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Work Package 11: Capacity Building / Training Units

Task 11.1: Capacity Building for Administrations

D-11.1

An Outline for a Capacity Building File for Urban Planning Administrations. The General Component

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This document presents a capacity development process for the Rapid Planning Project based on the theory of strategic planning and specific concepts of capacity building and capacity development. The document is aimed at municipalities, public administration institutions and planning officials. The document collects experiences and best examples in capacity development around the world, as well as theory and practical application of capacity development instruments.

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INTRODUCTION

The fast pace of urbanisation in developing countries is challenging municipalities to react to the diverse urban issues associated with the demands of an ever-growing population and plan effective urban development projects. The need to manage rapid urbanisation has raised the interest of municipalities, research centres and governments, motivating the emergence of diverse approaches in order to increase the efficiency of planning processes along with the effectiveness of projects.

The German government, through the Federal Ministry for Education and Research -BMBF-, supports research efforts by financing a diversity of projects. This is the case of the Rapid Planning Project, an applied research consortium, constituted by 11 research institutions in Germany in partnership with the UN-Habitat and the municipalities of Assiut in Egypt, Kigali in Rwanda, and Da Nang in Vietnam, as well as the city of Frankfurt am Main as a reference case.

The Rapid Planning Project aims at proposing a methodological planning approach to increase the efficiency of infrastructure planning in fast-developing cities. However, increasing the efficiency requires institutional changes and learning processes for municipalities, municipal departments and public officials involved, along with Institutional transformation processes. Institutional learning is associated with knowledge transfer practices, requiring a knowledge exchange within the Rapid Planning Project and among the involved municipalities. In order to promote knowledge transfer, the Global Urbanisation Research Team at the Frankfurt University of Applied Sciences -FRA-UAS- has studied capacity building and capacity development concepts, instruments, practices and materials available in the literature for developed and developing countries. These could be utilised as instruments for knowledge transferability from the Rapid Planning Project to municipal administrations. This knowledge will be consigned in this document "Deliverable D-11.1 the General Component" corresponding to Task 11.1 of the Rapid Planning Project focused on proposing a capacity development process for Rapid Planning based on the understanding of the Project as a strategic planning process.

Case Cities of the Rapid Planning Research Project

World estimations predict that 90% of the urban population growth will happen in developing countries located in Asia and Africa by 2050 (UN-EAS 2014, p.11). Furthermore, these estimations suggest that the incoming urban population will shift urbanisation trends from megacities to small and medium-size cities, compelling local administrations to find new planning approaches.

With these estimations in mind, the Rapid Planning Project has selected three medium-size rapidly developing cities, two of them located in Africa, and one in south-east Asia. These three cities, Assiut in Egypt, Kigali in Rwanda, and Da Nang in Vietnam, will serve as research cases for shaping the Rapid Planning Project. The research will examine their planning systems and institutional settings, as well as guide the formulation of procedures for data collection and processing methods. The goal is to assist these cities towards a more efficient urban infrastructure planning process that responds effectively to the current urbanisation challenges in each context. The criteria for the selection of these case cities were defined by:

- Location: situated in one of the rapidly urbanising continents of Africa or Asia
- The economic condition: a developing country
- Population: the residents of the city around 1 million inhabitants
- Political will: interest of the municipal planning authorities and universities in joint work for the research process and future implementation of the results would facilitate research activities and transferability to other interested municipalities.
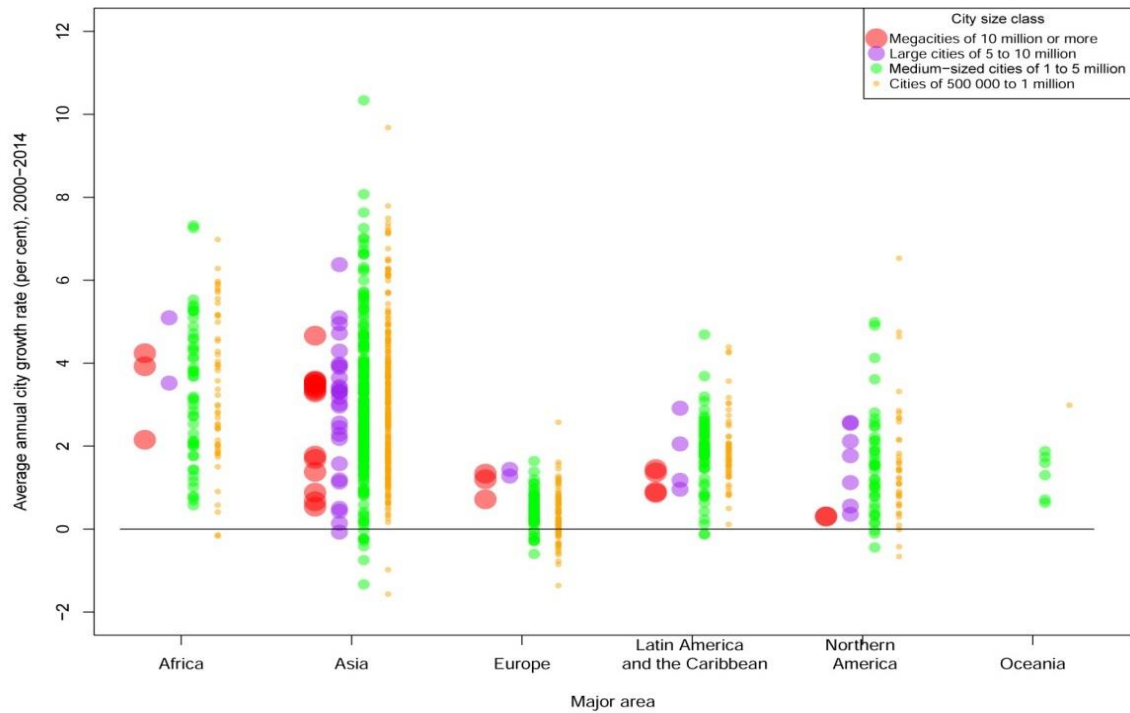
Figure 1: Urban Growth by Continent. Source: (UN-DESA 2014, p.16)

Assiut, Egypt

Assiut is surrounded by rich agricultural land and located along the western bank of the Nile River, about 375 km south of Cairo. The city is the capital of the Assiut Governorate which has always been an important commercial centre and home for the third-largest university of the country. Similar to most Egyptian cities, Assiut faces high uncontrolled population growth. The city has attempted to limit its expansion potential and resources within urban boundaries. Nevertheless, Assiut faces deficiencies in

Figure 2: Assiut City. ©Mohamed El Gazar

the provision of basic services, especially in water, sanitation, solid waste management and energy, with environmental pollution as the most severe effect on urban life(GOPP and NUO, 2011).

Kigali, Rwanda

Kigali is the capital of Rwanda, as well as the largest city and the country's commercial heart. Located in the centre of Rwanda, Kigali generates about 41% of Rwanda's GDP (Joshi *et al.*, 2013, p. 106). Since 1994, Kigali has slowly been redeveloped, supported by economic activities from tourism as well as incoming aid workers. Kigali is a safe and developing medium-size city built on hills, ridges and valleys. With more than one million inhabitants today, the city has been expanding over the hilly terrain surrounding its centre and is one of Africa's fastest-growing cities. The country's urbanisation target is 25% by 2025, being currently around 17% (Joshi et al., 2013, p. 82). Representing 10% or the national population, Kigali concentrates a large proportion of Rwanda´s urban dwellers and has the largest share of urban to rural population with 84% and 16% respectively, much higher than the national average (Joshi et al., 2013, p.66).

As a rapidly growing city, Kigali is experiencing severe problems of air and water pollution, liquid and solid waste management, inadequate water and energy infrastructures and unsustainable production and consumption lifestyles (REMA, 2013). With some slopes of up to 50% gradient and two rainy seasons, the land is vulnerable to erosion and flooding.

Figure 3: Kigali City. ©Universität Tübingen, 2016

Da Nang, Vietnam

Da Nang is the largest city in central Vietnam and one of the country's most important maritime ports. Agricultural land uses, although only a small part of the city's GDP, play an important role in the economic development and food production. However, during the dry months, Da Nang can experience prolonged droughts that significantly impact agriculture production, water supply, and are often accompanied by serious saltwater intrusion (Tinh and Nguyen, 2014). Moreover, flooding is a recurring problem, both in low-income central areas as well as in peri-urban districts undergoing rapid land conversion; typhoons, storm surge, coastal erosion combined with rapid tourism development on beaches make these areas vulnerable. Tropical cyclones have caused severe damage to vulnerable coastal areas in the past, leading to the resettlement of many low-income households.

Figure 4: Da Nang City. ©Hebbo, 2018

Changes in land uses, environmental degradation and the depletion of natural resources are some of the environmental risks caused by Da Nang's rapid urban growth. The city's population is predicted to reach about 1.6 million by 2020 and to rise further to 2.5 million by 2030 (APEC, 2014, p. 19). The electricity demand in the city is continuously growing at a rate of 7% to 8% per year; the solid waste generation increases in relation with the population and, due to the lack of recycling capacities and facilities, most waste products are disposed in a central landfill (APEC - Asia-Pacific Economic Cooperation, 2014). Furthermore, with only just 15% to 20% of the total current population being connected to wastewater treatment plants, the remaining wastewater is discharged into the rainwater system, causing river and coastal water pollution (APEC, 2014, p. 61).

Frankfurt as a Reference City

In addition to the three case cities, Frankfurt am Main in Germany has been selected as a reference case for studying the infrastructure planning procedures of a growing city in the European context. The city exhibits strong urban growth trends as a medium-size city in Germany, along with an important position in the country's economy and a perceived and measurable high quality of life. In the past 20 years, Frankfurt has been promoting sustainable urban development, integrating objectives of climate and environmental protection as well as energy efficiency (Umweltamt, 2012). The city implements the concept of joint municipal action towards a more sustainable vision of development, motivating citizens, administration and other stakeholders to work together for a common purpose. The preliminary assessment of the Frankfurt case done by the FRA-UAS team has shown a multi-sectoral collaborative planning approach which would serve as a starting point for the exploration of trans-sectoral planning practices in urban planning.

Figure 5: Frankfurt am Main City. ©PIA Stadt Frankfurt am Main

The three selected case cities and the reference city represent the range between a landlocked capital, Rwanda, rapidly developing tourism-oriented cities such as Assiut and Da Nang, and a financially-oriented city in Germany, Frankfurt. In addition, these cities have different energy provision systems; different waste management, water supply and wastewater treatment needs. Assiut, Da Nang and Kigali are in need of municipal capacities for sustainable development planning. Therefore, the research project attempts to exchange experiences and know-how between the case cities through south-to-south cooperation and a south-to-north exchange with Frankfurt am Main.

It is not the purpose of this document to make an in-depth analysis of the status quo of development in each city, that analysis could be found in the Rapid Planning - Work Package 7, Deliverables 7.1, 7.2, and 7.3.

Document Structure

Part A: Rapid Planning as a Strategic Planning Process

The first part of this document provides an overview of the Rapid Planning Project describing the rationale for the project as an effective and efficient planning process for integrated infrastructure planning. After documenting the research process, the FRA-UAS team identified multiple similarities between the activities of Rapid Planning and the structure of a strategic planning process; therefore, the FRA-UAS team utilised the strategic planning process as a theoretical basis to define the different planning phases of the Rapid Planning Project.

Part B: Capacity Development Theory

The part B of this document defines important concepts in the field of capacity building for urban planning. Capacity building is considered to be an important element of institutional change for sustainable urban development, therefore, the document provides a summarised review of the theory on capacity building, its level of intervention within the municipality, the instruments, and other relevant concepts, transforming the idea of capacity building into a capacity development process, since the latter would indicate the acknowledgement and further development of existing capacities, not only the creation of new capacities.

Part C: Capacity Development for the Rapid Planning Project

The first part of this document establishes the similarities between a strategic planning process and the activities implemented in the Rapid Planning Project in the past five years. Based on these similarities, the C part of this document combines the theory about strategic planning with the theory about capacity development in order to propose a capacity development process for strategic planning which could also be transferred and implemented for the capacity development process for the Rapid Planning Project.

It is important to note that the Rapid Planning Project proposes procedures only for planning processes, thus, the strategic planning process described in this document is constrained to the first phases of a strategic planning process, excluding the implementation and project evaluation phases, since these are not part of the focus of the Rapid Planning Project.

Appendix: Best Practices in Capacity Building

The good practices reviewed in this research identified several key criteria to achieve the main objectives in capacity building and the desired long-lasting impacts. Trans-sectorality and cooperation among the stakeholders increase the project´s effectiveness to identify and discuss challenges and opportunities, being the integration of the Rapid Planning processes and systems key elements for project success.

