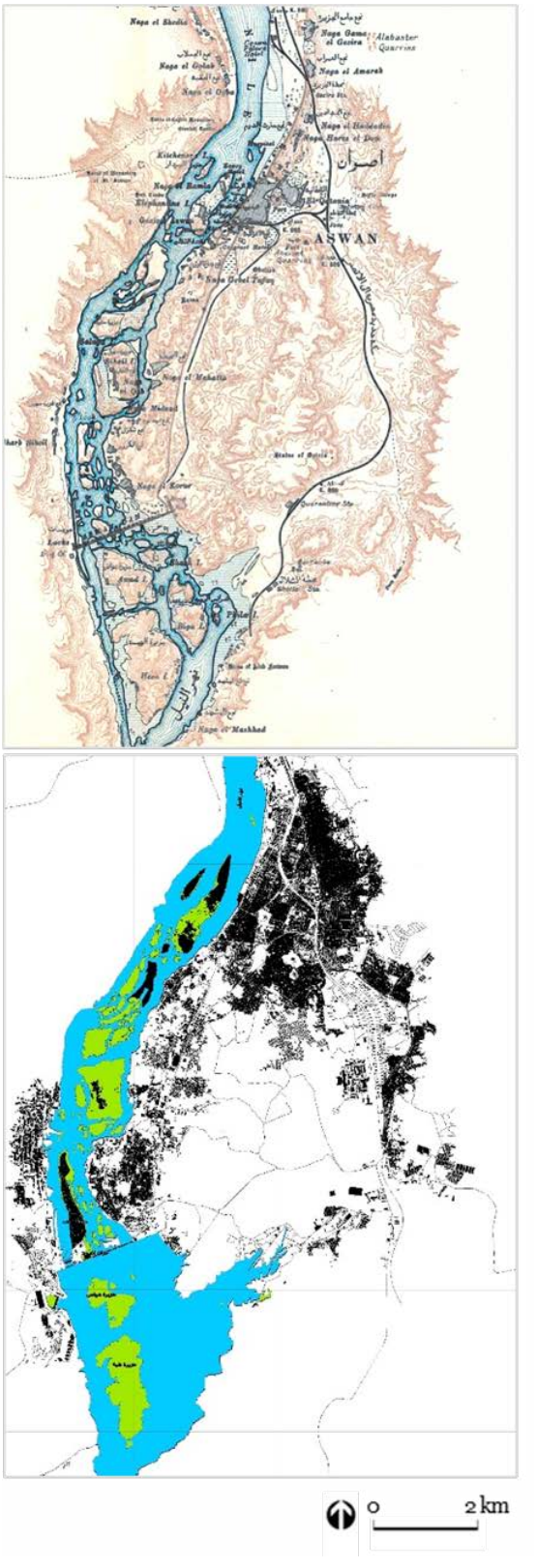


Figure V: Same scale comparison of the built-up area of Aswan in 1914 and 2015.
Source: Maslahat al-Misahah (1913) and Aswan (2015).

The Nubian history is particularly rich with values, culture and art, and reflects a special connection with land. The traditional architecture of Nubia is renowned for being responsive, environmental-friendly and reactive to community needs and activities. The traditional Nubian villages in Gharb Aswan and Gharb Soheil demonstrates various settlements that reflect only a small part of the Nubian heritage. It is particularly important to refer to the Nubian traditional architecture and urban form to relate to it within the development of the case study, New Aswan–Aswan.

Nubian architecture is integrated with nature, and the urban fabric is articulated over an internal yard that contains the mosque and the market. The entire village takes a linear form parallel to the coastal agriculture fields over the Nile Valley (Riad and Abd-Alrasoul, 2010, p. 103).

Aswan City is the administrative capital and the third significant concentration in terms of population number in Aswan Governorate. The governorate is predominantly rural and accommodates one and a half million inhabitants, out of which 57 per cent are concentrated in rural areas. The State National Strategy Egypt 2052 expects population growth to reach 4.9 million capita by the year 2052 (GOPP, 2014, p. 7). Aswan City's population reached 415,315 capita in 2015 (Aswan Governorate, 2015, p. 16) and among all the cities of Upper Egypt during the last fifty years, the city has witnessed significant growth activities (Aboukorin, 2017, p. 1823). In Aswan City, challenges threatening the resilience of the governorate are immense with many social, environmental and economic complications.

Until 2017, the data collected from different local resources in Aswan unveiled that the quality of life is threatened over various aspects. Among them are frequent interruptions to water supply, extreme deterioration of water supply and sanitation network, and until very recently wastewater was dumped in the Nile without proper treatment, insufficient solid waste management systems and open field incineration of solid waste, and a lack of sufficient public transport and absence of safe and user-friendly means of transport and pedestrian environment. However, between 2017 and 2020, major developments were carried out that significantly improved the wastewater treatment service as well other development sectors.

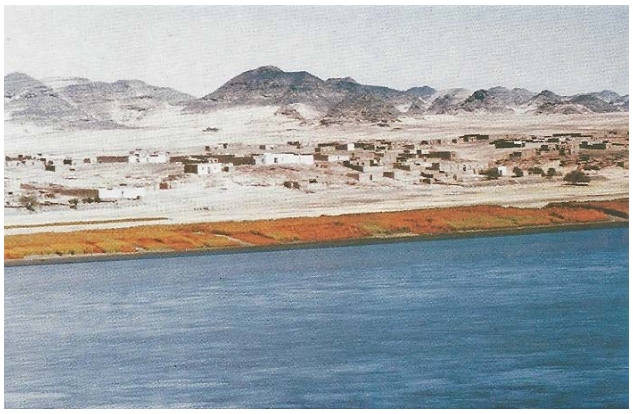


Figure VI: An example of a traditional Nubian Village (village of Malki, 1963), today submerged under Lake Nasser (left) and the traditional Nubian houses at the village of Morwaw (right).
Source: Riad and Abd-Alrasoul (2010).

4.1.1. Aswan City, New Urban Growth Patterns

Aswan City extends from the centre towards north and south fringes since it is confined by the Nile on the west and by harsh terrain on the east. Within the territorial premises of Aswan City, three new and major urban settlements took place over the recent decades. First, New Aswan City, is located 10 km to the north on the western bank of the Nile. Second, Alsadaka Algadida Neighbourhood, is an urban extension located directly on the eastern fringe of Aswan City. Third, Wadi Karkar Village, is located about 25 km away from Aswan on Aswan-Abu Simbel Highway (see Figure VII). Each of these new settlements varies substantially in terms of population size, target population numbers, density, and most importantly, the project developer.

The first development, Alsadaka Algadida, was planned as an urban extension to Aswan City and in line with the strategic plan of Aswan City. The relative success of the new neighbourhood comes as a result to being planned as an urban extension in response to a General Plan developed in 1987 (GOPP, 2008a, p. 10). According to the General Plan, Aswan City was initially developed by the German Agency for Technical Cooperation (GTZ) in 1987 to absorb 274,000 capita by the year 2010. Unfortunately, the information is inaccurate. After reviewing the original GTZ report prepared in 1986 in coordination with the GOPP and Aswan Governorate, the General Plan anticipated for a future population growth of 377,000 in 2010 (GTZ, 1987, p. 7). The figure is very close with Aswan's 2017 actual population size, which was 391,795 capita (CAPMAS, 2017). In 2001, the GOPP developed the General Plan for Aswan City with the intention to promote inclusive growth and to empower linkages with the urban communities inside urban areas (GOPP, 2008a, p. 10). The city's future expansion area for residential use was oriented to the north-eastern side of the city and was realized as Alsadaka Algadida Neighbourhood. Although being located on a rugged elevated terrain east of Aswan (Figure VII), the Alsadaka Algadida helped release the pressure valve and provided Aswan with 18,192 housing units, of which 15,360 were realized and operational and 2,832 are planned. All the residential units are offered on rental basis and the development will continue until reaching a target population of 100,000 inhabitants (Mashali, 2017). Alsadaka project (originally known as Mubarak Housing Project) was within the Social Housing Programme dedicated to supporting the city with affordable housing units. It is five kilometres from Aswan City centre. It has been growing in par with the distant New Aswan. Despite being planned in a monotonous single-use apartment blocks (see Figure VIII), site visits and observations to the area unveiled the high occupancy rate of the neighbourhood. In terms of public transportation, the neighbourhood is connected to the rest of the city by privately owned microbuses**.** Overall, the development represents the highest occupancy rate among all the major urban developments in Aswan Territory.

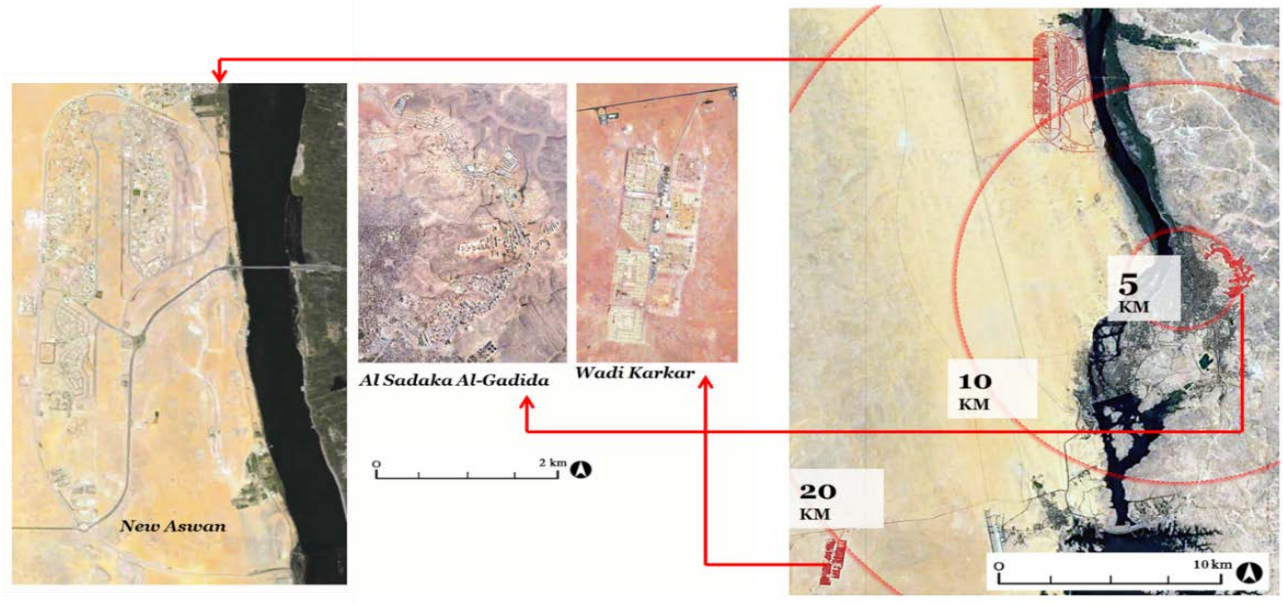


Figure VII: Mapping major housing developments in Aswan Region.
(1. New Aswan; 2. Alsadaka Algadida; 3. Wadi Karkar).
Sources: Aerial images, adapted after Digital Globe – Google (2017).

Figure VIII: Alsadaka Algadida Neighbourhood east of Aswan City.

