

The 900 Kilometer Nile City

Atelier Kempe Thill, baukuh, GRAU, Lola, Aymen Hashem-AHUD, Deerns Italia, Angelo Boris Boriolo, Stefano Graziani, Saverio Pesapane, Bas Princen, & Giovanna Silva

Along the banks of the Nile a curious urbanism has formed – a linear city with no definable center, but a consistent spread of fine-meshed agriculture, infrastructure, and settlement. Recalling a skewed version of Wright’s Broadacre City re-interpreted for the North African context – an improbable mixture of Neolithic-like villages with Fordist infrastructure – the sheer-scale of the site calls for a different kind of planning. Pier Paolo Tamburelli describes the ambition that his multi-disciplinary team has put forth in outlining a project for the 900 Kilometer Nile City.

Notes for a Project for the 900 Kilometer Nile City

1.

The Nile Valley starts in Aswan and ends in Cairo. It is about 900 kilometers long. The ‘Nile City’ is a series of settlements located in the Nile Valley. At the moment, this system can only be called a ‘city’ by analogy; to call it a ‘city’ is already a *project*, even if – at the same time – it is just a matter of fact.

2.

The population of the Nile City is about 26,000,000. The density of the Nile City is 2,100 inhabitants per square kilometer. Such density allows this otherwise rural environment to be considered a city. Indeed, the Nile City has a density similar to that of the Los Angeles, Tokyo–Yokohama and Milan metropolitan regions. These numbers sound promising, but when it comes to providing a metropolitan life for its inhabitants, the Nile City simply cannot deliver. Entering the Nile City is a disillusioning experience at first, yet is also astonishing at the same time, for *there is no city*.

3.

The population of the Nile City is expected to grow in the coming decades by 1.8 percent per year. This increase in population will produce a concomitant expansion of the existing villages and, consequently, will further reduce the amount of agricultural land. In the years to come, the Nile Valley will likely need to feed a larger population with less cultivable terrain.

4.

The Nile City is clearly defined by its geographical limits. In the middle, there is the Nile, an approximately half-kilometer-wide river that is controlled by the Aswan Dams, several Nile barriers and man-made riverbanks. On both sides of the Nile there is a small strip of land that is irrigated by an ingenious network of channels – a very fertile linear oasis. On average, the valley is no wider than twelve kilometers, and it ends abruptly when it reaches the two mountain chains flanking it, which form the edges of the desert.

The Nile Valley is the most abstract of countries. The landscape is entirely artificial, with minimal variations. The valley is almost always visible in its entire width. The border – an enormous barrier of sand – can always be seen in the background. The crops are the same throughout the valley: wheat, corn, cotton, clover, onion, and sugar cane. Fields are organized according to a roughly orthogonal grid. The dimensions of the plots are incredibly small. The result is a territory that is at once very abstract and very intense. Green is incredibly bright. The Nile Valley is as primitive and artificial as the Atari video games of the early 1980s. So far, the Nile City has developed in the Nile Valley by following the rules established for it in the Neolithic Age. The Nile City is now at the point of changing the Nile Valley.

5.

The Nile City is an accident. There was never the will nor the wish to create it; it just happened.

The Nile City is based neither on any particular industry nor on rural exodus. It is a new city type that was formed simply by rapid population growth produced by the introduction of Western medical standards, the guaranteed availability of foodstuffs due to foreign importation and the absence of family planning. The Nile City is in its essence a *city of population density*.

The Nile City is made up of an endless repetition of the same local conditions – the house with the field next to the house with the field, one village next to another village. The accumulation of enormous quantities of built mass in the Nile City has not yet resulted in a quantum leap. The Nile City is still a city in a pre-urban condition, a megalopolis that lacks an urban consciousness.