PART A

Rapid Planning as a
Strategic Planning Process

The approach to capacity development in this document is built around the main concept of the Rapid Planning Project: creating and enhancing key municipal capacities by transferring the knowledge and know-how produced or practised by the Rapid Planning research activities. This knowledge transfer transforms the project into an applied research process, bringing into practice concepts regarding, data collection and processing, trans-sectoral planning and institutional transformation. In the following points, the document introduces a basic understanding of the Rapid Planning Project including the project's background, rationale, objectives, case cities and implementation schemes.

1. A Rationale for Rapid Planning

Cities are seen as major contributors of environmental degradation and ecological issues; however, they represent also an opportunity for resource efficiency, when the synergies between the different urban infrastructure sectors are used to their full potential. Cities focused on sustainable development could be the best option for providing a better quality of life and reducing the burdens on the environment in years to come (UN-Habitat, 2016).
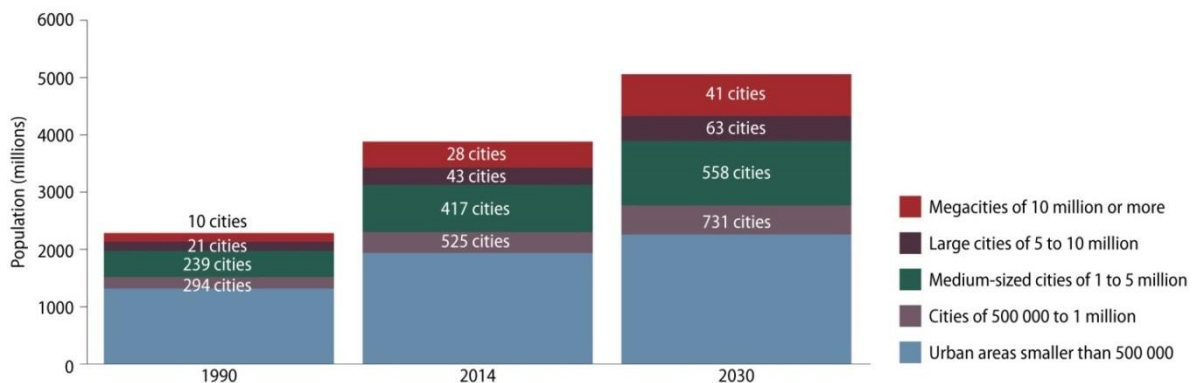
Figure 6: Global Urban Population Growth. Source: (UN-EAS 2014, p.13)

Urbanisation growth is threatening sustainability and the survival of developing countries. Global changes and challenges bring about economic transformations, rapid technological and social revolutions, scarcity of resources, and the impact of climate changes, among others. One of the main concerns of local administrations and residents is the lack of or inadequate provision of basic public infrastructure (UN-Habitat, 2016), namely water, solid waste, wastewater management, and energy. The development visions that cities define for their future in terms of urban infrastructure will have an important impact on urban resilience, with integrated development as an overarching strategy to generate the large-scale urban changes necessary to achieve sustainable development in urban contexts (UN-Habitat, 2016). The continuous global debate about planning for sustainability increasingly emphasises the importance of multi-sectoral synergies in order to reduce the urban footprint and the impacts on the environment surrounding urban centres (GIZ and ICLEI, 2014). The report of UNEP (2012) states that achieving sustainable, resource-efficient urban development requires integration across hierarchies and sectors, as well as greater levels of coordination between urban sustainability initiatives. Approaches to produce urban development plans should integrate all concerns about the environment, urban growth and infrastructure into the planning systems as essential factors to consider in the planning process.

In many developing countries the capabilities of public institutions and administrations are limited by electoral cycles and implementation schedules, resulting in incomplete projects and inefficient use of public resources. The speed of urbanisation in the developing world has highlighted the need for prompt localised planning and implementation processes that allow the municipalities to close the gap between urbanisation expansion and provision of urban infrastructure. Combined with financial constraints, uncontrolled urban growth hinder the provision of basic social and urban infrastructure, impeding the possibilities for sustainable urban and human development (Cobbinah, Erdiaw-Kwasie and Amoateng,

2015). This situation has led to reactive, short-term and sectoral measures lacking the strategic aspects for spatial planning and sustainable resource management (Rapid Planning Consortium, 2013). For decades, urban planning has been characterised as a technocratic rationalistic, time-consuming process (Moser, 1983; Jones and Ward, 1994). Integrated planning across infrastructure sectors is often associated with time-consuming planning procedures, along with a complex and intricate urban planning process (Botes and van Rensburg, 2000); however, urban sustainability calls for inter-institutional collaboration and multi-sectoral projects that utilise the available natural resources efficiently.

In this sense, the Rapid Planning Project proposes a more efficient way to understand the current situation of local urbanisation processes; analyse the urban infrastructure consumption and disposal patterns; as well as finding realistic trans-sectoral solutions for infrastructure development that can lead to an expedited informed decision-making process in infrastructure planning. Moreover, the Rapid Planning Project offers a holistic approach to urban management enhancing the capacities of planning institutions and administrations at the local level (Rapid Planning Consortium, 2013). With sustainability and collaborative planning in mind, the Rapid Planning Project aims at developing a planning approach for integrated urban infrastructure projects tailored to the specificities of local contexts. The characterisation of planning processes as rapid in the context of this research project challenges the paradigm of urban planning as an assemblage of long-term sectoral procedures, transforming it into an effective integrated planning process where technology and capacity building activities play a fundamental role in the efficiency of the process (Rapid Planning Consortium, 2013).

1.1. Rapid Planning: Increased Efficiency of Urban Infrastructure Planning

Rapid Planning aims at promoting a faster pace in planning urban infrastructure. On this basis, the project focuses on maximising the effectiveness of the instruments and measures for planning and strengthening the commitment and responsibilities of the different stakeholders involved in infrastructure provision. Implementing the approach developed by the Rapid Planning Project could empower municipalities to react to the current challenges of urbanisation and bridge the gap between the capacities of urban planning and the reality of cities, promoting a proactive attitude to face future urbanisation challenges.

Rapid Planning, therefore, requires an understanding of the urban status quo, dynamics, development trends, tensions, visions and the overall process of infrastructure planning, in order to propose a planning approach based on three major intervention fields: i) facilitating the generation of an integrated database of infrastructure demand and consumption data; ii) visualisation of the status quo and future development plans proposed for the city; and iii) integrated trans-sectoral infrastructure planning proposals for the optimisation in the use of municipal resources and management processes to regulate and secure sustainable implementation.

i)   Integrated Municipal Database: The availability of specific data and information about urban development and population behavioural patterns allows the description of current and future infrastructure demands in quantitative and qualitative form. This data is essential for the sectoral as well as the trans-sectoral infrastructure planning processes. Through the introduction of a set of technologies, the Rapid Planning Project proposes a simplified collection process for the household, commercial, and industrial data necessary to establish the status quo of the city in the different infrastructure sectors, i.e. energy, water, wastewater,

solid waste and urban agriculture. The use of technological instruments and the simplification of collection methods could significantly reduce data processing times, human resources and costs while increasing the reliability of the database and avoiding redundancies in information collection. The technological instruments were designed to respond to the existing abilities of planners and administration officials and the possibilities of capacity development in the future. Increasing the technological capabilities of local administrations would help developing cities to accelerate the planning and implementation processes, with a variety of possible scenarios for planning and subsequent implementation.

i) Spatial Visualisation for Urban Analysis: In order to take advantage of these data-collection methods, the data should be transformed into visual and narrative information that can be understood among a diversity of stakeholders and hierarchical levels in the administration. Spatial modelling, based on material flows and GIS-based software can produce accurate representations of the current situation, as well as predict the behaviour of infrastructure systems when sustainable and integrated development project are applied in different areas of the city. These predictions could be understood as trans-sectoral development scenarios, where multiple combinations of different infrastructure development option can be computed and analysed in order to select the most appropriate option for the city. This computation includes financial constraints, resources availability, and appropriate technologies to be utilised for specific infrastructure needs.

ii) Integrated Trans-sectoral Planning: Trans-sectoral planning integrates the urban infrastructure sectors into a more collaborative model. Shared objectives and resources could drive the motivations of the different sectors, as well as the stakeholders in the fields of city planning and urban development. Trans-sectoral planning is aimed at utilising potential outputs of one sector as inputs for other sectors, along with the implementation of technological innovation for reducing consumption of natural resources and the ecological footprint of urbanisation. In other words, trans-sectoral planning is based on capitalising the synergies between the infrastructure sectors, saving time, costs and resources.
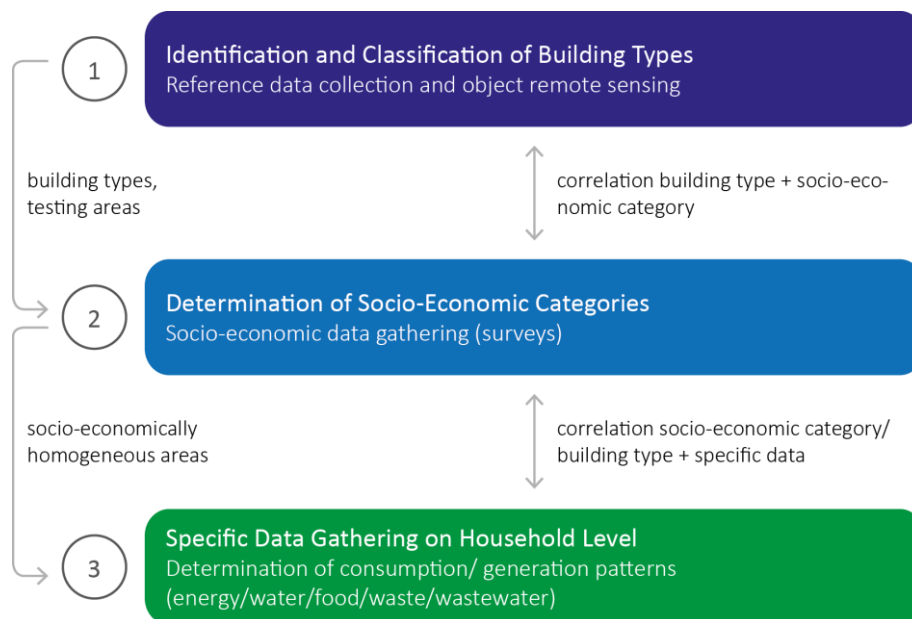
Figure 7: Process of Data Generation in the Rapid Planning Project.

Source: University of Stuttgart, Rapid Planning Team.

2. Rapid Planning Project as a Strategic Planning Approach

The Rapid Planning project relates to the objectives of the Sustainable Development Goals (SDGs), which seek to achieve a more sustainable future considering the global challenges we are currently facing. The project focus of developing a trans-sectoral planning process coincides with the following SDGs: 2 - the promotion of sustainable food production systems and resilient agricultural practices; 6 - the insurance of universal, adequate and equitable access to water and sanitation services; and 7 - an increase in affordable, reliable and modern energy services. The SDGs 9 and 11 can be linked as well, as they refer to the development of resilient infrastructure and more efficient use of natural resources by the adoption of clean and environmental sound technologies (United Nations, 2019). In this way, the RP project helps to advance the SDGs and promote inclusive and sustainable urbanisation, ensuring equitable access of basic services to all.

2 ZERO HUNGER	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
6 CLEAN WATER AND SANITATION	Ensure availability and sustainable management of water and sanitation for all	11 SUSTAINABLE CITIES AND COMMUNITIES	Make cities and human settlements inclusive, safe, resilient and sustainable
7 AFFORDABLE AND CLEAN ENERGY	Ensure access to affordable, reliable, sustainable and modern energy for all		

Figure 8: Sustainable Development Goals for the Rapid Planning Project

Trans-sectoral planning and cooperation are processes that require considerable time and transparency from the stakeholders. A trans-sectoral process could strengthen urban planning by increasing the actors' capacity to make informed decisions about future developments. Continuous processes of building trust and awareness with the public, administrative and institutional sectors become crucial factors for development, while political will, commitment, support for the implementation, the participation of diverse stakeholders, transparency and accountability would encourage the involvement of local actors.

2.1. A Definition of Strategic Planning

In developing countries, rapid urbanisation poses challenges that traditional planning practices have not been able to address, making planning processes only a reactive response towards fast urbanisation. In this sense, strategic planning facilitates a more tailored approach to address fast urbanisation issues by defining specific strategies and prioritising projects through a multi-stakeholder planning approach.

"Strategic spatial planning is a transformative and integrative, (…) socio-spatial process through which a vision, coherent actions and means for implementation are produced that shape and frame what a place is and what it might become" (Albrechts, 2010)

Strategic planning proposes an integrated planning process based on the assessment of the urban condition, understanding development processes and challenges, and proposing realistic solutions to urbanisation issues (Narang and Reutersward, 2006). The main characteristics of the strategic planning approach according to Khalifa (2012), de Graaf & Dewulf (2010), Khalil (2012), Birkmann et al. (2014), Restrepo Rico (2017), and Steinberg (2005) are:

- Acknowledgement of the local context and identifying the challenges and opportunities of urbanisation.
- A multi-stakeholder approach with diverse perspectives of development to identify needs, resources and facilitate implementation.
- Planning as a continuous governance process for long, medium and short-term visions of development.
- Planning as a collaborative planning process based on consensus, communication and participation. The allocation of responsibilities to civil and private actors promotes appropriation and increases the possibilities for project completion and maintenance.
- A realistic plan for implementation reflecting the development objectives into specific projects.