The second development is Wadi Karkar (see Figure IX). In 2009, the Egyptian Government initiated EGP 2 billion housing project in Wadi Karkar as a large-scale housing project with an agricultural hinterland. Wadi Karkar was originally initiated by the government due to the mounting pressure from a specific segment of the Nubian population (those who originally owned properties in Nubia but were not compensated during the 1963 and 1964 relocation to Kom Ombo during the construction of the High Dam). At that time, they were already living in other locations in Egypt or working outside the country. Wadi Karkar is located about 25 km from Aswan City centre, 5 km from Lake Nasser and 8 km from Aswan Airport, and stretches over 460 feddan with a total of 2,024 single-family houses and an expected population of 14,000 inhabitants (GOPP, 2016, p. 10). A field visit to the project unveiled a very low occupancy, reaching, at the most optimistic estimate, less than 500 inhabitants. According to several interviews conducted with the local residents, increasing Wadi Karkar population is strained by many aspects, among them remoteness, lack of job opportunities and services, and most critically, the lack of frequent and reliable public transportation to Aswan. The low occupancy rate encountered within the city can be attributed to several reasons. First, many of the Nubian house owners are already old or deceased; the houses are owned by several inheritors who are currently outside Aswan committed to their workplaces and have no opportunity to come back. Second, although the houses could be sold for a very competitive price, the absence of amenities within the area is problematic and drives many residents to pay frequent visits to Aswan. The 25 km distance from Aswan City hinders many citizens from relocating to the city.

Figure IX: Wadi Karkar, 2017.

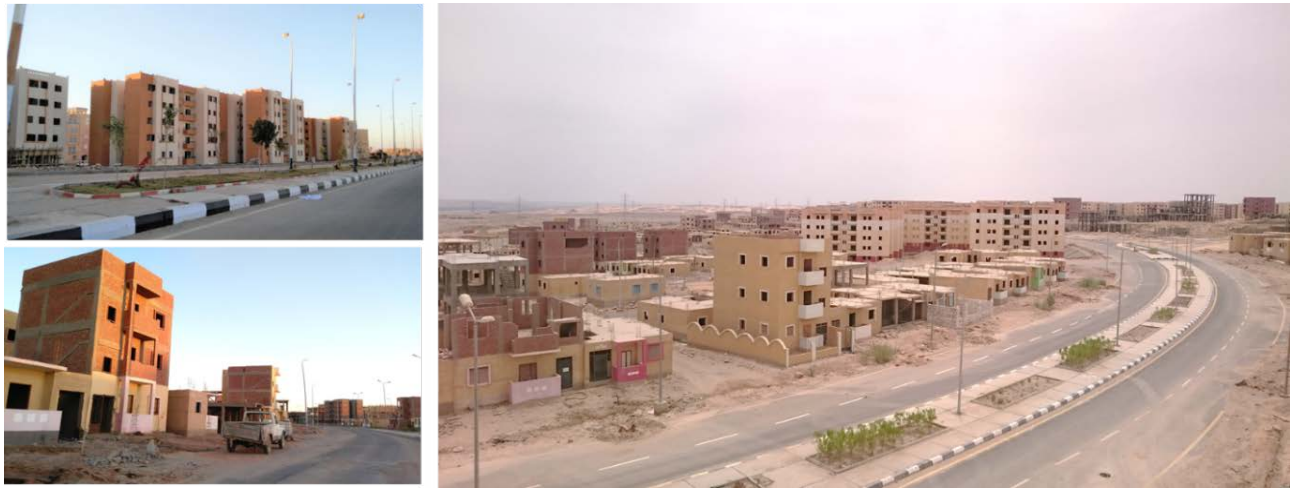


Figure X: New Aswan.
Images from 2015 (left) and 2017 (right).

The third development, New Aswan City (see Figure X), will be investigated in detail. In a nutshell, the city is a development of NUCA that falls in direct competition with Wadi Karkar and Alsadaka Algadida and was initially planned to host 70,000 residents in 2017 (NUCA, 2017b). Unfortunately, it did not achieve even a fraction of this number. The city is the least of all the forgoing settlements in terms of the occupancy rate.

4.2. New Aswan City

New Aswan City was planned and developed by NUCA, and operated and managed through its subordinated authority, the New Aswan Apparatus (NAA). It is the only NUC in Egypt that is directly located at the Nile front (Abd-Elaziz, 2018) was and planned as a touristic city (GOPP, 2008b, 167–168). During the last few years, New Aswan started to gain more of non-touristic functions and was introduced in the State media as the future of Aswan City and Aswan Governorate. Most of the campuses of Aswan University were relocated to the new city, beside new plans to host other universities such as Al-Azhar University and the Canadian University. Additional facilities are also planned or even undergoing construction such as New Aswan University Hospital and other central administrative services such as the Traffic Department.

4.2.1. Land Consumption, Population Size and Site Accessibility

The first impression perceived from investigating the aerial images of Aswan–New Aswan region reflects an impression of New Aswan as a large-scale city in relation to Aswan City. However, the massive scale of land consumed by New Aswan is not in par with accommodating a population size of even 1 per cent of Aswan City's population. The 2017 official population of the NUC documented by CAPMAS in the detailed national census of 2017 reveals the actual inhabitants of New Aswan to be 93 inhabitants only, with 38 females and 55 males (CAPMAS, 2017). Indeed, major parts of the city remain unoccupied. The official strategy announced, through the head of NAA, is that the 20-year old NUC will not wait for the inhabitants to come, the construction will proceed, and the city is going to be larger. Recently, in 2019, a new sport club and a recreational water park were added to the city.

When approaching New Aswan from Aswan City, and once Aswan Cable-stayed Bridge is crossed, there is an extreme contrast between the new built-up area of New Aswan and the surrounding context. The contrast is mainly perceived in the old rural quarters surrounding the city which experience immense urban disabilities and deteriorating conditions. Also, there is a mismatch at the scale of the urban structure. New Aswan's horizontal expansion over land is massive and cannot be related either in size or in architecture to the surrounding urban or rural context. Additionally, the focus of NUCA on individual land sales to activate the city left vast areas of the city in constant construction mode with a wide range of complete and incomplete structures that harm the visual image of the city. Also, since most of the plots of land in the city are to be self-constructed, the flexibility to control and manage the city is limited.

Despite being only one and a half kilometres away from the tracks of the regional railway line at the eastern bank of Nile, the city has no access to railway transport. New Aswan can only be accessed through vehicular modes of transport unless other access points are considered from the neighbouring small village of Nag el-Fuqani or the village of Gharb Aswan. A regional station for vehicular transport, mainly for buses and microbuses, is planned to be established within the city.

Immense resources are continuously poured to establish new projects and infrastructure. The accumulative figure of governmental investments in the New Aswan since 1999 reached a colossal figure of EGP 3 billion in 2019 (NUCA, 2019b). One must stress that the figure does not count for the amounts of resources dedicated by the private sector. Experiencing the city during several site visits in 2015 and 2017 indicated a massive construction site with barely any human activities other than the construction labourers in operation (Figure XI). More construction work was encountered in 2017, especially at the coastal territory of the city. Numerous bulldozers worked around the clock excavating into the elevated rocky terrain and preparing the land for a new residential compound to host two-storey villas.

4.2.2. Decision-Making, Growth Management and Land Governance

According to the General Terms of Egyptian Cities publication, jointly published by the Academy of Scientific Research and Technology (ASRT) and Cairo University, the future urban expansion for Aswan City was to add a new urban extension south-west of the village of Gharb Sohail (ASRT, 1991, p. 167). The urban extension was also evident in a previous report entitled Aswan General Plan 1986–2010 jointly developed by the GTZ, the GOPP and Aswan Governorate. The report provides a detailed and a comprehensive analysis of the future of strategic spatial development of Aswan City between 1986 and 2010.

The selection of the extension was based on the examination of three alternatives for urban expansion. First, the expansion of the former labour settlement renown as Sahari City to the south-west; second, the densification of Aswan City at the eastern districts; and third, which was eventually selected, to build a new settlement south-west of Gharb Sohail Village as illustrated in (Figure XI). The third alternative was selected as a long-term development side by side to the densification of Aswan City (GTZ, 1987, p. 23). The new settlement proposed was to be planned in integration with a new road extending from a new bridge connecting east to Gharb Aswan and replacing the motorway over Aswan Lower Dam (p. 47). The target population was 35,000 inhabitants among 377,000 inhabitants planned for Aswan City to host in 2010 (GTZ, 1987, p. 23).

A key finding in this analysis that must be highlighted is that the 2010 actual population of Aswan City recorded was 372,897 inhabitants (Aswan Governorate, 2011, p. 2), implying that a

development with the scale of New Aswan (70,000 inhabitants in 2017) was never a pressing necessity for Aswan City, even when taking into account the population of Aswan City in 2017, which was 391,345 inhabitants (CAPMAS, 2017).However, the Long-Term Town Extension, as presented in (Figure XI), has never come to action. It was eventually doubled in population size, from 35,000 to 70,000 inhabitants, and relocated 13 km to the north, outside Aswan City limits, eliminating the advantage of spatial proximity to the long-standing city. From the outset, it is hard to unveil the real reason behind such a shift in spatial strategic planning, but a significant part of the explanation can be traced back by triangulating data generated by local interviews, chronological review of official decrees and planning reports developed by the GOPP, GTZ, ASRT and others. The joint plan of GTZ, GOPP and Aswan Governorate has seemingly lasted until early 1991 (ASRT, 1991, p. 167). By late 1991, a report studying the geophysical characteristics of New Aswan City was issued. Within the report, the coordinates of the area studied for the establishment of the city indicates a decision to locate the NUC 10 to 13 km from Aswan (EMRA, 1991, p. 1).

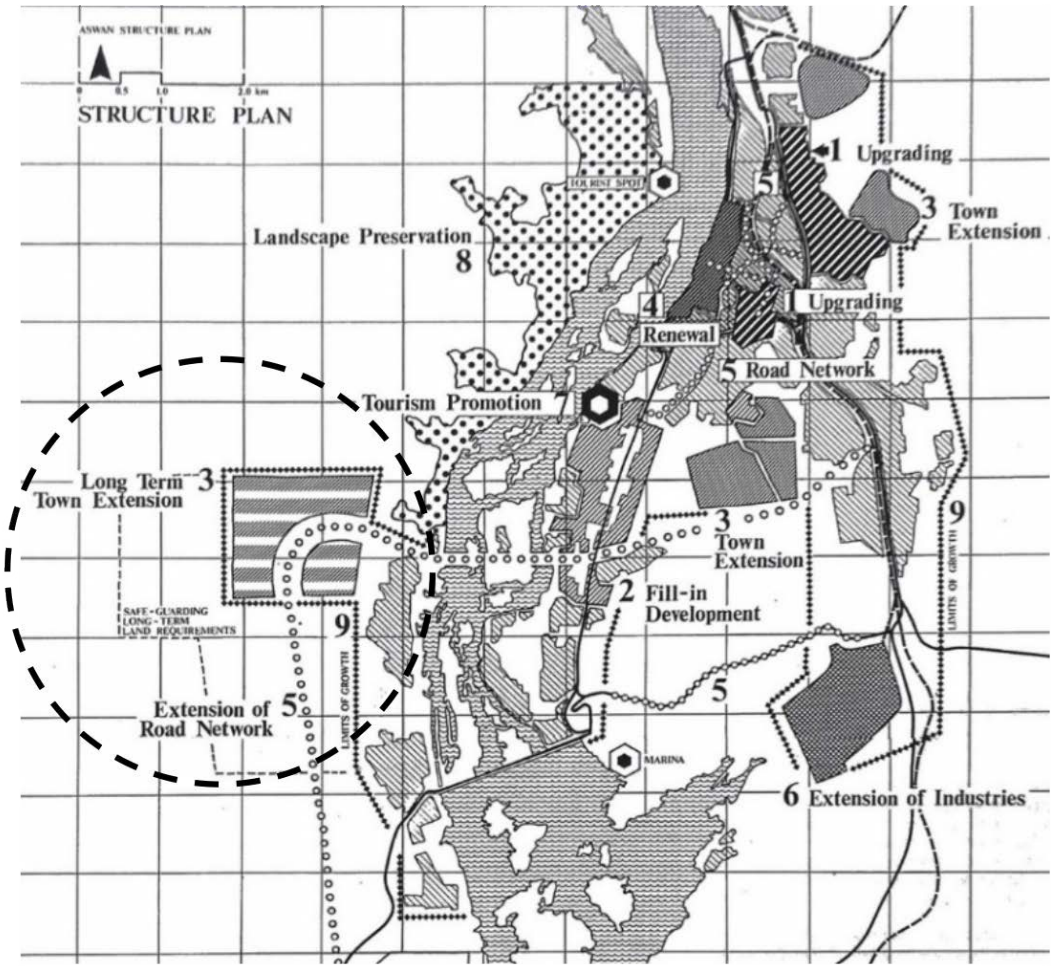


Figure XI: The initial idea of New Aswan, the 35,000 Long-Term Town Extension as planned by Aswan General Plan (1986–2010).
Source: GTZ (1987, p. 25).