In contrast to all urban development based on industrial growth, there was no immigration when the Nile City began to take shape. In the Nile City there is hardly any movement at all. In the Nile City, people stay where they are. Growth occurs through repetition, not change. Like single-cell organisms, the Nile City grows by gemmation. Its logic is: *the same*, and then *the same*, and then *the same* ... Thus: A village grows. The small town next to it grows. The capital of the governorate next to this one grows. Villages remain villages, they just become bigger. Small towns remain small towns, only

bigger. The Nile City grows without reaching a new level of organization; it grows without establishing a new hierarchy. The peasant becomes a metropolitan inhabitant of a city created through the endless repetition of the same village, a 900-kilometer-long rag rug of housing and fields. There is no countryside anymore, and yet at the same time it is all still countryside.

The Nile City is an unprecedented city, something very different from the Western *Großstadt* or the Asian *megacity*; a city based not on industry but on agriculture; a city based not on capitalist accumulation, but simply on rapid population growth. In imagining the future Nile City, we are operating in an intellectual vacuum.

6.

In the Nile City houses are the same everywhere. A *Maison Domino*–like concrete skeleton is filled with brickwork. The building materials are directly taken from the fields. Temporary illegal brickyards turn out bricks made of the Nile’s fertile mud. Due to climatic and cultural reasons windows are rare, and this ends up generating a hermetic architecture of rough brick surfaces. Since agricultural land is very valuable and directly related to a family’s income, the houses try to occupy as little land as possible. Houses are designed in such a way as to be expandable. A small peasant family usually starts out with an (illegal) one-storey structure and then gradually adds additional storeys according to the growing family’s needs. This results in housing that extends vertically to five or six storeys in height, even in small villages. Because architecture is the result of this rational and objective process, nearly all houses in the Nile City look the same. As a consequence, an astonishingly hermetic homogeneity is produced: continuous brown building masses nestled between vibrantly colored green fields.

7.

Because of its exceptional geographical character as a river-based oasis in a desert, the Nile City is a linear city without planning – a linear city by chance.

Because of the gradual introduction of railways, highways, bridges, and airports, the nearly natural growth process of the valley is becoming more and more influenced by planning. In the absence of proper industrialization, infrastructure is becoming the main tool for urban development. The railway line, which was built by the British in the nineteenth century, runs along the middle of the valley from Cairo to Aswan, forming a kind of subway for the Nile City, with stops every twenty kilometers or so. A highway runs along the western desert edge, connecting the Nile City to Cairo. Every 120 kilometers there is the capital of a governorate, usually with its own bridge crossing the river and a small airport nearby.

Today the Nile City seems like the intersection of two urban systems: a modern infrastructural city comprising highways, railways, airports, bridges, train stations, and regional towns, and an incredibly dense, informal, rural one consisting of large villages, fields, and canals. The modern infrastructural city is defined – in a strictly top-down fashion – entirely through planning initiatives decided upon by the central government. As much as this process is questionable, it is important to underline that this part of the Nile City is actually *designed* and therefore *it is possible to design the Nile City*.

The Nile City is Neolithic villages plus Fordist infrastructure. You are left to wonder which of these is the more outdated of the two.

8.

The complete disjunction between the official strategies and the reality of the Nile City has gone so far as to produce a double reality in which the *official* Nile City and the *real* Nile City simply do not respond to one another anymore. The two entirely distinct methods for the production of the built environment (the official, centralized, planned landscape of infrastructure and the informal, a-hierarchical, improvised landscape of settlements) coincide only at the end, *in the landscape*, often creating nonsensical situations in which totally disconnected things are simply placed next to one another. A project for the Nile City should connect the national/governmental with the local/informal without blurring the two different levels and without losing an awareness of the different subjects involved in the different transformations. The project needs to be eclectic enough to understand when this difference can be a useful resource. National strategies will need to be explained to and negotiated with local parties; informal mechanisms of growth will need to be understood and not simply rejected by officials. Once again, education will be fundamental.

9.