The key for a productive strategic planning process is the definition of an inclusive and efficient decision-making procedure that generates capacities through institutional learning; thus incrementally building and developing the capacities of the administration and the possibilities to collaborate with other stakeholders, build consensus and develop a contextualised participative planning process (Birkmann, Garschagen and Setiadi, 2014). Moreover, strategic planning promotes the prioritisation of urban problems by defining short-term strategies and projects with a clear implementation objective. In order for these long-term and short-term plans to be effective, the participation of a multiplicity of stakeholders is crucial; each stakeholder brings a different typology of knowledge to the planning process, along with particular perspectives of urban issues and possible solutions. The different perspectives in the understanding of urbanisation processes as well as identification of particular needs, interests, abilities, resources and responsibilities of the relevant stakeholders involved in the planning process (Restrepo Rico, 2017). The participatory nature of strategic planning allows urban stakeholders to agree on long and medium-term visions of development, considering the current urbanisation issues as well as the human, technical, capacities and financial resources available locally (Rider, 1983; Schneider, 1999).

2.2. The Parallels between Strategic Planning and Rapid Planning

The strategic planning approach advocates for the formulation of guidelines for participatory and collaborative decision-making, taking into account the importance of the local context and the actors involved. The main characteristics of the strategic planning process are focused on formulating an integrated urban planning process that allows the appraisal of development issues, needs, and potentials. The strategic planning process' strength relies upon the flexibility of priorities and project in accordance to emergent urban or administrative issues, managed by an inclusive consensus of diverse actors (Rider, 1983; Restrepo Rico, 2017). Utilising the different typologies of knowledge available,

actors define collaboration procedures and strategies to tackle urban problems, as well as priorities and actions, creating consensus around an integrated development vision and facilitating the proposal of specific projects for the implementation of the objectives contained in the development vision. However, the purpose of the strategic planning approach goes beyond consensus building; it aims at producing a participatory, as well as an implementation framework, focusing on the development of projects. (Steinberg, 2005; de Graaf and Dewulf, 2010; Khalifa, 2012; Khalil, 2012; Birkmann, Garschagen and Setiadi, 2014; Restrepo Rico, 2017).

Strategic Planning	Rapid Planning
Stakeholder Mobilisation: Diversity of Stakeholders	Integrated Infrastructure Development
Mapping: Data collection, processing and visualisation	Systematic Data Generation Integrated Data Visualisation
Urban Assessment: Spatial analysis of the built environment	Sectoral Urban Analysis Integrated Urban Analysis
Conceptualisation: Definition of a vision, medium and short-term objectives	Realistic Development Goals Collaborative Trans-sectoral Approach
Strategies Formulation: Prioritisation of projects	Synergetic Potentials Integrated Infrastructure Planning

Figure 9: Rapid Planning as a Strategic Planning Process

Formulating an inclusive planning procedure with a long-term vision could promote project continuity and institutionalisation of strategic planning procedures i.e. Rapid Planning, into the organisational framework of the municipality. Based on these characteristics, the process of strategic planning can be understood in seven main phases: i) Stakeholder mobilisation; ii) Mapping; iii) Assessment; iv) Conceptualisation; v) Strategy formulation; vi) Action plans; and vii) Strategies assessment and adjustment (Restrepo Rico, 2017, p. 133-134).

In the words of Patsy Healey (2003, p. 104) "(...) *planning as a governance activity occurring in complex and dynamic institutional environments, shaped by wider economic, social and environmental forces that structure, but do not determine specific interactions*". Strategic Planning has become one of the approaches to generate an effective and holistic urban planning process, where projects are not islands but are designed and implemented considering an overarching objective for urban development. Strategic Planning is foremost a process of fostering governance through participatory collaborative planning and prioritisation of strategies in order to produce effective and efficient projects.

In this sense, the Rapid Planning research project follows the lines of the strategic planning approach by taking one of the systems of the urban conglomerate i.e. urban infrastructure and provision of public

services and bringing together the relevant actors involved in urban infrastructure development while promoting a trans-sectoral inter-departmental collaborative planning process. The Rapid Planning project is considered by the research team as a pre-planning tool, where information, strategies and synergies become the basis for defining a realistic and integrated vision of infrastructure development. However, the Rapid Planning project does not foray in the field of proposing specific projects; the implementation processes, including design, are outside of the scope of the Rapid Planning process. In order to support the decision of limiting Rapid Planning as a pre-planning tool, the FRA-UAS Team performed an analysis of the planning processes in the city of Frankfurt, looking into the collaboration between the different departments, as well as the planning instruments utilised by the planning authorities to deliver effective projects focused on sustainable development. The results of this analysis indicate that collaboration between departments is essential for integrated development towards sustainability; however, it was observed that although the planning process is trans-sectoral and collaborative, the definition, design and implementation of specific projects are realised in a sectoral manner, with one of the main infrastructure departments i.e. City Planning Department, Environment Department, or Energy Agency, taking responsibility for the specific project[1].

Therefore, in the case of this research, since Rapid Planning is an instrument focused on trans-sectoral planning processes, and for the purposes of the capacity development component the Rapid Planning project will be described following the first five phases of the strategic planning approach, namely: i) Stakeholder mobilisation; ii) Mapping; iii) Assessment; iv) Conceptualisation; and v) Strategy formulation. The remaining strategic planning phases, namely vi) Action plans and vii) Strategy assessment and adjustment, are aimed at producing specific projects and implementation plans, which fall beyond the scope of the Rapid Planning process.
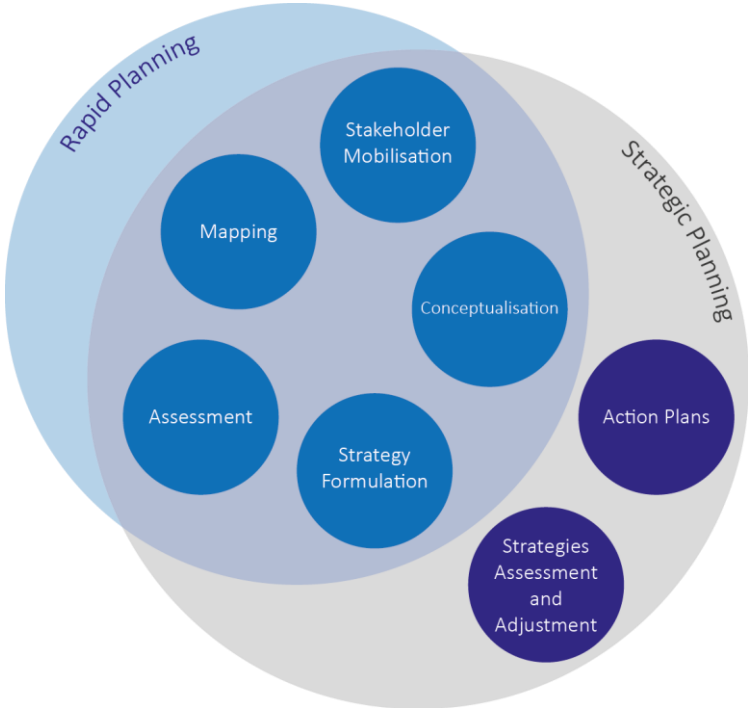
Figure 10: Rapid Planning and Strategic Planning Phases

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[1] See also "*Deliverable 10 - Experiences in Infrastructure Development in the Reference City Frankfurt am Main*"

2.2.1. Stakeholder Mobilisation

The stakeholder mobilisation is based on clear information about the purposes of the strategic planning process. Clear information facilitates the involvement of public, private civil and external actors while building consensus to determine capacities, resources and interests in projects. With interests, resources and capacities identified, the stakeholders must define a collaborative approach and partnerships for the next phases, as well as balance power relations and establish a communication scheme that allows unrestricted dialogue between actors.

Participation of a diversity of stakeholders facilitates the improvement in participatory practices, thus guiding the municipality towards the achievement of good governance, which refers to the uses of decision-making structures, systems and frameworks set in place to manage public affairs. Good governance utilises decision-making instruments to improve managerial capacities and generate a positive impact on the overall quality of life in the city (Kauzya, 2003).

The objective of this initial phase in strategic planning is to identify and create interest in the process of planning from a wide variety of urban actors:

Public actors: are the municipal departments, agencies, contractors, decision-makers who are relevant in the urban development process of the city. Public actors can be involved in planning, budgeting, implementation or regulation of development projects, as well as in prioritisation of needs and strategies and restructuring the planning process in order to allow the inclusion of participation in the decision-making framework (Blair, 1979; Botes and van Rensburg, 2000; Imparato and Ruster, 2005; Restrepo Rico, 2017).

Civil actors: are all those stakeholders who will benefit from the urban projects, i.e. individual residents, communities and community-based organisations. The participation of communities provides the local knowledge about the real urban condition and the localisation of needs to prioritise projects (Soen, 1981; Mohammadi, 2010; Restrepo Rico, 2017).

Private actors: the involvement of private actors could benefit the development process not only in the financing of projects, appealing to the corporate responsibility of companies but also in providing a much needed business-as-usual management style making implementation a more efficient process (Imparato and Ruster, 2005).

External Actors: are all the organisations and institutions outside the government but relevant for the urban development of the city, e.g. Universities and research institutes as consultants or direct participants in the planning process with their theoretical knowledge; NGO's as moderators between the government and the civil actors; financial or aid institutions; etc (Satterthwaite, 2001; Steinberg and Miranda, 2005; Narang and Reutersward, 2006).

- **Stakeholder Mobilisation in the Rapid Planning Project: Stakeholder Analysis**

As stated before, in strategic planning a diversity of stakeholders is essential for the definition of effective projects. The public actors must take the responsibility of identifying and mobilising the private, civil and external stakeholders involved in the planning process. Since Rapid Planning is restricted to the development of urban infrastructure, the mobilisation of stakeholders is also a responsibility of the public actors; it requires a careful examination and identification of the relevant stakeholders involved in the development of urban infrastructure in the city. From public agencies to private service providers, the diversity of stakeholders in Rapid Planning provides a wide range of

perspectives and options for infrastructure development facilitating the identification of trans-sectoral synergies, possibilities for the usage of new technological options from sector experts, universities, research centres, and private companies as consultants, and priorities in provision of public services (communities and municipal departments. Mobilising stakeholders relies on providing clear information and defining a communication strategy.

Strategic Planning Component	Rapid Planning Project Component	Rapid Planning Project Activities
Stakeholder Mobilisation Promote good governance through participatory practices involving all the stakeholders relevant for achieving the general development vision.	**Stakeholder Analysis** Definition of relevant stakeholders for urban infrastructure development and establishment of communication channels	Analysis of the administrative structure

Figure 11: Strategic Planning and Rapid Planning - Stakeholder Analysis

2.2.2. Mapping

Mapping refers to the process of data collection in the area to be intervened, as well as the processing and visualisation of the data. Mapping allows the identification of urgent problems and necessities, and also can help understanding population dynamics, potentials for development and interests of local community stakeholders. Mapping produces a visualisation of urbanisation issues and prepares the information in understandable formats for the posterior analysis; from mapping, the municipality can generate plans, data sets, as well as qualitative descriptions of urban issues.

- **Mapping in the Rapid Planning Project: Data Collection and Modelling**

One of the strengths of the Rapid Planning Project is the emphasis on the generation of current systematic integrated data sets relevant to all five sectors of urban infrastructure that can be updated and utilised for the planning process. According to the Rapid Planning project, in order to make the most of this data set, the municipality should formulate its own data collection and processing procedure in accordance to their needs and the characteristics of the built environment.

This data collection process should be institutionalised and the information stored in a data warehouse accessible to all municipal departments and institutions. Utilising these data to produce spatial models could result in a better understanding of the current and future state of urbanisation, along with the possibilities for adopting new development visions or technologies

Data sets are most useful when the information is translated into formats that diverse stakeholders can understand and utilise. Thus, in the case of urban development, the production of spatial models based on an integrated data collection process is an important tool for understanding urban dynamics, from urbanisation growth and expansion to the needs for infrastructure development. These spatial models can support the planning process in various phases, from the initial spatial analysis (see next section) to the proposal of a trans-sectoral development scenario for the future.