4.2.3. Site Selection and New Aswan City Master Plan

This section tries to tackle the rules, processes and structures in which decisions were made regarding New Aswan in terms planning the accessibility and land usage within the city. It aims to elaborate on the manner in which the planning and governance decisions were implemented and enforced, as well as how competing interests between the different stakeholders were managed.

First of all, the adoption of the new location was a key transformation point in the modern history of urban growth in Aswan Region. The shift between the proximate location of the new Long-Term Town Extension by the GTZ, GOPP and Aswan Governorate to the new location planned by NUCA 10 km from Aswan City was somehow mysterious for this research. However, by analysing the cordon or the urban growth limits of the village of Gharb Aswan (Aswan Governorate, 1996, pp. 1–22), the new suggested location was found out to be exactly 2 km from Gharb Aswan urban growth limits set in 1985 (Aswan Governorate, 1996, pp. 21). Legally, under such new circumstances, and according to the New Urban Communities Law No. 59/1979, NUCA gained the right to practice authority over the land, including economic jurisdictions and independent governance. However, the urban growth limits of Nag el-Fuqani, a small-scale village adjacent to New Aswan from the north, were neglected.

Two years later, in 1993, the first detailed master plan emerged, confirming the same location of the city, strikingly, without justification in the report, to be 13 km from Aswan City and utilizing an area of 1,285 feddan. The area is confined between the Nile Coast and the high voltage lines to the west and the city targets a population of 70,000 inhabitants (GOPP, 1993, p. 5-6). See Figure XII.

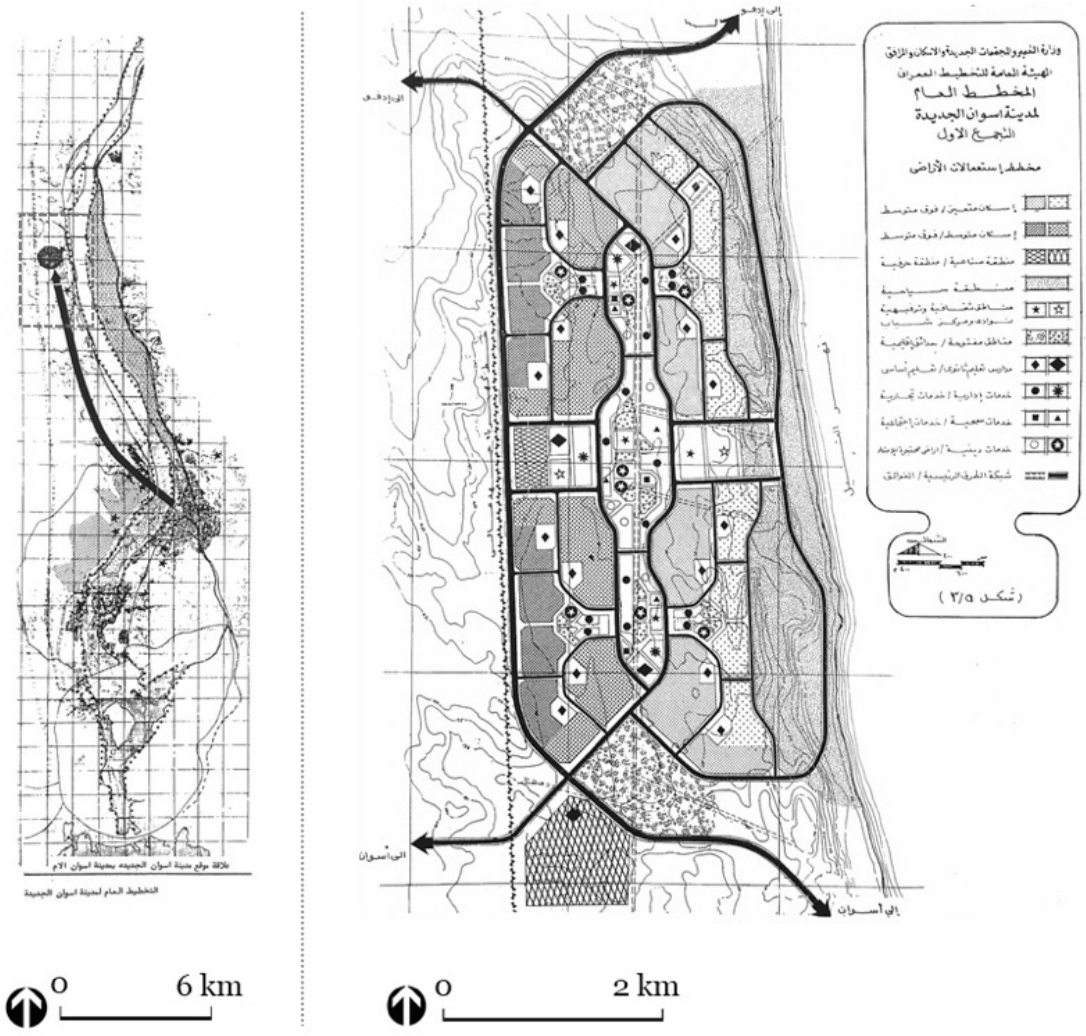


Figure XII: The unrealized General Plan for New Aswan City, 1993 (right) and New Aswan City location in relation to Aswan (left).
Source: GOPP (1993, pp. 5–6).

The city was not integrated with any form of direct accessibility from the eastern bank of the Nile (see Figure XII). It is seemingly dependent on one of two alternatives. First, the distant southern access points within Aswan City over either Aswan Low or High Dam, and second, a new bridge in the heart of Aswan City originally intended by the Ministry of Transport to relieve the pressure of heavy transport over Aswan Lower Dam.

An interview with an urban planning expert in Aswan unveiled a top-down decision that was imposed during the 1990s. At one of the presidential visits, a detailed plan for New Aswan Scheme on the west bank was presented along with a cable-stayed bridge crossing the Nile only 3 km from Aswan City centre. Afterwards, a new master plan for New Aswan City under a new title, Aswan Touristic City, emerged within the same 13 km location (Figure XIII). The master plan integrates a bridge crossing the Nile into the city almost in the same way as previously suggested in the abolished new urban extension in the 1986 General Plan of Aswan by GTZ, GOPP and Aswan Governorate (GTZ, 1987, p. 25) (see Figure XI and Figure XIII).

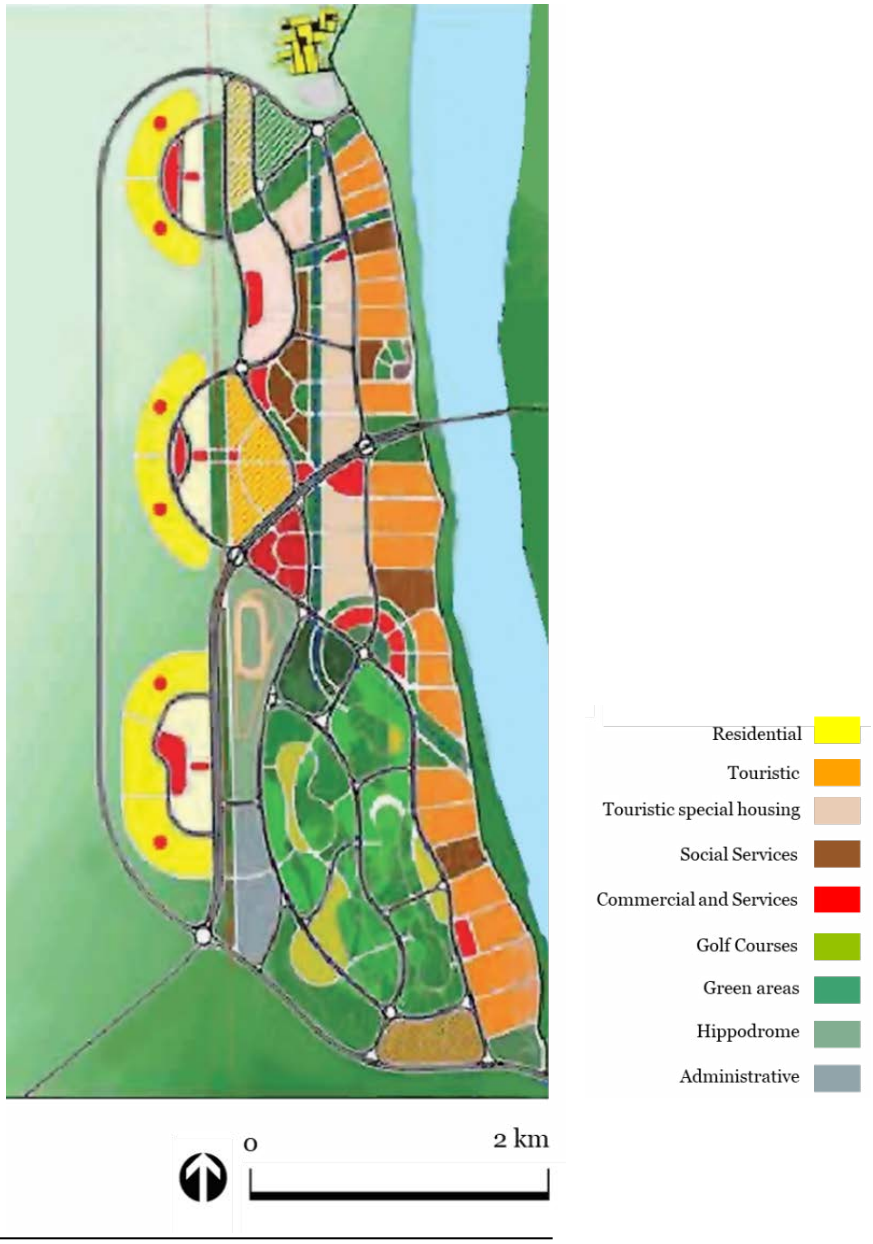


Figure XIII: General Plan of Aswan Touristic City, 1997.
Source: GOPP (2008b, p. 168).