A project is necessary to imagine the future of the Nile City. And a project must be provided quickly, because in the Nile Valley there are too many people, too little water and arable land, and even less time. At this point a certain naivety (and our proposals are undeniably naive) is anyhow better than indifference.

10.

The only possibility for the Nile Valley’s survival is to accept its unavoidable transformation into a Nile City and to begin *planning* this transformation – to accept reality and to try to control it. In becoming a true city, the Nile Valley will become more differentiated. A new hierarchy will appear. Difference can be introduced by intervening in the valley’s infrastructure (beginning with processes that are already underway).

11.

A design for the Nile City needs to operate on three coordinated levels: the national, the regional, and the local. The national level will define the allocation of major investments (infrastructures, power plants, industries). The regional level will coordinate governmental strategies with local (and usually informal) territorial transformations to anticipate predictable urban processes by using infrastructure as an activator. At the local level, peasants will be provided with a simple toolbox of prototypes that operate in standard situations. A series of small new machines will activate micro-processes at the local level. The toolbox will be a pretext for teaching and initiating cooperation between official and informal transformations of the territory. The interventions at the different levels should be coordinated, but to a certain extent independent; they should also be capable of surviving even if their implementation is only partial (particularly the small-scale ones).

Our project operates on three scales: large (Nile Valley), medium (studying, as a test case, the Markaz El Monshah) and small (a toolbox for small-scale interventions that can be put to use throughout the entire valley). We consider a period of twenty years and imagine how to distribute a potential growth of twenty-five percent of the built surface within the valley and in

new settlements along the desert's borders. While such growth is unavoidable, planning can direct this transformation, which would be disastrous otherwise.

12.

We propose a double strategy for the new Nile City, preserving large portions of farmland and at the same time providing space for an explicitly urban development. The Nile City can be developed by connecting the two main infrastructural systems: railways and highways. We propose completing the highway in the western desert and realizing new solar power plants, industries, and infrastructure in the desert. We propose building a fast new bus system with hubs in the western desert (in the future, if this initial project proves successful, this infrastructure might be substituted with a high-speed railway) and transforming the existing railway into a metro train. A series of new corridors that are perpendicular to the valley and connect the main infrastructural hubs will appear and attract urban growth, thereby relieving pressure from rural areas. A new difference in metropolitan intensity will appear.

We propose continuing with the official strategy that for every urban center of around 100,000 inhabitants a satellite city of the same size be built along the desert's edge. The old center will remain connected to the metro train station, while the new center will be directly related to the highway. Both cities will be connected by a preferential bus lane. By limiting commuting time between the two cities to less than ten minutes, a true *double city* will be produced. The new double city is linear too, yet it runs perpendicular to the Nile City. The double city will produce an intensely used urban corridor. The corridor will consist of an east-west, high-speed, elevated, four-lane highway with several entrances and exits complemented by a slower parallel road along which commercial activities and urban growth can occur. A grey zone of informal urban development will naturally grow along the corridor. Villages within the *urban corridor* will expand faster than others, and they will gradually grow together to form larger urban entities. Illegal construction will occur along the local parallel roads and at their junctions. Informal private houses, craft workshops, garages, fruit markets, little shops for building materials, etc., will be built here and form a blanket of *urban plankton* between the two centers of the double city.

The double cities will define a set of urban territories (with different intensities according to their respective assets) and attract growth, leaving other areas of the valley relatively free from urban pressure. Double cities will appear in correspondence with the main cities and the major infrastructural hubs (which will occur every thirty to fifty kilometers) and will cut through the landscape of farmland and villages. The perfect continuity of the Nile Valley will disappear.

13.

These days every landscape innovation being introduced in the West seems to belong to a bygone era: urban farming, re-naturing rivers, minimizing footprints, etc. In contrast, the solutions being proposed by Egyptian planners are thoroughly modern (biotech, desert farming, hyper-specialization) and are based on the belief that technological progress is the only means to a better future. Both positions seem somehow naïve. However, the Nile City certainly needs more articulated combinations of traditional and innovative technologies – a

new set of eclectic 'machines' capable of learning from whatever they can.