Strategic Planning Component	Rapid Planning Project Component	Rapid Planning Project Activities
Mapping Institutionalisation of systematic data collection and processing methods for an integrated urban development process. Holistic visualisation of the urban condition of the city	**Data Generation** Definition of a rapid and efficient procedure for data collection, processing and updating and the creation of an integrated database for urban infrastructure development	(Building) Categorisation of building typologies, spatial units, urban structures Remote sensing Surveys for socio-economic and sector specific infrastructure data collection Data aggregation and generation of specific planning values
	Spatial Modelling Digital models to visualise the condition of urban infrastructure: current, existing plans for development and possible trans-sectoral scenarios	Baseline scenario Reference scenario Trans-sectoral scenario

Figure 12: Strategic Planning and Rapid Planning – Mapping
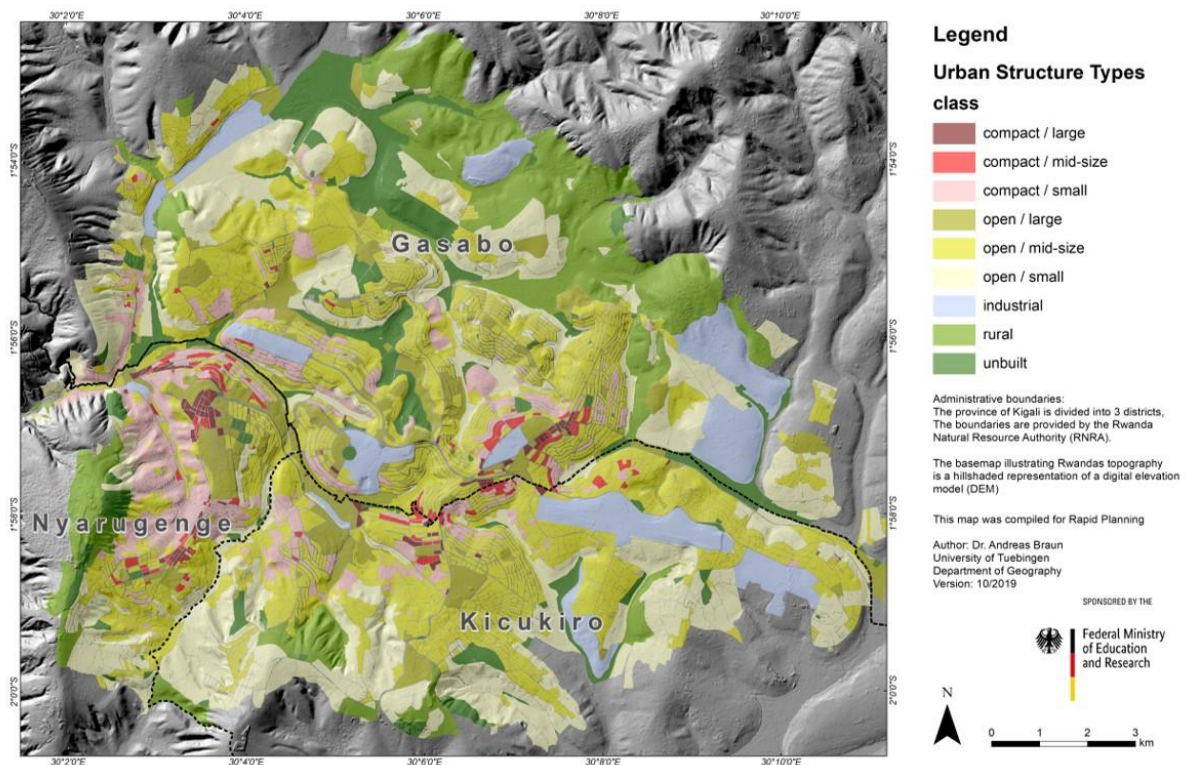
Figure 13: Example of Spatial Analysis Results. Kigali Status Quo. Source: University of Tübingen

2.2.3. Urban Assessment

The plans, data-sets or other materials generated in the mapping phase are the basis for the spatial analysis of the condition of the urban environment, along with creating a holistic perspective about the socio-economic and other issues that need to be addressed in the planning process. This phase allows the identification of the most pressing issues in the urban environment and an initial proposal for solving them. The diverse typology of knowledge among the stakeholders requires diverse formats and knowledge transfer instruments that can adjust to the specific language of each stakeholder. This phase could produce preliminary master plans and descriptions.

- **Urban Assessment in the Rapid Planning Project: Spatial Analysis**

The results of the mapping phase are useful for urban planners, sector experts and other relevant urban stakeholders in order to translate quantitative information into visual aids for urban analysis. Understanding urban dynamics and tends could help characterise each one of the intervention areas of the city. This phase requires a comprehensive study of the spatial models, understanding of the hard-issues of urban development e.g. infrastructure, housing, facilities, etc. as well as the characterisation of intangible or soft-issues of urban development such as the socio-economic condition of the population, education and opportunities for social development.

Spatial models can support the spatial analysis in the study of the hard-issues (Botes and van Rensburg, 2000); however, for intangible characteristic, it is necessary to have good qualitative information available. After this urban assessment, the status quo of the city should be established along with the results and consequences of implementing exiting development plans, as a platform for the proposal of more sustainable trans-sectoral infrastructure strategies that can redirect the vision of the city.

Figure 14: Strategic Planning and Rapid Planning - Urban Assessment

2.2.4. Conceptualisation

An integrated data collection combined with a visualisation and analysis process of urbanisation issues should produce a holistic understanding of the specific needs of the territory. Strategic planning proposes a long-term vision for the development i.e. 8-12 years, as an overarching mandate, establishing the general objective of the development process. The long-term vision will foster project continuity and could avoid politicisation (Miranda, 2004). Moreover, defining a medium-term vision

allows governments to achieve visible development goals, an important factor for the adoption of strategic planning; while a set of short-term objectives is crucial for coordinated, effective, localised collaborative projects.

- **Conceptualisation in the Rapid Planning Project: Trans-Sectoral Planning**

Defining long, medium and short-term objectives for development could become the means to create an institutional procedure for formulating integrated strategies, since the long-term objective could only be achieved if the medium and short-term objectives are aimed at a common vision of development. Rapid Planning combines these conceptualisation processes into a trans-sectoral collaborative planning process where diverse stakeholders with expert knowledge about the five infrastructure sectors work in unison to define the most pressing needs of the city and the best technological and synergetic solutions for overcoming the urban challenges. At the end, the process produces as result a model of the future trans-sectoral scenario of the city based on trans-sectoral collaboration.

Strategic Planning Component	Rapid Planning Project Component	Rapid Planning Project Activities
Conceptualisation Promote and institutionalise integrated urban planning processes. Institutionalisation participatory urban planning and informed decision-making processes	**Trans-Sectoral Planning** A pre-planning process to select the appropriate technologies for the local context to increase the efficiency of infrastructure investments	Definition of applicable sustainable infrastructure development technologies Identify trans-sectoral synergies Definition of the Rapid Planning trans-sectoral development scenario

Figure 15: Strategic Planning and Rapid Planning: Conceptualisation

Figure 16: Scenario Definition Workshop in Kigali ©Vollmann, 2019

2.2.5. Strategy Formulation

The definition of long, medium and short-term visions suggests a set of priorities to be addressed by urban development which can be adjusted depending on the objectives and emergent issues and the effects of external factors on urban development. A "*strategy is a pattern of purposes, policies, programs, projects, actions, decisions, and resource allocations (…). Strategies can vary by level, function, and time frame*" (Bryson and Alston, 2005, p. 97).

- **Strategy Formulation in the Rapid Planning Project: Informed Decision-Making**

The main objective of this phase in any planning process is to define the main concerns to be addressed by the development process. In the case of Rapid Planning this phase would be used to decide which basic needs are to be prioritised by local governments through a process of informed decision-making of the current condition of the built environment as well as the possibilities for the future.

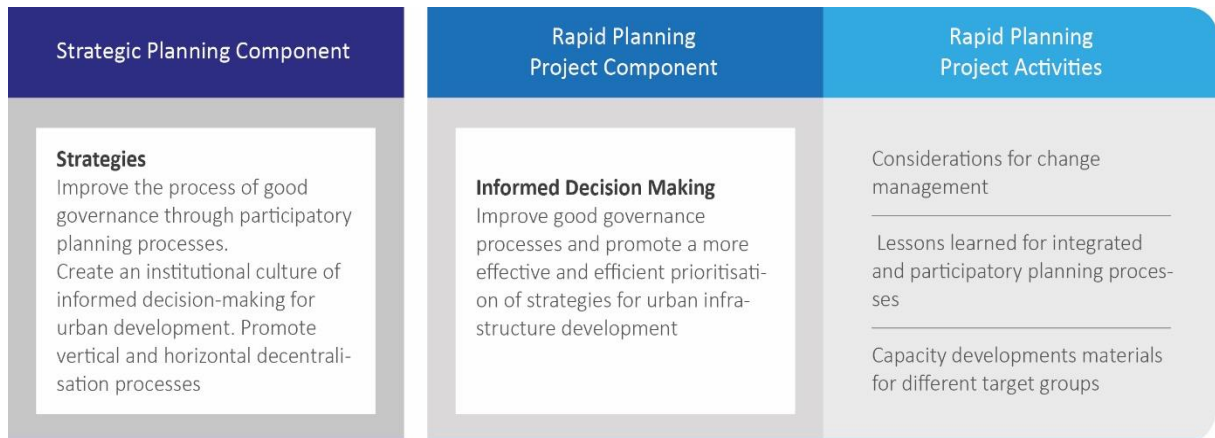| Strategic Planning Component	Rapid Planning Project Component	Rapid Planning Project Activities
Strategies Improve the process of good governance through participatory planning processes. Create an institutional culture of informed decision-making for urban development. Promote vertical and horizontal decentralisation processes	**Informed Decision Making** Improve good governance processes and promote a more effective and efficient prioritisation of strategies for urban infrastructure development	Considerations for change management Lessons learned for integrated and participatory planning processes Capacity developments materials for different target groups

Figure 17: Strategic Planning in Rapid Planning - Strategy Formulation

Figure 18: Rapid Planning Conference Frankfurt am Main 2019 ©Vollmann, 2019

2.2.6. Action Plans

This encompasses the design and implementation planning phase of the strategic planning process. The action plans are the practical approach to taking strategies into action and achieving the specific objectives of the development approach. The stakeholders must have very clear the partnerships, resources allocation, and responsibilities in the implementation and maintenance, along with the participatory planning design and implementation process (Bryson and Alston, 2005).

2.2.7. Strategies Assessment and Adjustment

The assessment of objectives, strategies, and action plans is essential for the evaluation and adjustment of the strategic planning process. The stakeholders must analyse the outcomes of the implemented projects and adjust the strategies to emergent or unforeseen situations.

Conclusions

The Rapid Planning Project is a research project that aims at mitigating the consequences of rapid urbanisation growth by enhancing the capacity of local institutions to drive urban planning and infrastructure development in an efficient and effective manner. The project is based on the active engagement of all stakeholders, comprehensive understanding of the local context, trans-sectoral application of appropriate technologies and informed decision-making. The research, in this sense, is also seen to follow the objectives of the SDGs as it focuses on formulating sustainable forms of infrastructure development and management that helps developing cities, in particular, to meet the demands of their growing population. This includes an adequate and sustainable provision of basic services while easing the pressure on natural resource and reducing the impacts of these cities on the environment.

In this context, comparing the characteristics of Rapid Planning to the theoretical descriptions of a strategic planning process it could be said that the Rapid Planning Project resembles the strategic planning approach in the first phases of the planning procedures, i.e. stakeholder mobilisation, mapping, spatial analysis, conceptualisation and strategy formulation. Strategic planning approach continues into the implementation phases of the planning process with proposals for action plans which refer directly to the execution of the strategies through specific projects. In the same way, strategic planning provides a final phase in which the stakeholders must evaluate and adjust the measures or strategies formulated in accordance to their performance or the emergent issues of urbanisation. These two specific aspects of strategic planning are not considered for the Rapid Planning Project due to the planning character of the research; Rapid Planning aims at improving the planning procedure based on providing the necessary information and options for municipal authorities to make the appropriate decisions for their specific circumstances.

Strategic planning refers to a planning approach that identifies specific strategies and prioritises needs to be implemented in a given timeframe. Throughout the development process, concerns and interests of a variety of stakeholders representing the professional and municipal institutions as well as the local community are to be considered. This, on the one hand, is seen to help build a close understanding of the development challenges and goals and increase the feasibility of the identified measures. On the

other hand, this will also enhance a model of integrated planning that takes into account the different requirement, priorities and capacities of the involved sectors and service infrastructure.

It could be said, therefore, that the Rapid Planning Project is a reflection of Strategic Planning. This can be verified in the different components of the Rapid Planning Project as they reflect the addressed phases of Strategic Planning as presented in theory. In this context, the Stakeholders Conferences held in the three case cities of Assiut, Da Nang and Kigali in an early phase of the project aimed to identify and inform the local partners as well as the potential stakeholders about the project's goals and possible activities. Followed by a thorough stakeholder analysis reviewing administrative structures, roles and responsibilities, as well as planning laws and regulations; this component of the Rapid Planning Project corresponds with the first phase of strategic planning, i.e. stakeholder mobilisation, since the objective of this initial phase is to identify and create interest in the process of planning from a wide variety of urban actors representing the public, private, civil and external actors.