Aswan Touristic City's General Plan was formally recognised and approved in 1998 (GOPP, 2008b, pp. 167–168). The report presents the general plan of the city to be 13 km from Aswan City, and targets to host 70,000 capita by the year 2017 on 1,800 feddan while offering 16,000 work opportunities of which 7,000 are within the touristic field. Touristic and sports activities dominate the master plan, and the Nile front is stacked with resort schemes and surrounded by what is named as special touristic housing. At the hinterland, three zones for residential housing are clustered and enclosed with a ring road behind high voltage line towers. Additionally, a golf club with spacious 18 holes golf courses are planned to the south over 168 feddan. The background colour of the master plan is green although it is a desert area, seemingly referring at a possible intention of agricultural reclamation to the city's hinterland (GOPP, 2008b, pp. 167–168) (see Figure XIII).

A more detailed master plan for New Aswan, much relevant to the actual built-up area of New Aswan today, was published recently through the engineering consultancy who jointly prepared it on behalf of the GOPP. In this master plan, the buffer zone for the high voltage lines passing through the city is extended, the regional road was relocated outside the buffer zone, residential areas increased in size and more commercial activities were distributed over the city (see Figure XIV) (Walycenter, 2018). It must be noted that New Aswan as a touristic city was approved by ministerial Decree No. 2/1998 published in the Official Gazette. The local popular council of Aswan City approved the scheme in 1997, although it is very rare to find a popular council approval on any NUC established by NUCA.

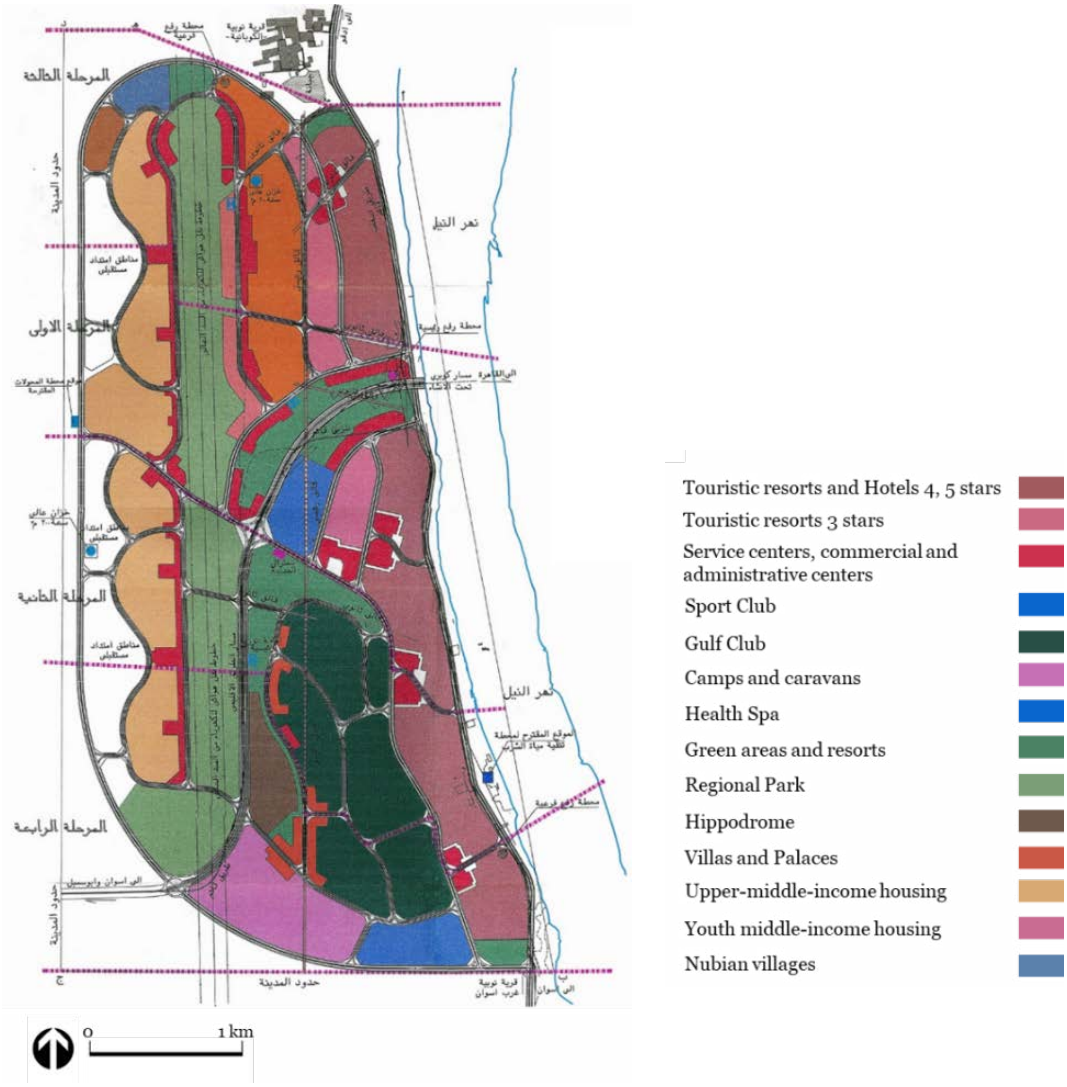


Figure XIV: New Aswan City master plan.
Source: Walycenter (2018).

The city was officially recognised and approved with a general plan and building regulations in 1994 under the name New Aswan City according to the Ministerial Decree No. 64/1994, although, the Official Gazette did not publish the general plan or the data indicating the location of the city. There were a series of conflicting official decrees to follow, more specifically, those that were issued in two occasions to determine the location of Aswan Cable-Stayed Bridge (Figure XV), which was positioned, eventually, to serve the establishment of New Aswan City.

Figure XV: New Aswan Cable- stayed Bridge, 2017.

Such a role was granted instead of implementing earlier plans of a bridge in Aswan City that works instead of Aswan Lower Dam connection to the west of Aswan City and establishing the basis of new urban extension in proximity (see Figure XI). The urban extension is legally evident in Decrees No.1637/1995 and No. 3498/1997.

Strikingly, a bridge that should have solved the acute challenges facing Aswan City was dedicated to serve the new suburban real estate venture of New Aswan. What is particularly strange in all these decrees listed is the approval of the Local Popular Council of Aswan on each decree except Decree No. 1637/1995 to relocate Aswan Cable-stayed Bridge which was approved by a temporary local popular council. Further information is missing on why the first council was removed and why a temporary council was appointed.

A list of all the decrees concerned with Aswan City and Aswan Cable-stayed Bridge is provided in Table III. The table helps in manifesting the structure of decision-making and its type of intervention during nearly 25 years. The table includes decrees that are relevant to the development of the city's infrastructure to unveil, in certain cases, the prolonged duration between taking a decision to initiate a project and its final realization. First, a decree concerned with establishing a water station in 2007 that come into operation 14 years later in 2015 (2510/2007), and other decrees concerned with increasing the size of the city by more than three folds, first to 10278.08 feddan (366/2009) and then to 18490.92 (807/2015) (see Figure XVI).

Decree No.	Issuer	Decree contents
64/1994	State Ministry for New Urban Communities	Decree No. 64/1994, New Aswan City was approved and officially recognized with a general binding plan and building regulations.
1637/1995	Egyptian Cabinet	Decree to establish Aswan Cable-Stayed Bridge. Expropriation of land and reimbursement to landowners where the bridge is constructed.
131/1996	Ministry of Transportation	Additional temporary expropriation of land for three years and reimbursement to landowners where Aswan Bridge is constructed.
3498/1997	Egyptian Cabinet	Aswan Cable-stayed Bridge relocated to land near Abu Al-Reish Bahary (10 km away from its previous location).
2/1998	Ministry of Housing Utilities and New Communities	New Aswan is recognized as "Aswan Touristic City" with a new General Plan (Decree 64/1994 abolished). A new location for New Aswan is selected next to Aswan Cable-stayed Bridge.
96/1999	Presidential Decree	Aswan Touristic City changed to New Aswan City and its location is formally recognized as a NUCP territory with a total area of 4,000 feddan.
2510/2007	Egyptian Cabinet	Water Station – water piping and water intake for New Aswan to be established. Land expropriation at the Nile bank for the establishment of a water station.
Internal Approval on 1 June 2008	NUCA	An area of 98 feddan is designated for South Valley University branch in New Aswan.
366/2009	Egyptian Cabinet	Area of New Aswan is increased to 10,278.08 feddan instead of 4,000 feddan.
235/2011	Ministry of Housing Utilities and New Communities	Master plan design for South Valley University branch in New Aswan modified and approved for construction.
311/2012	Supreme Council of Armed Forces	South Valley University is renamed Aswan University.
2013/554	Ministerial Decree	Aswan University's master plan in New Aswan City
807/2015	Egyptian Cabinet	Area of New Aswan increased to 22,389.73 feddan instead of 10,278.08 feddan.
498/2016	Presidential Decree	Land expropriation (public benefit works) of the agricultural frontier of the Nile bank considered as a touristic territory in Aswan General Plan.
1220/ 2017	Ministry of Interior	Establishment of New Aswan Police Station.
1338/2017	Ministry of Interior	Establishment of a civil registry office.

Table III: Governmental decrees concerned with New Aswan City and Aswan Cable- stayed Bridge.

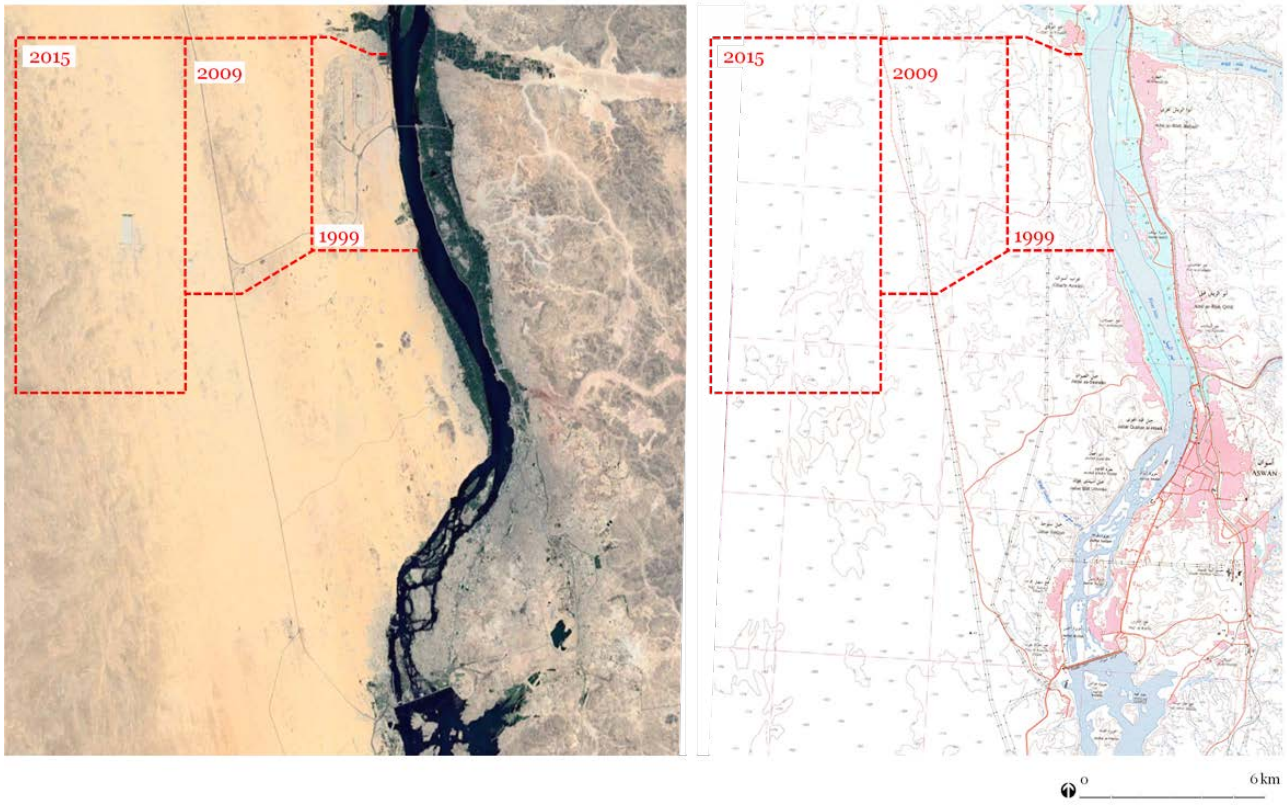


Figure XVI: Compound figure of the growth of New Aswan boundaries from 1999 until 2015 (left), and Aswan City map, 1991 (right).
Source: Analysis of Digital Globe Imagery (left) and ESA (1991) (right).