A series of repeatable small-scale interventions will be distributed throughout the villages and the fields in order to enact a multitude of micro-events. Transformation in the Nile City will be both hyper-rigid (top-down governmental investments in infrastructure) and hyper-flexible (a thousand bottom-up innovations). We propose implementing nine machines that contain the genes of soft change. These machines will transform the villages from within. The machines are anticipatory devices defining new local uses that will modify the equilibrium of the valley. The machines will generate small-scale consequences for their immediate environment, but also produce larger effects that belie their size. The new machines are very light; they are small or large – but always light – gizmos designed to support and complete the inflexible, large-scale solutions. The machines are inexpensive and easy to build. Some machines might not last long if they prove to be not intelligent enough, but others will last longer and gradually evolve. A certain degree of failure is to be accepted. In the cases in which the machines do not work, they will be abandoned. No matter what, however, they will stimulate transformation in the Nile City.

14.

There was a revolution in Egypt last year. The political situation is still very uncertain, however now is probably the best – and maybe only – moment in the last fifty years (since the previous revolution) for imagining a project for the Nile City. A design for the Nile City needs to be radical and yet realistic. It is necessary to look at the current situation with optimism, but without illusions. We assume: no big technological leap forward, no sudden introduction of bureaucratic efficiency, no change of the valley's property structure, no demolition of villages, no massive relocation of peasants into the desert. At the same time, we will not use tradition as an excuse: the Nile City needs to change in order to survive, and this transformation cannot but impact the economy and, most importantly, the Egyptian family structure.

15.

The Nile Valley has the clarity of a scientific experiment. The variables are reduced to a minimum: there is only fertile land or desert, with very little in between. Though somehow primitive, the Nile Valley is entirely artificial. Water comes only from the Nile. Agriculture is possible only because of irrigation. Apart from agricultural expansions into the desert (which is possible but problematic), an increasing population means expanding settlements and shrinking fields. In the Nile Valley, the alternatives are not 'architecture or revolution', but 'action or exhaustion', 'planning or extinction'.