The fieldwork of the Rapid Planning Project starts with remote sensing, surveying and data collection from primary and secondary resources. This step aims at generating current data sets that satisfy the requirements of the different sectors of urban infrastructure as well as the later activities of the project. The data sets are then visualised in different forms e.g. Maps, tables, spatial models, etc. The data collection and modelling components the Rapid Planning Project correspond with the mapping phase of strategic planning. Similarly, this phase refers to the process of data collection, processing, and visualisation, which allows the identification of urgent problems and necessities and the visualisation of population dynamics, potentials for development and interests of local community and stakeholders.

Based on the urban models produced from the data collection, the Rapid Planning Project continues to establish a holistic understanding of the case cities taking into account the examined socio-economic attributes of the built environment and urban characteristics. This is to build a model of the current situation of the city, called "The baseline scenario", as well as a model portraying the current development plans proposed for the city by their municipalities named "The reference scenario". The construction of these scenarios requires a deep understanding of urbanisation issues and an analysis of the urban condition. Thus, these processes correspond to the urban assessment phase of strategic planning. This strategic phase aims at exploring the condition of the urban environment and highlighting the urban issues that need to be addressed in the planning process. Also, it can indicate the initial potential for solving them.

Providing baseline and reference scenarios for the current status of the case cities establish a solid understanding that could be shared with the respective administrations and stakeholders. This serves as a common ground for discussing the development goals, challenges and potentials. As a key feature, the Rapid Planning Project introduces trans-sectoral synergies as a major development opportunity that could bring these cities closer to their development goals efficiently and sustainably. Based on the potential synergies among urban infrastructure sectors, trans-sectoral possibilities are to be proposed as development alternatives that fall in line with the vision for development each city has established. Trans-sectoral planning, as a component of the Rapid Planning Project, corresponds with the conceptualisation phase of strategic planning as it is meant to identify feasible development objectives for the long, medium and short-terms and achieve the common vision of development.

The integrated trans-sectoral proposals are visualised in trans-sectoral scenarios developed by the Rapid Planning Project to provide a basis for further discussions to be considered by the administrations of the case cities. It is clear that in order to take advantages of the synergies and plan integrated urban infrastructure improvements, municipalities need to make transformations in the decision-making

processes providing the stakeholders with sufficient knowledge for them to be able to make an informed decision about the strategies to be selected for future development. The implementation of institutional transformation or institutional innovation processes will impact directly the typology of the strategies selected for the implementation of urban infrastructure improvements. Therefore, the Rapid Planning Project produces a series of considerations for change management, planning systems and a capacity development proposal aimed at guiding these institutional transformation procedures in order to facilitate the formulation of strategies based on trans-sectoral planning processes. The combination of these considerations with the necessary decisions required in the planning process in this phase connects the Rapid Planning Project with the strategic planning approach in the strategy formulation phase, allowing the prioritisation of strategies and the future implementation of the proposed development alternatives. Informed decision-making, as a component of the Rapid Planning Project, corresponds with the Strategy Formulation phase of Strategic Planning as it aims at suggesting a set of development priorities, which can be adjusted depending on the objectives and emergent issues and the effects of external factors on urban development.

PART B

Capacity Development Theory

Capacity building is considered to be an important element of institutional change for sustainable urban development. Therefore, the research into a general theory about the main concepts of capacity building and development would facilitate the implementation of the strategic planning approach described in the former section (Part A – Section 2). To achieve a better understanding of the topic, this section provides a summarised review of the theory of capacity building and related concepts moving from the capacity building towards capacity development, also describing the capacity development specific needs of individuals, institutions and society as well as the different strategies and instruments that could be implemented to achieve the objectives of a planning-oriented capacity development process.

1. Defining Capacity Development

The concept of capacity development is relatively new; it emerged in the 1980s and has become a central aspect of technical cooperation and development programs in the 1990s, due to its complementary role in the field of international development projects, such as institutional building, institutional development, human resource development, development management/administration and institutional strengthening (Lusthaus, Adrien and Perstinger, 1999). These approaches together with others related to development work, i.e. Organisational development, community development, integrated rural development and sustainable development, are considered as a theoretical basis that nurtures the concept of capacity development.

Based on the diversity of the literature characterising the concept of capacity development, there is a variety of definitions of the term. Capacity building, as a concept, emerged in the 1980s and became a central aspect in the concept of collaboration in the 1990s (Lusthaus, Adrien and Perstinger, 1999). *"(…) capacity building encompasses the country's human, scientific, technological, organisational, institutional and resource capabilities*" (United Nations, 1992, p. 329). Capacity building is characterised as a long-term continuous learning process enhancing the capabilities of individuals within an organisation. The concept has experienced an evolution from the idea of *Institution Building* to "*Capacity Development*" (Lusthaus, Adrien and Perstinger, 1999). The process of evolution to capacity development highlighted the need to change the focus from technocratic to human capacities as well as from the individual to the organisation, its sectors and the broader scale, societies. The main purpose of building capacities within an organisation is to increase knowledge about regulations and procedures, equipping the individuals with the necessary abilities to understand the challenges of development and produce an effective decision-making process. Throughout the evolution from "*Institution Building*" to "*Capacity Development*", the focus of development approaches was gradually moving towards strengthening institutions rather than creating new organisations within those institutions (Lusthaus, Adrien and Perstinger, 1999). In this sense, existing organisations are seen as a major asset for developing countries to run their public investments properly and to secure the capability of public sectors. There was an emphasis, therefore, to re-examine the use of imported institutional models from developed countries and establish new institutional models based on local dynamics and practices.

Later development approaches promoted more inclusion as they aimed to engage a wider spectrum of actors with a stronger focus on delivery systems for desired capacities. This has led to acknowledge the importance of education and health as well as to put people at the centre of development processes. The engagement of other sectors such as the private as well as NGOs in the following development approaches has broadened the activities of technical cooperation to consider a wider presence of collaboration networks and the broader environment. In the 1990s the term *Capacity Development* emerged, stressing the importance of ownership, processes, technical cooperation and knowledge sharing (Lusthaus, Adrien and Perstinger, 1999). In other words, capacity building refers to the process of creating or constructing capacities; however, the concept is not explicit in recognising the existence of previous capacities, social structures and institutions. Capacity development, on the other hand, indicates an improvement process for the existing capacities together with creating new capacities and national assets (UNDP, 2008).

 It could be concluded that the evolution of development approaches has shaped the concept of capacity development. It is a concept that integrates valuable lessons coming from many previous

development experiences. Capacity development, therefore, has become a key component of international technical cooperation to ensure the ability of development partners to achieve their targets and sustain their results.
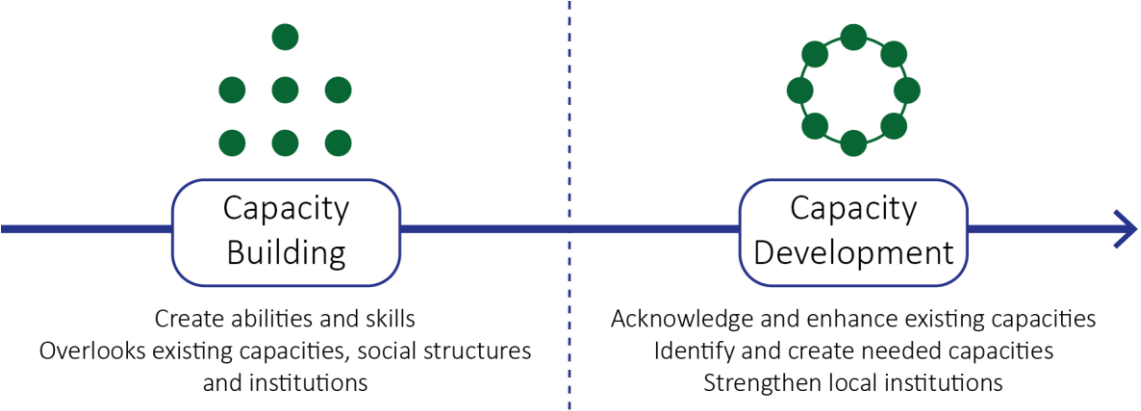
Figure 19: Differences between Capacity Building and Capacity Development

It is preferable, therefore, to shift from the term *Capacity Building* towards the concept of *Capacity Development*, since interdisciplinary projects such as Rapid Planning are based on the accumulation of diverse knowledge from diverse procedures in planning processes. Translated to the urban planning context, capacity development could improve the process of decision-making related to urban development utilising new technologies and knowledge to address the challenges posed by rapid urbanisation and unsustainable growth. Thus, the UNDP understands capacity development as "*(…) as the process through which individuals, organisations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time*"(UNDP 2009, p.5). The Purpose of capacity development for urban planning is to target, empower and strengthen endogenous capabilities and local resources i.e. people, skills, technologies and institutions. Such definition emphasises on specific contexts rather than universal formulas, aiming at transformations through policy and institutional reforms that can last over time (UNDP 2009, p.8).

Figure 20: Elements of Capacity Development

2. Capacity Development for Sustainability

The three pillars for sustainable development are: social progress, economic growth and environmental protection; all of them closely linked. According to the UNEP report, capacity building is seen as a holistic intervention where abilities, relationships and values can be built, enabling organisations, governmental entities, civil society groups and individuals to improve their performance, sustainably achieving

development and economic objectives. The report emphasises the importance of strengthening processes, systems, rules and laws that ensure higher performance from individual and collective groups at all levels by supporting official environmental institutions already placed at the regional, sub-regional and local levels; developing and monitoring environmental management instruments, working with a variety of partners coming from governmental and non-governmental backgrounds; and promoting public participation while enhancing the access to information for the general public (UNEP 2002, p.13).

Likewise, the UN highlights the importance of capacity development as a mechanism for promoting participatory processes, technical cooperation, technology and know-how transfer processes as tools for sustainable development. At the organisational level, strengthening institutional structures could increase the ability to respond to long-term challenges while improving institutional capacities, both in the private and public sphere, with direct impact on development nationwide (UN 1992, p.328-329).

2.1. Main Characteristics of Capacity Development[2]

For capacity development to be an agent of sustainability several concepts need to be presented in terms of institutional re-organisation, leadership, knowledge and accountability. Moreover, there are several aspects of capacity development that need to be taken into account in order to produce the desired change in the organisation. Lopes and Theisohn (Lopes and Theisohn, 2003) summarize these aspects of capacity development as:

2.1.1. Adjusting Global Knowledge to Local Needs

Local customs and culture provide a sense of identity to people. Capacity development, whether it is initiated by locals or by international institutions should consider and incorporate the intrinsic values of the culture and propose activities that share and increase capacities but also promote the emergence of locally-based initiatives and conform with the local traditions.

The access to information provided by technology nowadays allows municipalities and citizens to see the development process happening in other parts of the world. The globalisation of knowledge is crucial for combating poverty, inequality and health hazards related to urbanisation in developing countries. However, in the 1980s and 1990s around the world, the failed implementation of one-size-fits-all development models promoted by international institutions in Africa and Latin America, the adoption of external models without considering the local context or adjusting them to local needs proved to be a misguided solution to the issues of fast urbanisation in the global south.

External models might provide an insight about the main issues that must be targeted in development, nevertheless, these models need to be transformed, adapted and adjusted to fit the local legal frameworks, address the specific local problems and utilise the resources available within the area and the organisations.

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[2] Summarised from (Lopes and Theisohn, 2003)

2.1.2. Prevalence of Local Development Plans

As stated in the former section, imported models of development generally apply one-size-fits-all solutions to specific urban issues, thus, producing ineffective and unsustainable projects. Since international institutions bring financial and technical support, external aid is always appreciated in developing countries. However, these external resources often come with special conditions for implementation, driving development projects away from the real local needs or the proposed development plans. Therefore, instead of adjusting local vision for development to external constraints, the projects financed and supported by aid institutions, as well as local initiatives and plans should be coordinated and devised to fulfil the local or national development plan. Having the local development plan as a priority would increase the ownership of local administrations, strengthening local networks and developing capacities among public officials in working with external consultants, but maintaining the decision-making process within the local administration.

2.1.3. Long-term Action Plans for Sustainable Capacity Development

Capacity development should be more than a component of projects; it is a continuous learning process for administrations and citizens and should become a staple in decision-making processes. Every project planned and implemented creates and develops capacities among the involved actors. It is the responsibility of leaders to promote knowledge sharing, skill training, empowerment, and provide the space for capacities to flourish. Prioritising capacity development in planning increases the possibilities of producing more efficient decision-making processes as well as more effective projects adjusted to the local needs

Capacity development is a medium to long-term learning process that needs to be designed around a vision with realistic expectations as well as specific milestones and measurable outcomes. Defining measurable outcomes would allow evaluation and adjustment of the capacity development process in accordance with the internal changes of the organisation and the external pressures exerted by the local context.