Another decree in 2008 was concerned with approving designation of 98 feddan for South Valley University branch in New Aswan. Despite that New Aswan was a touristic city and its master plan did not contain an educational land use allowing for allocating a university, this is a sudden twist that might reveal the urgent need to populate the NUC lacking residents.

Another controversial decision came in 2016. Despite the value of Nile costal agriculture to the Nubian tradition, a land expropriation (public benefit works) of the agricultural frontier of the Nile bank at the eastern side of the city took place as the area was considered by the NUCA as a touristic territory in Aswan General Plan.

By going through the different decrees concerned with expanding the city area, the researcher found no convincing explanation. An interview with the head of New Aswan City Apparatus in 2017 can provide a clarification. He presented that the expansion of the town area in 2015 is attributed to the scale of infrastructure built for the city, which is enough to serve 1,300,000 capita rather than 70,000 capita.

However, the question remains open as to why such a scale of water and energy infrastructure were originally intended to serve 70,000 inhabitants over 4,000 feddan. Nonetheless, it is a megacity scheme and can create opportunities for several stakeholders including contractors, and can increase revenues for NUCA. The bigger the master plan with several services and amenities provided, the more it contributes to raising the speculation level and growing the prediction that NUCA has great and solid intentions concerning the future of the NUC with higher growth rate and construction work. However, the long-term impacts could be devastating as the impact of growth will not reflect a real development on the regional scale. The growth of New Aswan boundaries from 1999 until 2015 is illustrated in Figure XVI.

Until present, the narrative of the Aswan Bridge is not over yet. The bridge was first proposed in 1986 by the GTZ and GOPP report on the General Planning of Aswan (GTZ, 1987, p. 25), then transferred to serve the establishment of New Aswan City in 1998 (Decree No. 2/1998). Recently, in 2019, the construction phase

of another cable-stayed bridge began, to connect West Aswan, open the western desert hinterland for development and replace the vehicular traffic link over the Lower Aswan Dam. Surprisingly, the bridge location is analogous to the same location that was proposed by the GTZ and GOPP in 1988. The bridge aims to get ahold on the vehicular traffic over Aswan Lower Dam soon as possible (Medanelakhbar, 2019). This imperative yet belated project sheds the light on how the decentralized decision-making enacted by Aswan Governorate could have had a major influence on governing the growth and expansion of the city, saving immense financial resources.

It is particularly important to point out that New Aswan shifted from being a city extension serving the community of Aswan to a touristic satellite city located 12 km from Aswan. Furthermore, the original master plan was assimilated to new activities that were not planned or approved initially, such as taking one of the main institutional activities, Aswan University, out of Aswan into the premises of New Aswan. With such a new reality, Aswan urban growth did not take the form of a new neighbourhood or a new extension. A new planning model for building New Aswan has emerged as the Twin City model, one of three NUCs typologies adopted by NUCA (Rageh, 2007, p. 458).

4.2.4. Aswan–New Aswan City Urban Planning

Either for target year 2027 or 2052, the scale of urban growth planned for Aswan City is absolutely monumental. The combined strategic plans of Aswan Governorate and the GOPP on one hand and NUCA on the other consumes a massive scale of land. First, the adjacent urban expansion on the eastern desert fringe east of Aswan, in the same direction of *Alsadaka Algadida* neighbourhood. Second, the expansion of a new urban settlement across the Nile south-west of Aswan with several residential, commercial and industrial land uses. Third, a vast desert area across the Nile on the west of the village of Gharb Aswan (GOPP, 2008, p. 27). Fourth, the development of Wadi Karkar to the south-west of Aswan (see Figure XVII). Such a massive scale of combined growth of settlements, although each has been officially ratified, seems to be impossible, a main dependency on the expansion of New Aswan only is anticipated.

The latter three developments alone are gigantic and outscale both New Aswan and Aswan Cities, raising many questions regarding the planning of mobility and infrastructure cost. On the other hand, New Aswan has its separate strategic planning with its target population. The NUCA, through its strategic plan that was prepared independently in the absence of any coordination with the governorate, plans for a population growth of 1,341, 546 inhabitants in 2052 (Figure XVII). The GOPP plans for population growth of 213,400 inhabitants in 2027 to be hosted by only two new urban extensions west of Aswan City (GOPP, 2009, p. 5).

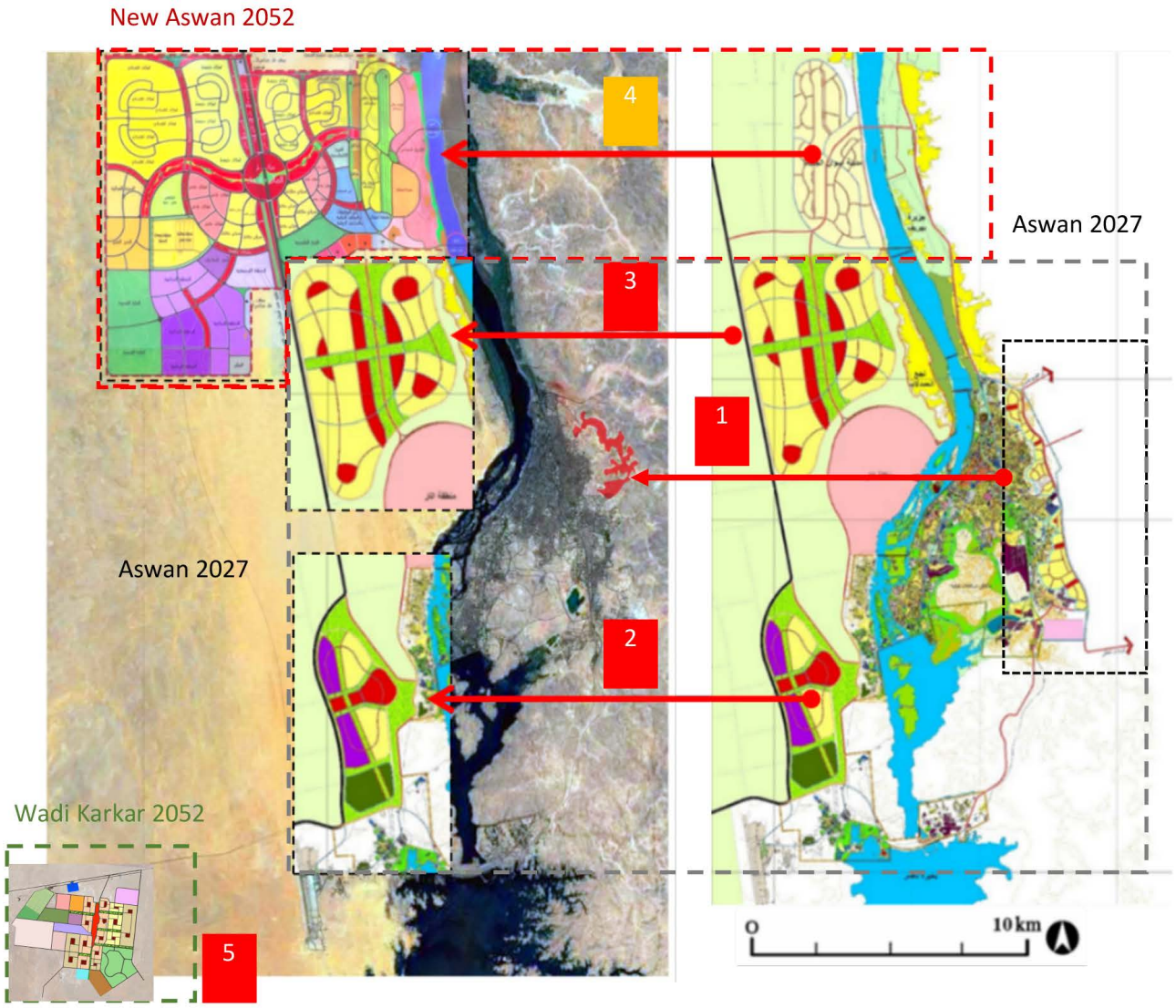


Figure XVII: A compound figure combining the Strategic Plans of the GOPP Strategic Plan for Aswan 2027 opting for the eastern extension of Aswan and two new urban extensions to Aswan City in the form of new neighbourhood (1, 2 and 3), independent Strategic Plan of NUCA for New Aswan 2052 (4) and the GOPP Plan for Wadi Karkar until 2052 (5).
Sources: GOPP (2008); GOPP (2016, p. 10); NAA.

It is shocking how the inertia inherent in the institutional and legislative structure guiding the New Urban Communities Policy since the 1970s allows for such a conflict of planning. Legally, the Governor of Aswan cannot direct the head of NAA although New Aswan is situated within the jurisdictions of the governorate. Furthermore, the governorate cannot share revenues or collect taxes on the development of New Aswan. In parallel to the massive scale suburban developments in Aswan Region, various in-fill areas in Aswan City remain deprived and underdeveloped despite their enormous potential for regeneration and revitalization. The urban area designated for residential use inside Aswan City accounts for only 27 per cent of the urban area of the city (GOPP, 2013, p. 13).

Local investigations in Aswan City unveiled several low-density urban in-fill areas and vast empty land tracts. Inside the city, scattered self-constructed settlements with deteriorating conditions need urgent interventions. One example is Khour Awada, an unplanned settlement that expands horizontally over rugged elevated terrain. Other urban areas were physically planned, but, regrettably, host apartment buildings that enjoy very low-density urban structures such as Kima Aswan housing complex. On the

other hand, in relation to traditional planning and organization of Aswan, New Aswan, in its physical plan, introduces a disassociated and rootless model respect to the history of the place or even existing archaeological features in the area. New Aswan, despite the massive amount of public and private capital invested, represents a culturally neutral image of a city that is extremely distant from approaching the marvellous asset of Nubian culture and architectural heritage. Even the local history and archaeological remains proximate to the city did not resonate within the city identity, image or physical form. Indeed, the language presented within the city cannot be differentiated from any other NUC, especially with the standardized proliferation of social housing buildings.