Text by Pier Paolo Tamburelli

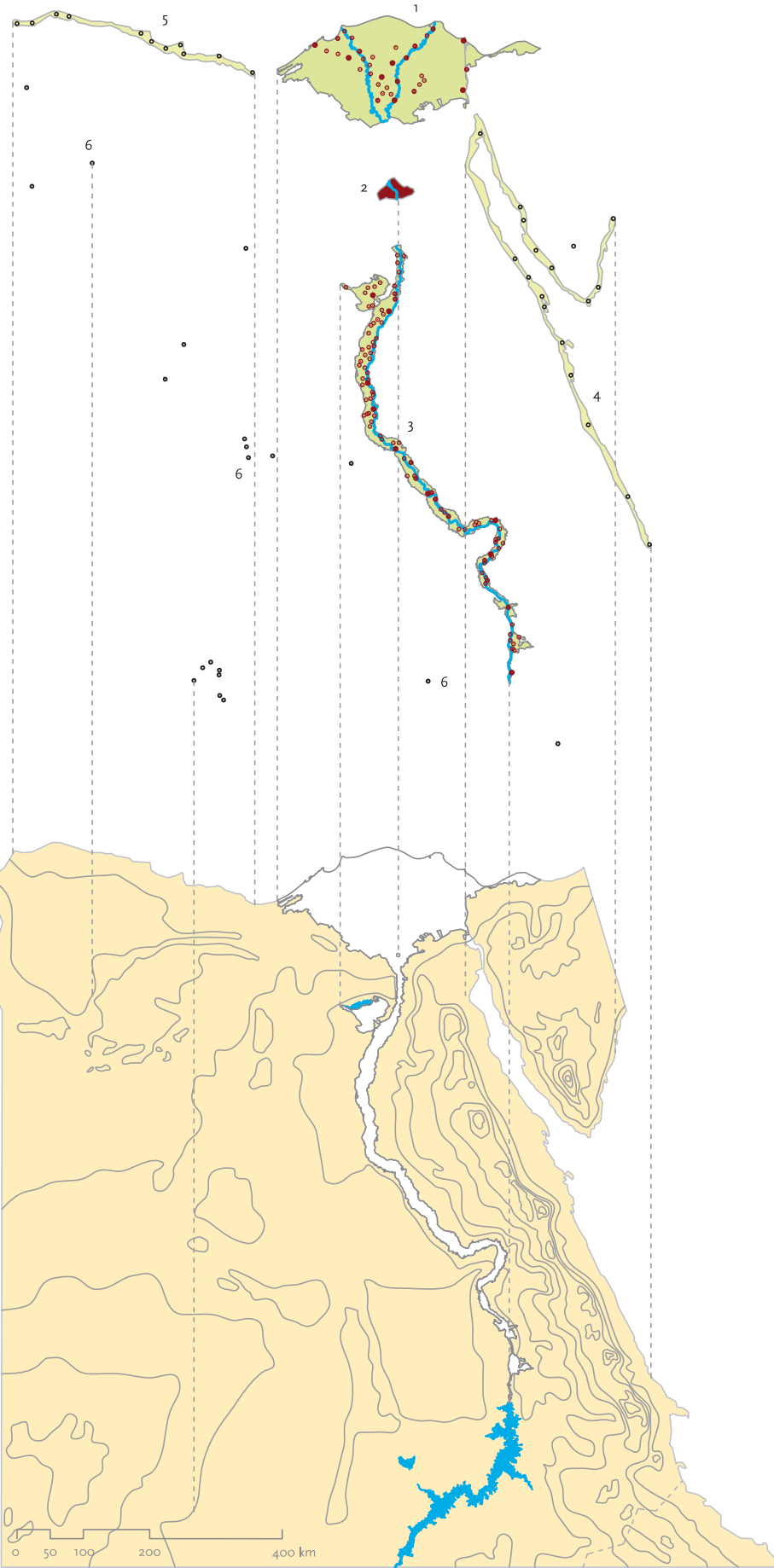
More about the project can be found at: www.900kmnilecity.org

Sponsors: Fondazione AMGA, Gestione Acqua S.p.A., Stimuleringsfonds voor Architectuur

Partners: 5th International Architecture Biennale Rotterdam, Assiut University, Berlage Institute, El Monshah Markaz, Embassy of the Kingdom of the Netherlands in Cairo, Sohag Governorate, TRT Trasporti e Territorio S. p. A., UNISG University of Gastronomic Sciences Pollenzo

Photos: Giovanna Sliwa





Elements of Egypt: 1. Delta 2. Cairo, 3. Nile City, 4. Coast



2012 Sohag Governorate, 3,500,000



2033 Sohag Governorate, 4,500,000 inhabitants (+30%).
Note the development of urban corridors which cut perpendicular through the Nile.



Double City, urban corridor El Monshah/ New Sohag, plan with new infrastructure in red.