2.1.4. Good Governance for Capacity Development

Good governance is the basis of sustainable urban management and development. Increasing capacities for participatory practices foster transparency, accountability and could use as the means to initiate inclusive decision-making processes in which communities are eager to participate. These strategies could not only prevent corruption, but also brain drain and misuse of public resources. Good incentives emphasising a "*rights-based approach" and "locally-led, harmonised solutions integrated in national budgets*" (Lopes and Theisohn, 2003) could lead to a practice of meritocracy that encourages local experts and planner to initiate sustainable planning practices.

2.1.5. Planning is Political: Communicative Action

As described by Forester (Forester, 2007), the presentation of a project done by an urban planner is a political communicative action based on interests and intentions. The planner exposes problems, negotiates interests, proposes solutions and shares information with colleagues, communities and public officials. "*These communicative acts are ordinary, often just taken for granted, but they are politically potent as well. The planners' speech acts perform both technical and political work*" (Forester, 2007). Meaningful communication allows the collection of different typologies of knowledge brought about by the diversity of actors involved in the urban planning practice, who provide pragmatic and technical knowledge based on professional experience.

2.1.6. Build on Existing Capacities

Capacity development starts with building capacities; however, public officials are generally equipped with already existing capacities. Identifying the existing and missing capacities is crucial for capacity development. Starting on individual capacities and how these impact the overall organisational culture. Creating an organisational culture of self-assessment and participation could increase the pace of capacity development along with transmitting good practices pf participation to the citizens.

Figure 21: Principles of Capacity Development

3. Levels of Institutional Intervention for Capacity Development

In order to understand the benefits of promoting sustainability through capacity development, it is important to analyse the term under four different perspectives: organisational, institutional, systematic and participatory (Lusthaus, Adrien and Perstinger, 1999). The organisational perspective focuses on the internal arrangements and structures within institutions which, through a set of capacity development instruments, could improve the already existing capacities within an organisation. The institutional perspective focuses on the ability to change paradigms in order to increase institutional

efficiency, hence more effective outcomes; it promotes changes in regulations that can ensure equity and policies towards sustainability and poverty reduction, taking always into consideration local cultural values. The systematic perspective relates to the different number of systems within an institution, from individual to interconnected, and the way each of these systems can work in an interrelated way; the systematic perspective incorporates multiple levels of systems such as national, regional and local as well as different sectors of society. The participatory perspective targets the improvement of the participatory processes, empowerment, partnerships, and the enhancement of local expertise.

Sharing information is crucial for increasing local capacities; however, capacity development is a learning process and it is the individual's or organisation's willingness to acquire and adapt the shared knowledge what at the end generated the learning process. Capacity development requires transformations in knowledge, skills, work processes, tools, systems, authority patterns and management style (EuropeAid, 2010). As Lopes and Theisohn (2003) explain, capacity development is based on the individual; however, these individuals are part of an organisation and a system embedded in a specific context. Capacity is developed internally, but the means and the process depend on institutional environmental factors (EuropeAid, 2010). Therefore defining the levels of intervention for capacity development based on the needed capacities, the purpose of the capacity development process and the specific activities to be implemented is crucial for sustaining a knowledge exchange and learning process.

Defining capacity development instruments and activities must take into account the different levels at which an organisation operates, namely the enabling environment, the organisation, and the individual (UNDP, 2008).
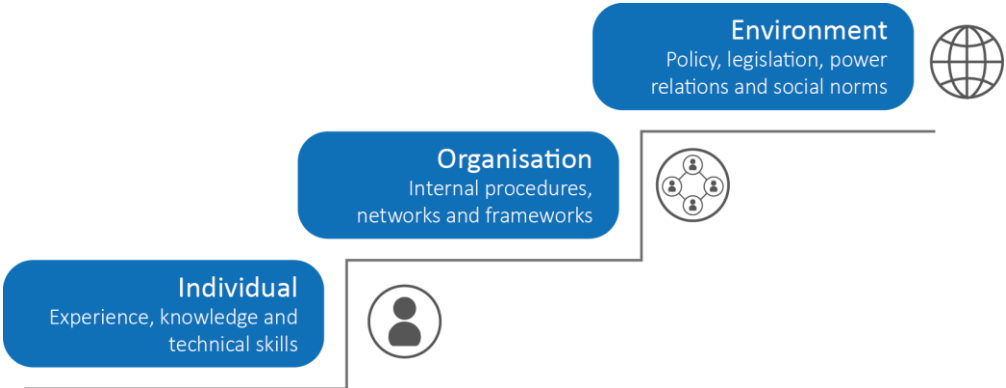
Figure 22: Levels of Intervention for Capacity Development

3.1. The Individual Level

The basis of the capacity learning system is the individual; it is at this level that skills, experience and knowledge are crucial for improving professional performance. Individual capacities can be acquired through specific training, workshops, and activities that promote experiential training.

3.2. The Institutional Level

This is the intermediate component which includes the internal framework, procedures and regulations that can allow different sectors of an institution to work together, having a common vision while increasing the overall performance of the organisation.

3.3. Enabling Environment / Society

The municipal departments and institutions involved in urban development create a network of interlinked organisations that need to promote a collaboration environment. An enabling environment that supports communication, collaboration and knowledge sharing might prevent the duplication of activities and redundancies in the implementation of development projects.

4. Learning Approaches

As it was previously described, a learning practice is a way in which a particular set of skills or knowledge is transferred. These practices are also a set of tools that can be used to facilitate and support the learning process as the means of achieving capacity development. Therefore, for the implementation of capacity development strategies, even if each practice can be clearly defined and used under a specific set of circumstances, these learning approaches are usually linked or combined with others, maximising their strengths and mitigating their challenges while having the potential to be both cross-cutting and focused (Pearson, 2011).

The learning approaches to be considered for administrations in the organisational and institutional levels are:

Organisations, sectors, and environment level			
Name	Description	Strengths	Challenges
Knowledge management	Process by which organisations generate value from their intellectual and knowledge-based assets	- Enhances communication and connection within systems	- Requires constant attention and updating
Communication	Processes that connect groups and surface their collective knowledge and wisdom	- Ensures multiple voices in decision-making - Empowers participants	- Can be countercultural - Requires skilful facilitation - Can raise inappropriate expectations
Organisational strengthening	Coordinated learning and change techniques for organisations to be more effective	- Works at the level of whole systems	- Complex - Needs an enabling environment
Partnerships and networks	Mechanisms through which diverse actors with mutual interests come together to achieve a common goal	- Opportunities for sharing knowledge and experience	- Difficult to coordinate - Potential for unbalanced power relations

Table 1: Learning Approaches on the Organisational Level. Modified by the authors from (Pearson, 2011b)

Institutional level			
Name	Description	Strengths	Challenges
Blended learning	Combination of e-learning and interactive human contact	- Problem or person-focused - Enables quality of e-learning - Cost effective	- Needs skilful design and management, and high level of compatible technology - Often not suitable in many development contexts
Coaching and mentoring	Long-term process of supporting an individual's career and personal or group development	- Focused	- Need to be separated from line management structures - Requires specific skills from mentors
Leadership development	Processes designed to enhance the leadership skills of existing and potential leaders	- Gives emerging leaders the skills and confidence	- Requires a background for selected participants
Customized training	Training commissioned for the needs of a specific group	- Focused on the specific needs of participants	- Relevance and success depends on the quality of the needs assessment and design processes
E-learning	Technology-supported or web-based learning systems	- Individual and flexible learning opportunities - Cost effective	- Isolation of students - Requires high level of independent study skills - Needs Internet accessibility
Experiential learning	Processes to support individuals to learn from their workplace experiences	- Grounds learning into workplace practice	- Can be countercultural - Requires strong facilitation skills
Exposure	Visits for people to see what others are doing in work situations similar to theirs	- Grounds learning in reality - Stimulates innovation	- Clear learning objectives need to be specified

Table 2: Learning Approaches on the Institutional Level. Source (Pearson, 2011b)

4.1. Communication

Communication can be seen as a cross-cutting element of all other processes or as a component of knowledge management. Either way, communication improves and supports learning and change as it connects individuals and raises a group´s collective knowledge and wisdom. It also ensures that all participants or stakeholders have a voice in decision-making processes, creating ownership and commitment towards specific actions. It serves to identify problems and solutions collectively. However, it can be countercultural and create resistance among participants. For that, skilful facilitation is essential (Pearson, 2011).

4.2. Knowledge Management

Is the process by which organisations generate value from their intellectual and knowledge-based assets. This process involves documenting what employees, partners and customers know, and then sharing the resulting information back to those who need it in order to enhance their job performance and devise best practices, most often employees, departments and even other companies (Pearson,

2011). In general, knowledge-based assets fall into one of two categories: explicit or tacit. Explicit knowledge consists of anything that can be documented, codified and archived, often with the help of IT. Tacit knowledge is much harder to grasp, as its inherent challenge is to figure out how to identify, generate, share and manage it (Levinson, 2009).

4.3. Experiential Learning

This approach understands learning as the process whereby knowledge is created through the transformation of experience (Kolb, 1984). This definition emphasizes several aspects of the learning process. First, the emphasis is on the process of adaptation as opposed to content or outcomes. Second, understands knowledge as a transformation process, being continuously created and recreated, not an independent entity to be acquired or transmitted. Third, learning transforms experience in both, objective and subjective ways. Experiential learning is, therefore, the generic heading for numerous structured and semi-structured processes which can support individuals to learn from their workplace experiences. Tools and techniques that come under this heading include, among others, action-reflection, learning-planning cycle, action learning sets, action research, critical incident analysis, on-the-job training, work-based learning, work/job shadowing, and whole-person learning. Experiential learning starts from the participant's level of experience and grounds learning into workplace practice. This approach works well for those not academically inclined (Pearson, 2011).

4.4. e-Learning

e-Learning is a learning system delivered on a digital device. e-Learning courses include both information in the form of content and techniques as instructional methods to help people understand the content. This system can be either asynchronous when the material is available at the request of the student allowing self-study; or synchronous as sessions designed for real-time instructor-led training (Colvin Clark, R; Mayer, 2008). This approach is excellent when working on processes with groups who are geographically distant. It offers flexible, individual learning opportunities without requiring direct human interaction. Can be very cost-effective and become an opportunity for people who do not have easy access to any other learning resources. It is important to state that students require a high level of independent study skills, good quality and affordable connection to the internet (Pearson, 2011).

4.5. Customised Training

Customised training refers to the development of tailored content and instructional methods based on the needs of individual learners (Colvin Clark, R; Mayer, 2008). It is applied when specific technical skills are required for project implementation or system compliance needs. The relevance of the delivered information and the success of its implementation relies on the quality of the needs assessment and design processes (Pearson, 2011).

4.6. Leadership Development

Leadership development is defined as expanding the collective capacity of organisational members to engage effectively in leadership roles and processes. Leadership development involves building the

capacity for groups of people to learn their way out of problems that could not have been predicted, or that arise from the disintegration of traditional organisational structures and the associated loss of sense-making (Day, 2000). Leadership development is most effective when training modules are combined with activities such as exposure visits, and coaching or mentoring (Pearson, 2011).

5. Instruments for Capacity Development and Knowledge Transfer

Once the capacity needs have been identified, in order to transfer the knowledge to the specific target groups, it is important to design a capacity development approach, which needs to take into consideration several aspects to effectively support learning and change. In this regard, the central focus of these approaches must be in the transfer of the key functional, technical and social competencies to the diverse stakeholders taking into account their diverging interests and priorities at the three different institutional intervention levels i.e. Individual, organisational and environmental. The purpose is to develop the joint capacities of the stakeholders to solve their problems and achieve their objectives (Austrian Development Agency, 2011; Pearson, 2011).

One of the first aspects to take into account during the design of a capacity development strategy is the difference between focusing on the teaching process instead of the learning process. Regardless of the quality of the information being transferred to the different target groups, if the stakeholders are not motivated and ready to assimilate this information, it would not be possible for them to learn. In this sense, learning could be understood through different definitions. On a general perspective and aiming at a more general audience, learning is "*any improvement in behaviour, information, knowledge, understanding, attitude, values or skills*"(UNDP, 2009). On the other hand, considering a professional educational context, learning provides the ability to have a critical perspective and contextualise specific situations based on the institution's principles (Foley, 2011). Therefore, to emphasize learning means to adapt the teaching methods to the target groups´ respective, local context, expectations and previous experiences. It also means to be clear on the direct practical relevance of the contents being transferred, as well as to introduce incentive systems (Austrian Development Agency, 2011).

Another relevant aspect is the appropriate selection or mix of learning methods over time. A learning method is defined as "the way a particular set of skills or knowledge is transferred or change in attitude fostered" (Otoo, Agapitova and Behrens, 2009, p. 34). Since most of the projects are addressed to different target groups at different levels, it would be very unusual to achieve all learning objectives by implementing a single learning approach for all of the stakeholders. By bringing together a selection of several instruments, capacity development strategies can maximise the strengths of the approaches while mitigating constraints and challenges (Pearson, 2011). Within these constraints, perhaps one of the most recurring ones is the budget limitation. Since each learning approach represents different costs for the developer, the capacity building strategy should be able to achieve the best results possible within their budget. In this regard, based on the project´s goals, a balance between the methods´ reach, effectiveness and their budget implications should be achieved (Douglas Horton, 2002).