The site selection of New Aswan experienced a similar phenomenon of maintaining isolation and economic dependency. New Aswan selection was to mainly achieve a legal condition to allow independent economic activities of NUCA from Aswan Governorate. A buffer zone of 2 km from the village of Gharb Aswan, the village adjacent to Aswan, was maintained, while neglecting the small village of Nag el-Fuqani (Figure XVIII). After 28 years of initiating the EGP 3 billion New Aswan, population numbers did not only fail to meet the 70,000 capita figure planned to be met in 2017, but also failed to realize a significant number of population growth. The ownership jurisdictions of the land exploited by New Aswan is perceived at the local community of Gharb Aswan to belong to them and to the Nubian Community. However, such an understanding was never to tolerate with the notion of private State properties (Law No. 7/1991, *amalk al-dawla al-khasa*) in which NUCA acts under its jurisdictions. Furthermore, such a notion perceived by the Nubian Community was never transformed to municipal rights.

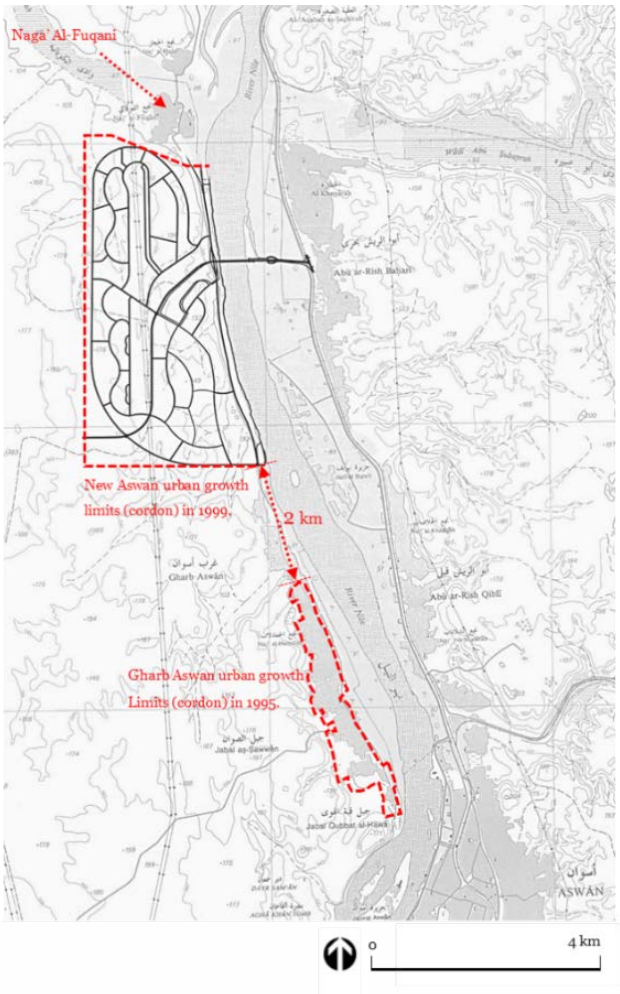


Figure XVIII: New Aswan site selection was at an exact 2 km from the urban growth limits of the village of Gharb Aswan, while neglecting the limits of the small village of Nag el-Fuqani to the north.
Source: Map modified after Aswan Governorate (1996) and Egypt's Survey Authority (1991).

From 1986 to 1993, a new master plan for New Aswan that suggested the incremental growth of New Aswan was suggested and then cancelled. The next three years, between 1994 and 1997, were wasted over disputes on both the location of the new city and Aswan Cable-stayed Bridge. The following six years (between 2002 and 2008) were consumed on the activities of NUCA, building the entire street networks and infrastructure of an oversized master plan of New Aswan without maintaining incremental growth and access to development land and over phases. A policy that was previously planned in New Aswan abolished the 1993 master plan (Figure XIX). Such an ineffective and misguided decision-making and project activities are attributed to institutional configuration within the urban planning and management se-tup, and the de-annexation of New Aswan in terms of land ownership, urban planning and finance; an inherent type of reinforcement that secures authoritarian interests away from rigorous and self-representative public monitoring and supervision at the local level.

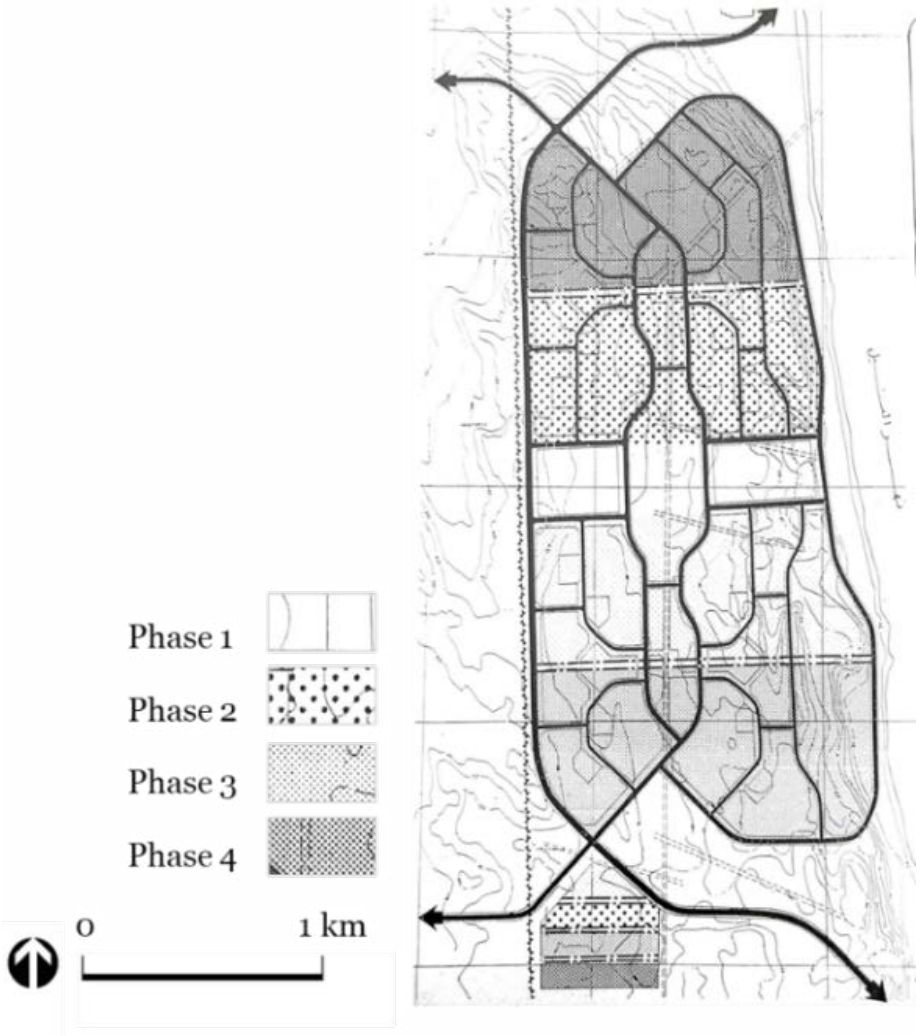


Figure XIX: New Aswan abolished 1993 master plan suggested city land to be developed over phases.
Source: GOPP (1993, pp. 5–6).

Overall, the urban development of NUCs lacks the legal and institutional mechanisms of social guidance to enable a process of consultative decision-making or the practice of urban democracy. Alien urban models are invading the outskirts of the long-standing cities along the Nile Valley and Delta with a standardized architecture and urbanism from any other NUC, especially with the standardized proliferation of social housing buildings.

However, it must be noted that top-down decisions are superior to the regulations of NUCA. New Aswan's fate was very much determined from its first years, and with an extremely limited room for future manoeuvrability due to the massive and non-incremental city expansion. Eventually, the city turned to a niche of excessive economic growth activities that are not aligned with achieving a viable regional progress or a reasonable transformation towards integrated development. Also, the city became an arena for building a one size fits all standardized housing types that proved to bring profits to the banking sector and drain governmental resources while remaining without significant occupancy. In New Aswan, housing supply was mainly based on importing prototypes from either the social housing programme, or '*Ebny Baytak*', and many other types of buildings that were created in different other NUCs around Egypt. Additionally, New Aswan City image is negatively affected by the vast number of buildings where construction has been halted due to either the limited financial capacity of the owners or the absence of services and facilities.

4.2.5. New Aswan and New Toshka, the Land Governance and Growth Management

On a broader regional level, and within Aswan Governorate, NUCA carries out two NUCs in addition to New Aswan which are New Toshka and Sharq Al-Owynāt. While New Aswan was located about 12 km from its mother city, Aswan, New Toshka is nearly 60 km from the mother city Abu Simbel and nearly 40 km from the agricultural fields of Toshka. Data regarding the planned location of NUC Sharq Al-Owynāt are missing. New Toshka was built in a desert area, (Figure XX) and with an area of 2,973 m^2, and a target population of 70,000 inhabitants according to the official data (Decree No.199/2000). The total cost of the first phase crossed the figure of EGP 500 million (NUCA, 2018). The NUC is managed by NAA and despite the huge momentum gathered in developing its infrastructure and the 51 social housing apartment blocks, again, the distant location of the NUC, the absence of transit systems and the lack of services and site amenities are major factors contributing to it being unoccupied (CAPMAS, 2017), and it missed its 70,000 inhabitants target population in 2020 (Rageh, 2007, p. 565). The smaller version of strategic mistakes by the structure of decision-making induced within the domain of land governance between NUCA and Aswan Governorate contributed to the failure of New Toshka to attain growth and development. These include sectoral and centralized governance, inefficient land sequencing and growth management, uncoordinated institutional development, failure to manage the competing interests and many others.

Figure XX: The first phase of New Toshka NUC, 2017.
Source: Digital Globe – Google (2017).

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

This research concluded that good land governance within Upper Egypt and in Aswan Governorate in particular, is a complex and challenging mission. However, the region's vulnerability to environmental, economic stresses and deprived living conditions is a key driver for the development of tail-made reforms and interventions to gradually steer the region towards efficient governance and management of land. The main drawback that many NUCs in Upper Egypt manifest is their extreme shortage in reaching a balanced use of land by accommodating population. Such a drawback significantly curtails the long-standing and long-awaited endeavours of decongesting the Nile Valley and Delta. Within Upper Egypt, the total population that was accommodated within NUCs in 2017, according to CAPMAS detailed census, amounted to be 55,544 capita only, of which 50 per cent is accommodated in one NUC only, the New Beni Suef. Unlike New Aswan, New Beni Suef, a NUC that was launched in 1985 and achieved a relative success in accommodating population, cannot be attributed to present sectoral or centralized model of governance, as it is already falling short by about 50 per cent of its target population of 2017. Its relevant success can be attributed to its location and accessibility. The NUC is virtually a natural extension to the long-standing city of Beni Suef directly across the Nile, such a condition is very analogues to the unestablished 35,000 Long-Term Town Extension of New Aswan 1986–2010.

Such a poor accomplishment of the NUCP in Upper Egypt is relative to the whole performance of the NUCP in general. The State programme acting within Lower and Upper Egypt invested more than EGP 400 billion cumulative investment since 1979, for an outcome of

The main takeaway from investigating the case of land governance in Aswan is how the State institutional duality between authorities and governorates hindered the essence of good land governance at different negative transitions. The first with the abolishment of Long-Term Town Extension of New Aswan 1986–2010 and the second, the ignorance of Strategic Plan for Aswan City or 2027 that was issued and ratified in 2008, and never put into action. The Plan defines three main territories for Aswan's future urban growth, neither addressing nor incorporating the touristic city, New Aswan.