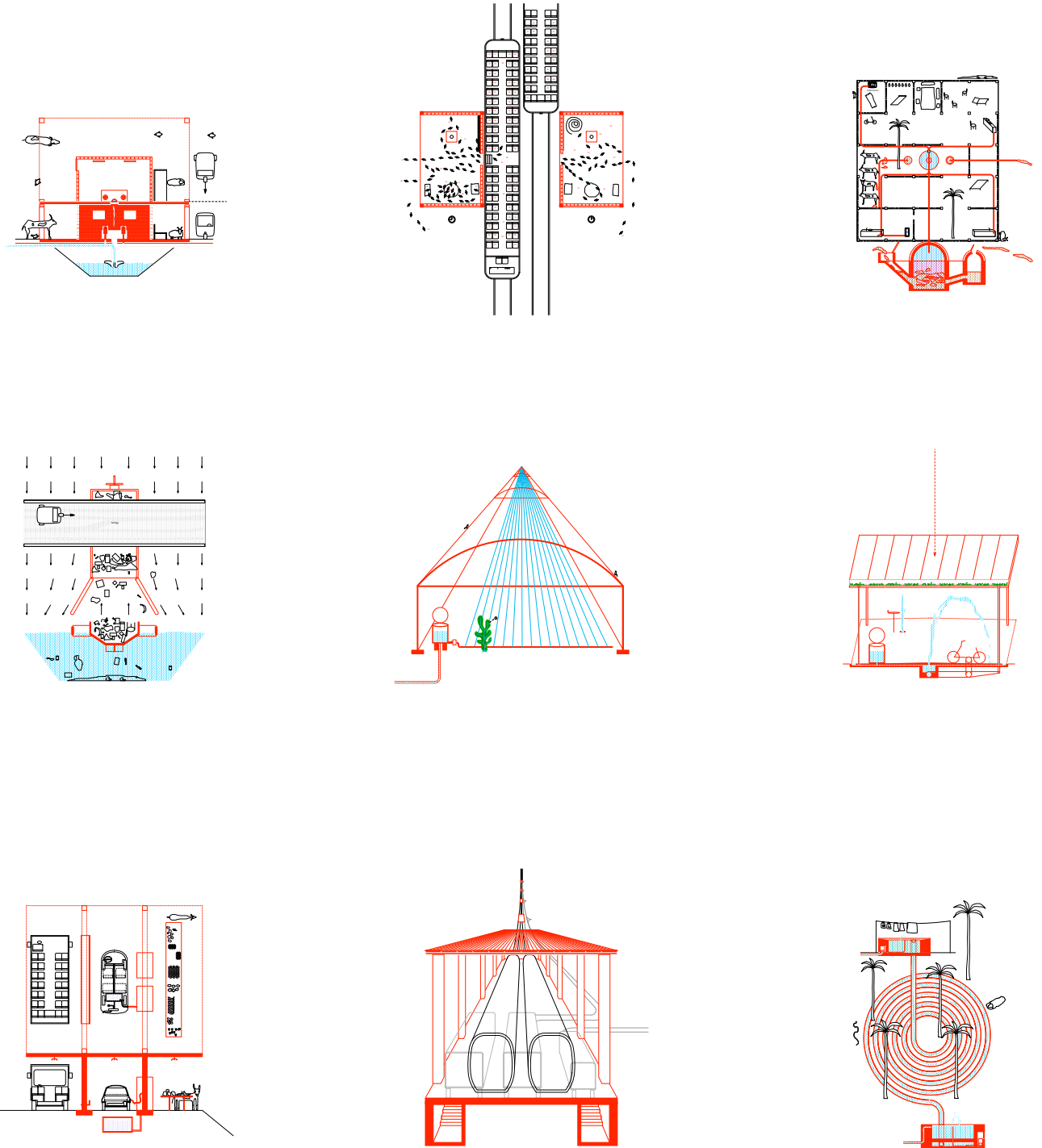
Nile City in 2033, perspective.

Double City, urban corridor El Monshah/ New Sohag, perspective from elevated highway.



Nine Machines

The issues of the Nile City can be represented as an equation with the following variables : X-water consumption, Y-agriculture, and Z-population. A second series of elements gravitates around this delicate equilibrium: education, energy, mobility. They might help to progressively unlock the actual condition. Nine machines are developed and attempt to influence the variables of the equation. Each machine alone does not solve the equation but participates to an accumulative strategy generating direct qualities and bigger effects transcending their size.



(Left to Right, Top to Bottom): Collective Pump System; Children's Train Station; Family Biogas, Garbage Collector Boat; Desert Greenhouse; Fountain – Zero Loss; Bus station/Pit Stop/Market; Bus Terminal; Water Square.