In terms of the knowledge being shared, the selection of the learning approach or method also depends on both the nature of the content and on the learning objectives. Knowledge could be divided into four levels which include: factual knowledge or specific data, understanding, skills and attitudes e.g. For problem-solving, the capability to approach a challenge, drive to keep learning, etc. Likewise, based on its tangible character, knowledge could also be codifiable "*that can be presented in a standardized*

format to make it easy and cost-effective to reuse and customize, while maintaining control of the quality" (Otoo, Agapitova and Behrens, 2009); or tacit, which people carry in their minds in a more intangible way, being difficult to be accessed and requiring a higher degree of interaction and trust for its transfer. Therefore, the decision on when to use which typology of leaning method will depend on the learning objectives. If the objective is to make participants learn some factual or understanding knowledge, then a lecture or a presentation could convey codified knowledge. Otherwise, if the objective is to create and utilise new skills or attitudes, then simulations or problem-solving workshops could convey tacit knowledge (Alaerts and Kaspersma, 2009; Otoo, Agapitova and Behrens, 2009).

The capacity development strategy should also take into consideration the long-term sustainability of its approach. Since capacity development promoters can only conduct short-term activities due to the previously described constraints, for a sustainable capacity development impact to occur, there is a need to ensure that through the results of these short-term activities it is possible to contribute to the long-term learning and change strategies and goals. Thus, including an adequate mix of long- and short-term perspectives is part of a good capacity development design (Pearson, 2011).

5.1. Training

Although all capacity development instruments spread information in one way or another, training is also focused towards creating and developing skills, knowledge and attitudes (D Horton, 2002). Training is a tool that effectively promotes learning that can be accomplished through different educational methodologies e.g. Classes, seminars, workshops, etc. Training has a predefined content, offering a detailed list of steps in order to learn a skill, in a specific amount of time (Alaerts and Kaspersma, 2009).

According to the International Organisation for Standardization (ISO) *Quality Management – Guidelines for Training*, a well-developed training should entail four phases: defining training needs; designing and planning; implementing the training units; and evaluating the outcomes. Monitoring should be integral to all phases in order to ensure that the proposed activities will meet the needs of the participants and the desired contribution of the training process to the overall capacity development program (Pearson, 2011).

Besides, other factors might be essential for the success of training, such as (Alaerts and Kaspersma, 2009):

- Appropriate pedagogical tools and frameworks
- Transfer of learning to the workplace in order to better consolidate and apply the acquired knowledge and to disseminate it within the organisation
- Adaptation to the context, which could be achieved with the help of formal assessment and a previous diagnosis of institutional and/or organisational gaps. Also, in terms of resources and materials, they could be more effectively delivered when using local resource providers (Pearson, 2011).

5.2. Seminars

As mentioned before, a seminar is one of the educational approaches to training. In contrast to a regular lecture, a seminar is an active education process where the attendees build their knowledge with the

guidance of the organisers. Thereby, a seminar enables the construction of shared knowledge through participation and communicative action. The participants are responsible for their education, while the role of the organisers is to guide the participants, make sure the seminar follows a good direction, and give a stimulus for discussion (Atkins and Brown, 1988; Zamora, Sanchez and Planella, 2000; Huber, 2012). The approach of teaching and learning by dialogue promotes the development of individual ideas and the exchange and consideration of different points of view. A seminar aims at stimulating the participants in teaching and learning from each other, recognising the value of social knowledge, and initiating processes of reflection. It also strengthens the ability to reach a consensus with which everyone agrees (Huber, 2012).

A seminar can be a truly collaborative experience (Holladay and Johnson, 1998) and has become an instrument in the four pillars of education: learning to be, learning to do, learning to learn, and learning to live together. These pillars relate directly to critical thinking and reflexivity, linking the discussed concepts to different realities and teamwork (Zamora, Sanchez and Planella, 2000).

A seminar might follow these steps (Daniel, 1991):

- Preparatory work: a short presentation, video, text, or a tutoring session should be given to the participants in order to stimulate a discussion among the participants.
- Group discussion: dividing the group into smaller groups and then inviting them to give their conclusions in a plenary session, or keeping the group as a single setting the discussion with all the participants in the same space.
- Discussion summary: the organisers should conclude by summarising the discussion, joining the different arguments.

During the group sessions, the organisers should ensure that the discussions are productive but they should keep a passive role. The work and initiatives of the participants are key components in this process. Furthermore, since the discussion is driven by open questions and its main aim is generating collective knowledge, a seminar promotes further learning and can be continued by other types of methodologies (Holladay and Johnson, 1998).

5.3. Recruiting

Recruitment can be defined as the sum of practices and activities an organisation performs with the main purpose of identifying and attracting potential employees with specific needed skills (Barber, 1998; Aiman-smith, Bauer and Cable, 2001). Recruitment are organisational activities intended to help locate potential applicants, persuade them to apply and ultimately accepta an employment position within the organisation that might be listed following these parameters (Barber, 1998):

- Definition of the labour market or target population
- The method used to reach the targeted population: word-of-mouth, employee referrals, job fairs, advertisements, employment agencies, etc.
- Message delivery, which varies along with the nature of the message, the nature of the messenger, and the timing of the message.
- Preparation of the final job offer for applicants who pass selection criteria
- General administrative procedures

The principal participants involved in a recruitment process are the organisation engaged in recruitment and the applicants. However, two other actors might be identified to be part of this process: organisational players and outsiders. Organisational players are the individuals or group of individuals responsible for the recruitment function; they can be internal to the organisation e.g. The human resources department, or external advertising agency. Although these organisations do not make decisions about recruitment activities themselves, these individuals do so on behalf of the organisation. On the other hand, outsiders are defined as those individuals who are reached by the spill-over effect of the recruitment process. When information about vacant jobs is disseminated, it might influence the public perception of the organisation. These influences on people external to the organisation might change the behaviour of potential consumers, investors, or the perceived attractiveness of the organisation to potential applicants (Barber, 1998).

The choice of working for a company, however, does not depend on recruitment practices alone. This decision is a combination of factors between what the organisation might be offering and the needs of individuals. Within these needs, research has shown that pay and promotional opportunities are constant attributes sought by individuals, followed by location, benefits, autonomy, flexibility, and type of work. Another important factor influencing in an individual´s perception and the choice is the organisation´s image, which might incorporate several elements such as good corporate citizenship, progressive labour practices, an emphasis on diversity, sponsorship of cultural activities, and pro-environmental practices (Aiman-smith, Bauer and Cable, 2001).

5.4. Consultancy

Consultancy is described as *"the provision of an independent specified professional service requiring specialist skills and knowledge over a prescribed period of time"* (Preston and Arthur 1997, p. 5). In a project, consultancy might be used in any phase to identify organisational problems, analysing specific circumstances, recommending actions and/or assisting in the implementation of solutions (Preston and Arthur, 1997). The specialist or consultant provides a service to a client to meet the client´s needs. Even when working in the same technical area, no consultancy process is the same as another one, as the needs and desires of different clients create different situations and demands. Therefore, consultants must be trained to recognise the needs and expectations of the client and to respond in an accurate way (Williams, A.; Woodward, 1994).

The actors involved in a consultancy process are, at its simplest, the consultant and the client. However, it could be the case that an external actor might be hired by the client to find a consultant, which might act as a mediator. When working with cooperation or development projects, it is also common to find a donor organisation, which would fund the consultancy services. Also, in this case, the client would be the organisation responsible for the management of the project and the end-user would be the person or group of people intended to benefit directly from the consultancy services (Preston and Arthur, 1997).

Activities carried out by consultants vary depending on the nature of the project, the organisations involved, and the context where the project takes place. The roles performed by a consultancy firm also change according to these parameters and to what the client asks for. The role taken might be that of an analyst, operator, counsellor, mediator, informer, problem-solver or even a leader. Consultants might have to adopt a particular role depending on the objectives of the project, but they might also

have to combine several of these roles to fulfil a given task and to work more effectively (Preston and Arthur, 1997).

5.5. Field Trips

A field trip might be described as a trip with an educational intent, in which participants interact with the environment and gain experiential learning. A field trip might be conducted for different purposes, e.g. Provide the first-hand experience, stimulate interest and motivation, add relevance to learning and relationships, strengthen observation and perception skills, promote personal development, etc. However, the main aim of field trips is to expand and deepen learning outside formal education arrangements, giving participants a new way of knowing an object, concept or operation (Behrendt and Franklin, 2014; Plutino, 2016).

As an approach of experiential learning, field trips have multiple benefits on participants. There is evidence that field trips result in cognitive and non-cognitive learning. Exposure to new contexts and experiences allows participants to create personal meanings and to connect prior knowledge and learning with what has been experienced. Thus, participants might become more interested and engaged in the subject, as well as they might sharpen their observational and perception skills, since they are using all their senses (Tal and Morag, 2009; Plutino, 2016).

Figure 23: Field Trip to the Europa District in Frankfurt within the Third International Capacity Development Workshop for the Rapid Planning Project.   ©Vollmann, 2019

Field trips might be categorised into formal and informal; in the formal field trips the participants follow a structured schedule and format; on the other hand, informal field trips are less structured and give participants the flexibility to choose their activities or environment (Behrendt and Franklin, 2014).

The following considerations could be taken to ensure the success of a field trip (Orion and Hofstein, 1994; Behrendt and Franklin, 2014):

- Before the trip: the organisers should visit the place in advance to determine if it is appropriate for all participants and to the subject that is intended to be reinforced. Also, orientation should be given to participants by describing the place, the activities, and their tasks.
- During the trip: organisers should aim for participants to become comfortable in the new environment

- After the trip: this phase is very important as participants could reinforce what they learned during the trip. A discussion or other reflection activities could help participants to solidify the new ideas and observations and to connect the prior theoretical information with experiential learning.

Figure 24: Field Trip to the Fechenheimer Mainbogen in Frankfurt am Main within the Third International Capacity Development Workshop for the Rapid Planning Project.   ©Vollmann, 2019

5.6. Inter-Departmental Communication

A department might be defined as an operating unit of a system or organisation, which focuses on a specific field of knowledge or expertise. Each department has distinctive characteristics in accordance with their knowledge domains, concepts, methods, and objectives. Furthermore, the techniques and common vocabularies might vary from one department to another, alongside with different characteristics in their configuration, such as structures of authority or performance appraisals (Gizir and Simsek, 2005). Therefore, communication between departments is crucial for the organisation, control and coordination of the system they are part of. Communication processes can connect groups along with their knowledge, improving their learning and dynamics (Pearson, 2011). Inter-departmental communication plays a very important role in organisational processes, as it enables an increase of agreements on organisational ideas, norms, values, behaviours and goals (Gizir and Simsek, 2005).

Many activities positively influence communication among departments, e.g. establishment of common goals, seminars, symposiums, shared projects, or social activities (Gizir and Simsek, 2005).

5.7. Inter-Departmental Collaboration

Collaboration happens when actors with different interests work together to achieve a common goal. This might happen across agencies, sectors, and relationships. By including different stakeholders, issues that cannot be solved by one organisation on its own might be addressed in a better way. Therefore, it could serve as a methodological tool, with which heterogeneous institutions work together to reach a common goal (Bingham, 2010).

Inter-departmental collaboration has been promoted to facilitate the exchange of information and the coordination of activities across interdependent organisational units. Collaboration between departments fosters the number of potentially useful ideas, increases flexibility, and improves the performance of the results (Cuijpers, Guenter and Hussinger, 2011).

Within a formal organisation, inter-departmental collaboration could be measured by the responsiveness of a department to the needs of another department, the accuracy of the exchanged information, and the attitudes and behaviours of one department's members towards the other department´s members. The opposite situation would mean an inter-departmental conflict, when there is interference rather than responsiveness, the information is distorted or restrained, and distrust attitudes exist between departments (Walton, Dutton and Cafferty, 2019). Inter-departmental conflict often results in competition and each department blaming each other for the lack of success of established goals (Kock and Mcqueen, 1998).

5.8. Workshops

A workshop is a working meeting intended to produce a joint work result (Weinreich, 2007). Workshops can also be seen as an approach to learning and knowledge dissemination and can be combined with conferences, field trips and seminars (Rogers, 2010).

Figure 25: Third International Capacity Development Workshop for the Rapid Project. Frankfurt am Main. ©Vollmann, 2019

The target of a workshop is to foster a creative process of problem-solving in a very short time. Several actors are then invited to combine their knowledge and points of view, which often leads to new outcomes and radical improvements that would not have been acquired in isolation. Different perspectives can be shared and discussed, promoting a process of dialogue and reflection (Weinreich, 2007; Rogers, 2010).