New Aswan as it is planned today was never a strategic objective in terms of spatial planning and decongesting the long-standing city of Aswan. The analysis of the GTZ, GOPP and Aswan Governorate Long-Term Town Extension of New Aswan 1986–2010 brought compelling evidence that was more than sufficient to absorb population growth until 2010. New Aswan location, as it is standing today, was seemingly carefully adjusted to fall within the jurisdictions of NUCA instead of Aswan Governorate. The present New Aswan location was located 2 km from the urban growth limits of the village of Gharb Aswan to simulate the exact same distance stated to in Law No. 59/1979 and Law No. 143/1981 that differentiate between governorates' and authority's jurisdictions.

The scale of economic growth associated with disposition of governorates' land by NUCP is becoming more significant. Recently, and only between 2014 and 2018, NUCA achieved land sales worth of EGP 225 billion (Ammar, 2018). Out of the analysis carried out in this research, those revenues are short-term outcomes of a system that became addicted to short-term economic growth; a short-sighted strategy but with everlasting complications.

The long-term incompatibility of the institutional and legal structures in which land governance is acting, especially with respect to managing the competing interests between governorates and authorities is a threat to spatial justice and land equity. The mobilisation of municipal, decentralized and participatory mechanisms in the management and governance of urban growth remains essential to actively maintain good land governance. In the absence of such mechanisms, persistent efforts for initiating good land governance will be incompatible with the institutional and legislative environments.

This research argues that various legislative reforms are necessary to apply the brakes on the new proliferation of NUCs. The current Egyptian planning and management system has a significant role in strangling the economy of old cities and villages for the benefit of NUCs. Not only Egyptian laws concerned with urban planning that need to be urgently addressed, but also many of those related to the regulation of agriculture, industry and tourism.

A wise investment of public capital can only be attained if it substantially aligns the interests of the different segments of the society and contributes to realising viable projects that achieve public policy outcomes in concrete steps. Public capital investment should always be guided by consistent jurisdictions, long-term development plans, effective zoning and land use.

Clever growth management through land sequencing around transit hubs and transit systems is crucial for

attaining the population growth within NUCs. New Aswan is not the only NUC that is planned, built and operated without being connected with either a heavy or light transit systems, New Qena is also a good example. The city is directly positioned on the edge of a railway line but was never utilized either for the transport of construction materials or for sustaining a reliable and frequent access to the growing city. A visit to the NUC in 2018 unveiled various empty and underutilized standardized apartment blocks, incomplete structures and barley any sign of daily life by residents (see Figure XXI).

Figure XXI: The NUC, New Qena, 2018.
It is another example of inefficient sequencing of growth and land management; (a) unutilized railway line at the entrance of New Qena, (b) incomplete concrete structures for residential buildings put on hold and (c) empty blocks of social housing.

In managing and governing growth and land consumption, there is a pressing need to initiate deliberative dialogues between the different interests and stakeholders within a self-organized municipal level and without the absence of State supervision and regulation. It is also important to strengthen the local executive mandate and expertise in stimulating links with potential partners in developing the built environment. Also, to establish a human-centred urban governance that deals with nerves of the problem by community-based control, fusing together socio-spatial relations into a functional and expressive articulation of the built environment.

There is an absolute necessity to funnel investments within network institutions and a municipally governed mechanism, where ideas compete for visions and the public becomes partners in development. Without such a complex embedding mechanism of network institutions that delineate the notion of society at large, starting from individual examples working themselves up to global networks, it would be extremely difficult to mainstream novel ways of development and to change the institutional view, perception and practice (Walther, 2017).

5.1. Towards a Post-NUCP Era, a Framework for Action

In 1981, Houaidy (p. 234) presented that the absence of planning personnel with expertise at the local level is the main reason behind the deterioration of local spatial planning at the municipal level. Since 1981 until present, it is beyond doubt that it is possible to fulfil the local demand for expertise and specialties in planning. The time has become ripe for delegating authorities' powers and expertise to the local level. Such a step is not far from the mandate of the Egyptian Constitution concerned with fulfilling the needs of local administrative units: The State guarantees that it will satisfy the local units' needs in terms of scientific, technical, administrative and financial assistance, and ensures the equitable distribution of facilities, services and resources, and works to bring development levels in these units to a common standard and achieve social justice between these units (Egyptian Constitution, 2014, Article 177). There is an urgent need to steadily steer the ship towards a more inclusive model of urban growth. This research recommends a framework for leading a transformation in the Egyptian policy, management, and design of urban growth in desert areas through a framework for action.

The framework tackles the challenge associated with establishing an integrated development with self-representative local structures. Also, the sectoral intervention of authorities in governorates and the principal contradiction between how NUCA and other economic authorities operate. The proposed framework is aligned with the mandate of the Egyptian Constitution declared by (Article 78) that states the following: The State shall regulate the use of State lands …in a way that serves the public interest, improves the quality of life for citizens and preserves the rights of future generations (Egyptian Constitution, 2014, Article 78). In dealing with desert areas, the Egyptian planning system needs to be reformed to address the various inefficient and outdated legislation that were stipulated from 1954 to date. The top priority for the framework for action is for economic authorities such as NUCA, GARPAD, IDA and TDA to be gradually reformed and embedded into the local municipal structures of governorate level. Instead, municipalities should be in charge and with the sufficient capacity and jurisdiction to develop an active, integrated, inclusive land governance; a process that is enduring in coordination with the participation of local communities and under the institutional supervision and follow-up of various ministers for an unremitting feedback and adjustment of plans according to a National Strategic Plan. Further actions can also help achieve the long-term overall aim of this framework. These include the following: First, the localization of land management and governance expertise in cities and villages, and the municipal annexation of new growth territories along with the gradual abolishment of centralized economic Authorities, and second, the initiation of integrated development model that includes desert and non-desert areas, urban, rural, industrial and touristic sectors, with inclusive participatory systems (Figure XXII). Additional detailing to such strategies would include:

- Annexing existing NUCs to their governorates financially and legally, linking the strategic spatial planning of NUCs with governorates' old cities and villages.
- NUCs must be subjected to a municipally guided retrofit, control and intervention through grass-roots legislative amendments.
- Localising urban planning and management expertise

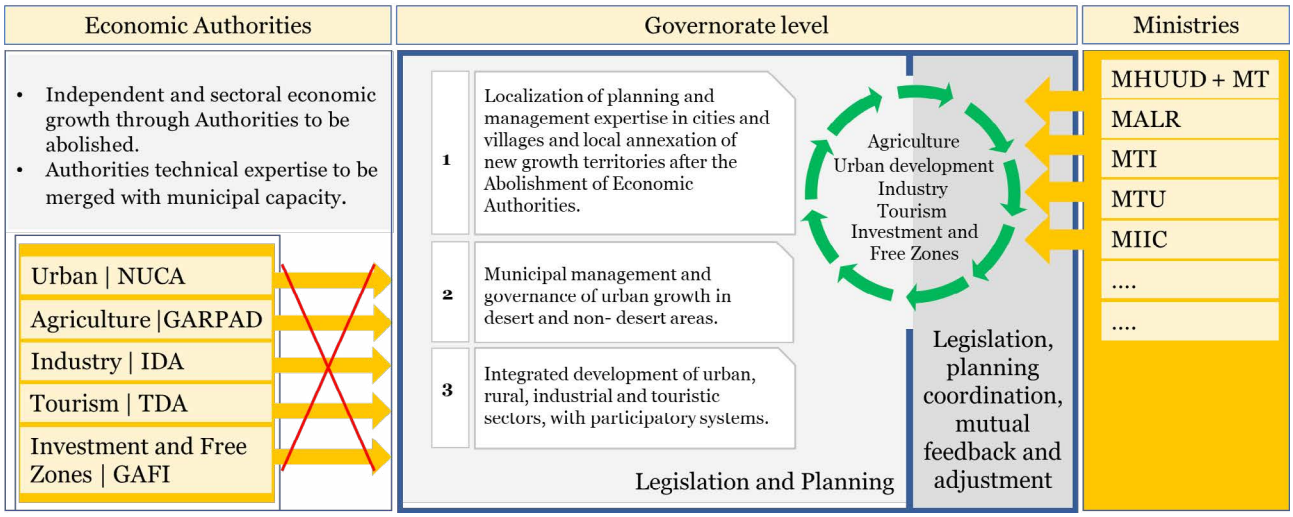


Figure XXII: A framework for leading a transformation in the Egyptian policy, management and design of urban growth.

in municipal units and building local governance mechanism with comprehensive expertise in urban rehabilitation.

- Carrying out transportation planning in conjunction with housing and urban development. It is recommended to investigate the possibility of merging the Ministry of Housing Utilities and Urban Development (MHUUD) with the Ministry of Transportation (MT). Additionally, the role a new Ministry analogues to the former Ministry of Public Works during the pre-NUCP era has to be revisited and revitalized.

5.2. Aswan–New Aswan, a Way Forward

Over the last two decades, a tremendous amount of the development efforts in Aswan Governorate were geared up to fuel urban growth outside urban in-fill areas towards New Aswan. Vast amounts of desert land were drained and massive resources were diverted beyond the reach of the vast majority of inhabitants. One of the most perplexing questions in this research is: what if the EGP 3 billion spent on New Aswan, were to be spent on the development on Aswan and its rural hinterland?

The rapid and inevitable growth of Aswan's inner cores is taking place without sufficient management and control, and without a sufficient supply of infrastructure, threatening both resilience and quality of life. The urban deterioration and decay in Aswan City and Aswan Governorate in general, fall as a direct result to the dispersed and uneven urban development model rather than the scarcity of financial resources at both the State and local level. A review of the present growth model and to the unimplemented Aswan 2027 Strategic Plan is desperately needed.

Aswan Governorate and its centre, Aswan City, are particularly endowed with precious traditional and cultural heritage, unique scenery and rich environmental characteristics that are unparalleled elsewhere. Aswan strategically anchors both sides of the Nubian and African contexts with numerous and diverse potentials to excel and to unleash a significant positive transformation within the social and economic domains. A wise and a comprehensive strategic spatial planning of Aswan City that is oriented towards existing areas is an extremely viable alternative. However, the planning and rehabilitation of old areas in Upper Egypt and in Aswan Governorate in particular, is a very complex and challenging mission. A critical priority is to maintain a bottom-up participatory approach to fulfil the needs of the community and to plan for a resilient future. The future of New Aswan (as many other projects in Aswan Governorate) must be determined within Aswan Governorate, and with a cognitive and collective well towards ameliorating numerous social, environmental and economic complications.

Aswan Governorate needs a shared vision that can save its natural and cultural heritage. The limited number of resources must be divided between economic development and environmental maintenance. It is fundamental to work on a strategy to curtail inefficient growth in which massive financial

capital is allocated away from priorities, creating long-term consequences that are not only limited and threatening inclusive growth, but also the loss of many of the particular characteristics of Aswan City. It is necessary to proceed with the resolution of the current urban conflict between the dispersed development patterns in Aswan regional areas and to apply the brakes on the miscoordinated growth and strategic planning, descale excessive growth, and adopt neighbourhood extension as the most prioritised form of urban expansion. The physical planning of a region is the cumulative result of the planning and design of the neighbourhood (Calthorpe and Fulton, 2012, p. 49).

Urban growth in the form of neighbourhoods rather than poorly connected distant settlements is an urgent alternative to New Aswan's massive scale sprawl and its implications on the particular characteristics of the Nubian urban form and architectural heritage. Various efforts are needed from various stakeholders to restore Aswan architectural identity, preserve its historical sites and promote the development of its cultural and touristic assets. The development of old deteriorated infrastructure threatening human health and environment should be a primary objective rather than installing brand new infrastructure at distant locations without a viable long-term economic benefit.

Regardless of how competitive New Aswan will become in the real estate market, the new city will not eliminate or overtake the historical, cultural and socioeconomic dominance of the old mother city, Aswan. Aswan will remain as a major touristic city and the southern gate to Africa, with a desperate need for prompt action towards urban regeneration, a framework to target the many chronic disabilities and stresses, alleviating its deteriorated infrastructure and vitalising its inner cores. On the other hand, New Aswan is threatened to be trapped in a model of inefficiency unless a wise action of municipal annexation is undertaken. Many questions are raised regarding the city's urban scale, remoteness, low density, monotonous land use planning, unintegrated urban management mechanism and urban identity. It is important to state the threat to the agricultural land between Aswan and New Aswan. The increased traffic between the two cities might lead to conversion of its land use into commercial or residential activities (Figure XXIII).

Figure XXIII: Agricultural land between Aswan and its twin city, New Aswan, is vulnerable to land-use change towards residential and commercial purposes. Photo from the top of Aswan University, 2017.

The conclusion of this research can offer no specific urban model or a master plan but can support the several arguments presented with ideas that were inspired by various discussions among the local society and the academic community in Aswan City. Regrettably, the realisation of these ideas is beyond reach due to the current ineffective planning structure that derails rational integrated development efforts. First, Aswan development should start as a part of an integrated development scheme to Upper Egypt and Aswan Governorate, otherwise, development effort in Aswan would never be sufficient to serve the ever-increasing migration influx from the less affluent governorates in Upper Egypt. Second, as a touristic city with an African dimension, Aswan needs to convey an urban regeneration strategy with a framework for developing urban in-fill areas, enhancing and improving the liveability of the city. One of the ideas is embodied in an in-fill development and densification scheme along a regional transit-oriented growth model. The idea is to utilise the existing right of way dedicated for railway transport from Lower Egypt to Upper Egypt passing through Luxor to Aswan up to the High Dam's Africa station, an influential harbour for trade with Sudan through Lake Nasser (Ryad, 2018, p. 11).

In Aswan City, the railway line passes by the central railway station to the north of the city to Aswan Downtown, and then through a significant low-density urban in-fill area known as Kima Aswan. Utilising right of way of the regional railway (Figure XXIV) for a light transit system brings up the potential of creating a smart growth corridor that extends beyond the scale of Aswan city and helps leading an inside-out form of urban growth that is centred around efficiency and quality of life. This is based on a careful study to the possibility of transferring the regional railway mode of transport outside the urban in-fill while utilizing its right of way in light transit system or a Bus Rapid Transit (BRT) system and maintaining its interconnection to the railway station and the regional railway.

An additional objective would be to utilise the area of low-density housing represented in (Figure XXV) known as the area of Kima Aswan as the new southern urban extension to Aswan City occupied by an extremely low-density settlement that dates back to the 1960s. The land is owned by the State-owned company Kima, operating in the production of chemical fertilisers and

Figure XXIV: The regional railway line in Aswan divides the city instead of enhancing its connectivity through light tramway networks, 2017.

other medical and industrial purposes. The factory is notorious within Aswan for operating a polluting industry with the smoke and dust rising from the chimneys and industrial wastewater dumped at Kima drain channel. Plans to relocate the factory outside Aswan along with other polluting industries are necessary to protect the pristine environmental features of the city and public health.

The redevelopment of the area as transit-oriented development will benefit from various natural features within site, most importantly, the emergence of a new natural lake once the old water station of Aswan was relocated to the south. Such a marvellous environmental asset is threatened by the existence of Kima Factory and its industrial waste. It is a viable option to consider building a competitive quarter that attracts businesses and skilled people within a compact, pedestrian-friendly, mixed-use development that is planned around a transit station. The new development would stimulate the establishment of transit-oriented development with various amenities, employment centres, retail shops and housing around a transit hub promoting transit usage and non-motorized travel (Suzuki et al., 2013, p. 36).

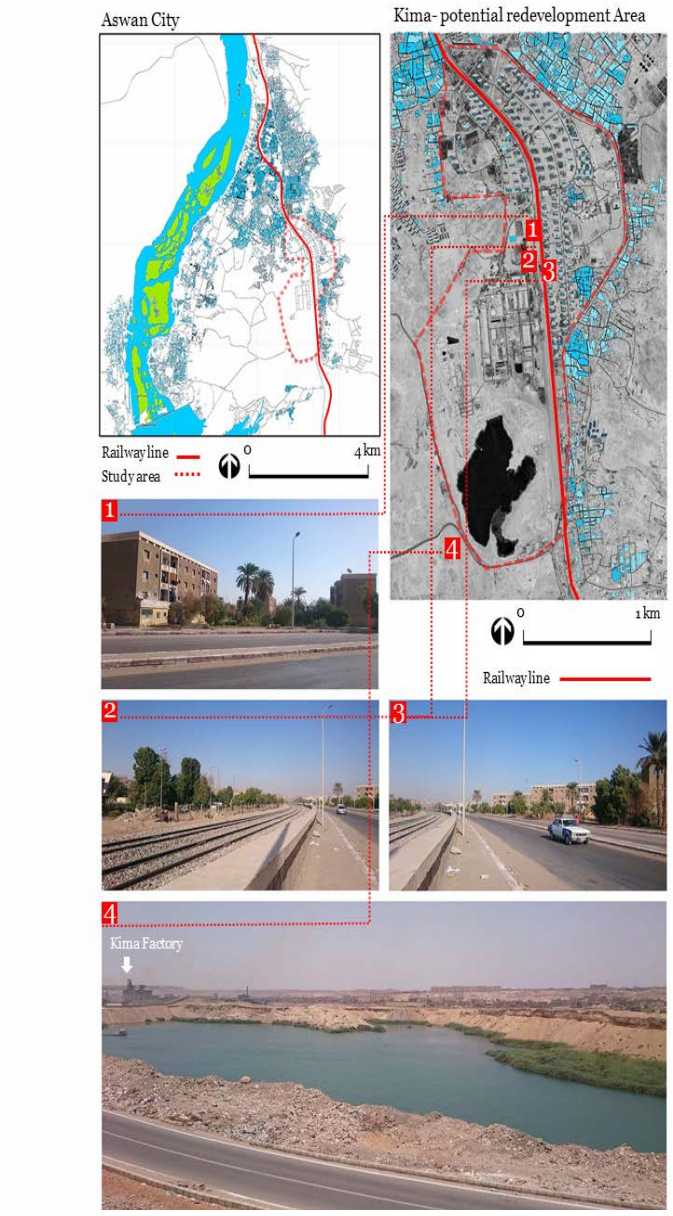


Figure XXV: Compound figure for KIMA Aswan district, a potential urban extension for Aswan city.
Source: Maps modified after (GOPP, 2008a) and Digital Globe 2018 Google. Images by researcher in 2017.

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ANNEXES

Annex 1: Actual and Targeted Built-up Area Densities of NUCA at the New Urban Communities

	NUC	Year estab.	Built-up area in feddan in 2018	Actual Population 2017*	NUCA's Estimated Population 2018**	Population Targeted	Gross area in feddan **	Target year	Targeted gross density (capita per feddan)
1	10th of Ramadan	1977	16,667	217,884	824,000	2,100,000	94,800	2032	22
2	15th of May	1978	3,571	93,574	250,000	500,000	18,329	N/D	27
3	Al-Sadat	1978	8,333	63,953	300,000	1,000,000	121,000	N/D	8
4	6th of October	1979	42,857	348,870	2,100,000	11,000,000	162,200	2040	68
5	Borg Al-Arab	1979	5,952	43,811	150,000	750,000	47,403	N/D	16
6	New Demietta	1980	4,286	50,147	157,000	500,000	6,500	2027	77
7	New Salhya	1982	1,190	52,509	42,000	120,000	1,600	2022	75
8	Al-Ubur	1982	14,286	130,161	225,000	600,000	16,200	2017	8
9	Badr	1982	5,952	31,299	160,000	650,000	18,500	N/D	35
10	Touristic villages Marina	1985	2,381	2,957	N/D	N/D	Unk.	N/D	Unk.
11	New Beni Suef	1986	3,571	27,629	75,000	120,000	1,600	2017	75
12	New Nubaria	1986	714	18,966	35,000	125,000	1,816	N/D	69
13	North of Suez Gulf	1993	4,333	0	N/D	N/D	Unk.	N/D	Unk.
14	New Menia	1995	1,905	15,036	45,000	157,000	24,639	2050	6
15	Al-Shrowq	1995	8,333	87,285	250,000	500,000	52,991	2022	9
16	Al-Sheikh Zayed	1995	7,143	90,699	330,000	675,000	21,306	N/D	32
17	New Aswan	1999	952	95	100	850,000	22,389	2032	38
18	New Cairo	2000	40,476	297,387	1,500,000	6,000,000	86,533	N/D	69
19	New Assiut	2000	2,381	8,003	45,000	638,000	30,300	N/D	21
20	New Teibah	2000	476	2,684	28,000	238,000	9,496	N/D	25
21	New Sohag	2000	952	174	N/D	820,000	29,516	2050	28
22	New Fayom	2000	357	394	3,000	130,000	13,500	N/D	10
23	New Qena	2000	595	1,529	200	130,000	24,200	N/D	5
24	New Akhmim	2000	119	0	N,D	N/D	34,868	N/D	Unk.
25	New Toshka	2000	24	0	N,D	80,000	10,992	N/D	7
26	New Al-Alamin	2015	48	0	N,D	2,000,000	48,130	N/D	42
27	New Administrative Capital	2015	1,190	0	N,D	6,500,000	170,000	N/D	38
28	New Mansoura	2017	0	0	N,D	680,000	5,104	N/D	133
29	East Port Said	2017	0	0	N,D	500,000	12,000	N/D	42

	NUC	Year estab.	Built-up area in feddan in 2018	Actual Population 2017*	NUCA's Estimated Population 2018**	Population Targeted	Gross area in feddan **	Target year	Targeted gross density (capita per feddan)
30	Gharb Qena	2017	24	0	N,D	N/D	9,000	N/D	Unk.
31	Gharb Assiut	2018	0	0	N,D	N/D	Unk.	N/D	N/D
32	East Ouwinat	N/D	0	0	N,D	45,000	10,730	N/D	4
33	New Luxor	2018	0	0	N,D	200,000	Unk.	N/D	Unk.
34	New Saint Catherine City	N/D	N/D	N/D	N,D	N/D	N/D	N/D	N/D
35	New Rosetta	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
36	New Fashn	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
37	New Malwi	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
38	Emtidad Al-Sheikh Zayed	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
39	New Alexandria	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
40	New Sixth of October	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
41	Salam Masr	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
42	New Rafah	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Sum			-	1,582,518	~6,519,300	~37,853,000	~1,153,564		Average targeted gross density ~ 37.7

Source: Compiled by researcher based on (NUCA, 2018), (CAPMAS, 2017), and the researcher mapping for gross built-up areas of NUCs.
N/D: Not Defined; Unk.: unknown.
(*) Census by (CAPMAS, 2017); (**) Data by (NUCA, 2018).
NUCs in Upper Egypt.