In a well-organized workshop, the attendees learn to work in a team as well as to hear and open their mind to new opinions and learn to communicate effectively. Also, they are encouraged to push their limits and not ignore or reject unexpected ideas, since sometimes these could lead to innovative solutions. The social interaction plays a fundamental role; when participants observe others they allow themselves to create something new, they gain confidence in thinking outside the box (Barak, 2004; Van Alphen, 2016). Therefore, a trans-sectoral stakeholder workshop is the one involving several actors from different working areas. The advantage of a trans-sectoral workshop is, first of all, the convergence of different disciplines that can create a more productive solution atmosphere, since the knowledge and experience of the whole are more varied than the ones of a homogeneous group. Additionally, the joint work with people from different sectors can lead to better management of a more complex subject and the participants can face it with a holistic approach (Weinreich, 2007).

An important requirement at a trans-sectoral workshop is the moderation of the discussion. The dynamic of a workshop requires a higher level of openness and comprehension, which might not be present in some of the participants. When people from different working areas and disciplines gather, conflicts can emerge due to a lack of understanding (Weinreich, 2007). Therefore, the moderator is an essential component of the workshop. He or she is responsible for encouraging an environment of mutual understanding, in which people can speak freely and suggest bold ideas. The moderator is also responsible for monitoring the progress workshop by asking questions, summarizing discussions, avoiding unnecessary repetition, by stimulating the attendees to be more creative, and watches that the set goals are achieved. This means that the moderator must be someone that can easily detect resistance, disinterest and can neutralise it as quick as possible (Van Alphen, 2016). When working in a multi-cultural group, cultural awareness and sensibility are also two important characteristics to be taken into account (Weinreich, 2007).

Time is a key factor in the success of a workshop. Usually, they last from one day to a maximum of one week, due to the high energy that the involvement in a workshop requires. More extensive workshops need to have breaks of one or two weeks in between (Weinreich, 2007). During the workshop, a good agenda is crucial to keep people active and not over-stressed. The discussions need to be alternated with group work and the assignment must keep a strict time limit. It is important as well to have regular breaks, so people can walk around and fresh their minds (Van Alphen, 2016).

Figure 26: Third International Capacity Development Workshop for the Rapid Project. Frankfurt am Main. ©Vollmann, 2019

6. The Capacity Development Process Based on UNDP Literature

As stated in many of its definitions, capacity development is a process. This process aims at ensuring the capability of development partners to fulfil their functions, do their jobs, achieve their goals, sustain the results and respond well to changes and necessary adjustments. It should, therefore, incorporate a variety of actors from the individual, organisational and the societal levels. It should also address a dynamic stream of events throughout the various phases of the desired development. Consequently, management of human interactions, in both forms of actors and actions, becomes an essential factor to the design of capacity development processes (Morgan, 1998; Lusthaus, Adrien and Perstinger, 1999).

On this basis, a variety of the United Nations Development Programme documents features the process of capacity development as a cycle of growth and evolution that incorporates the main phases of planning or programming procedures. The UNDP (2009, 2010) in particular articulates these phases in five points as in the following:

6.1. Engaging Stakeholders

To initiate a required capacity development, defining the stakeholders who relate to, or benefit from the enhanced capacity comes naturally as a starting point. The goal is to secure their interests, gain their commitment to the upcoming measures and ensure their full investment in the desired success. Therefore, early engagement of stakeholders is crucial. This would not only allow them to participate in the selection of the desired content and the determination of the fitting course of actions but also invite them to own the initiative, take responsibility of its progression and place value in the quality of its performance.

Engaging stakeholders is also about the establishment of a healthy atmosphere for transparent dialogues between the partners. A clear definition of responsibilities as well as the distribution of roles and tasks among different parties, therefore, provides a good basis on which such dialogues could take place. It also helps the practice and promotion of accountability and good governance of the project as well as of the public in general.

Using local methods, regulations and systems concerning consultation and decision-making as well as to project management and evaluation are seen as a major factor to increase the chances for initiatives to be situated among the national priorities. This could also avoid potential conflicts or parallel systems that compete with local authorities.

6.2. Capacity Development Assessment

In order to devise a roadmap towards the implementation and realisation of capacity development, it is essential to establish a solid understanding of current capacity and existing assets. This is to be achieved together with a good estimation of the necessary enhancement that is still missing to meet the requirements of the desired development or to fulfil the needs of organisational objectives. The UNDP (2009, 2010), therefore, formulated an adaptable framework for capacity assessment that considers the three intervention levels of capacity development (i.e., individual, organisational and societal/environmental) in addition to public sectors (e.g. public transport, health, education, etc.) as

possible entry points for commencing a capacity assessment procedure. It indicates the type of functional capacities needed for the creation and management of policies, legislations, strategies and programs as well as to lead on the capacity development process itself. Also, it focuses on the fields of institutional arrangement, leadership, knowledge and accountability that are considered to be the core issues for capacity development.

This framework features the following points as the three steps of capacity assessment procedure:

6.2.1. Mobilise and Design

Mobilising local expertise, available skills, tools and resources together with a well-designed procedure for capacity assessment can contribute very positively to the reliability of the assessment outcome.

An active engagement of relevant stakeholders in this step can provide a sufficient consideration of political and administrative oversight as well as a valuable contribution to the conceptualisation of the assessment procedure. Also, they can conduct the research, participate in the analysis, validate the results and formulate priorities for future actions. This can ensure that the assessment procedure falls in line with the local context and that the results are more relevant and useful.

Clarifying the objectives and expectations of the assessment procedure is necessary to achieve an agreement between the participating stakeholders on the purpose and priorities of the assessment procedure as well as the expectations regarding its outcome and the applicability of these expectations. This is especially important when multiple, potentially conflicting objectives are under consideration or when the focus of the assessment exceeds the available expertise or resources. A common understanding of the local context is required to start a dialogue between the participating stakeholders. This can be based on an examination of the organisation at hand as well as the relevant local, national and international regulatory frameworks. It could also be informed by recent or ongoing assessment procedures. The goal is to reach an agreement between the capacity development partners.

In order to make sure that the procedure is suited to the local needs, defining the scale, scope and type of capacities to be addressed in the assessment becomes crucial. Therefore, a clear approach towards the intended assessment procedure should be developed together with the participating stakeholders. This includes a clear definition of the level of intervention or public sector to be taken into account as an entry point for the assessment (i.e. organisational, environmental or sectoral). This includes another clear definition of the core issue of capacity development as a field to be focused on (i.e., institutional arrangement, leadership, knowledge or accountability). This also means that a clear definition of the type of functional capacities is to be articulated (i.e., capacity to engage stakeholders, to assess a situation and prepare a vision, to formulate policies and strategies, to budget, manage and implement or capacity to evaluate). An assessment procedure can combine multiple elements from each of these three dimensions. Nonetheless, a focused combination can help the assessment to be achieved effectively and efficiently. It should be added that the assessment for future capacities is usually to be done before the assessment of the existing capacities.

The appropriate approach to information collection and analysis is then to be determined, which sheds a light on the kind of inputs that are necessary and the method to conduct the assessment procedure. Ideally, procedures of capacity assessment should deal with both forms of data: quantitative and qualitative. While the first provides specific, numeric, statistic and measurable information, the latter

secures a sufficient understanding of the depth, context and complication of the situation at hand. A proper analysis method should utilise the available materials and generated information to produce comparable valuations of desired and existing capacities for each of the previously designated entry levels, core issues and type of capacities.

A capable capacity assessment team should acquire members who are familiar with the political and socio-economic landscape in which the procedure is taking place. They should be able to access best practices as well as previous or relevant experiences that can support the current course. Concerning the focus of the assessment, they should also accommodate specific knowledge of capacities in question or certain sectoral expertise. It is also helpful to have a specialised facilitator to guide discussions, support the workflow and reach out for workable results. It should be noted that further participation can widen the perspective of the procedure and bring about a balanced understanding. This, however, requires the engagement of people from the different levels of the examined organisations (e.g., management, staff, etc.) as well as from their external partners. The fitting place and the application mechanisms for the assessment exercise is determined based on the types of input to be collected as well as the preferences of the participating parties. It could be performed on-site for maximum input and interaction or off-site for more focus and less distraction. It could be conducted by one surveyor or by a full team. It could be performed with representatives from all levels or separately with each level for a more open exchange.

In order to conclude mobilising and design for a capacity assessment procedure, a work plan should be finalised. This plan should articulate the desired outputs, intended activities due date as well as the roles and functions of the participating stakeholders. The extent of the assessment activities as well as the size of the team, together with a finalised plan, can indicate the expected costs of the procedure. However, the costing process should aim at balancing design and budget. In case of limited budgets, therefore, a re-configuration of the focus and priorities of the capacity assessment procedure can be done together with the participating stakeholders.

6.2.2. Conduct The Capacity Assessment

Clear identification of the desired capacity is crucial to the procedure of capacity assessment. For effective and efficient performance, it is vital to identify the desired capacities realistically and strategically. This means that the capacity assessment team, in cooperation with involved partners, should prepare a list of prioritised capacities to be achieved following the timeframe of the development.

Although capacity development teams tend to aim at comprehensive enhancements, regarding the levels, core issues and types of capacities, it is advisable to consider the desired range of capacity development that fits well with the given timeframe of development. Periods, in this context, are observed to correlate positively with the desired level of change of the targeted capacities. Therefore, a comprehensive advancement of capacity should be seen as a long-term development goal that could not be achieved in short periods.

Assigning an importance level (e.g., low, medium or high) to each capacity in a discussion is a constructive measure to sharpen the focus of capacity development as well as to build a common vision towards an achievable set of desired capacities. In order to secure the consistency and objectivity of the assessment, the level of importance should be based on indicators that are legible to the participating

parties. This, in return, helps the partners to focus their efforts on the capacities that are reasonably recognized as important with regards to the limitations of the development.

Existing capacities can be assessed through a series of interviews or focus group discussions. The work plan should be organised to secure full participation of the key stakeholders and have a margin to handle their constraints, e.g., time availability, language, etc. All activities should be performed in a credible, transparent and objective manner. It is crucial, therefore, to avoid guiding interviewees towards certain responses and phrase the questionnaires neutrally. It is also vital to inform the participating parties about the approach of the process and the purpose of the produced results. And, it could be advisable to hand the collection process to a third party who has no stakes in the process. To ensure the quality of the assessment, collecting anecdotal information can be as important as factual evidence since it reveals the underlying causes of capacity deficiencies.

6.2.3. Summarise and Interpret Results

A thorough and informed comparison between the desired and existing levels of capacity leads to identify whether or not there are gaps that need to be bridged with sufficient capacity development. In the case of identifiable deficiencies, a close examination of the results could reveal the characteristics of the gaps and determine whether there are certain issues with regards to a specific level, core issue and type of capacity or there are no recognisable patterns of shortages. It is possible, during the analysis, to identify incomplete information or conflicting insights extrapolated from different sources. In such cases, it is advisable to consider a variety of perspectives as well as the different points of view, regardless of the type of data or information collected, before finalising a conclusion. It could be beneficial to revisit the sections of the questionnaires that are triggering the conflicting responses. Also, further exploration in the form of additional assessment or an informal discussion with relevant stakeholders can help resolve the issues at hand.

Before a final report of the assessment is concluded and submitted, a validation measure in the form of a meeting or workshop can be very beneficial. The idea is to share and discuss the assessment process as well as its findings with the participation of the involved stakeholders. On the one hand, this can provide an opportunity to refine and approve findings as well as to identify mistakes and correct misunderstandings. On the other, this helps the assessment team get and document valuable feedback from the participants and make necessary adjustments. A validation event, therefore, should utilise a format that enhances an atmosphere of dialogue and reflections. And, it should adopt materials and presentations that are intelligible for most stakeholders. The focus of the topics of discussion should also reflect a clear relevance to the audience and consider their varying interests. Such an exercise will not only help the assessment team reach a plausible conclusion but also enforce transparency of the process and ensure the further commitment of the partners especially about the future implementation of capacity development responses.

Capacity assessment, in this regard, is the analysis of the status-quo that is needed to move forward to action. It highlights a variety of issues that could be addressed by the stakeholders and provide them with a common language as well as a structure to communicate their concerns and interests. Consequently, it breaks down complex situations. In return, this would lead to improved consistency, coherence and impact.

6.2.4. Formulating a Capacity Development Response

Since the formulation of a capacity development response should be led by the assessment team, it is advisable to invite other stakeholders to participate. The goal is to widen the established perspectives and enrich the discussion towards innovative and creative solutions. A good response to capacity development builds on existing capacities to bridge the gaps identified in the previous phase of the process. The concluded results of the capacity development assessment, therefore, provide an ideal starting point for shaping a proper response. Here, it is recommended to focus on the major causes of capacity deficiencies, as identified by the results of the assessment and conceptualize initiatives that can cope with them effectively. Since these causes are usually found across the stated intervention levels, core issues and types of capacity, a response in the form of a combination of initiatives is consequently expected to deal with the three dimensions of capacity development in an integrated manner.

To maintain the local character of the response, keeping in mind that it already adopts the findings of a localised assessment procedure, the nature of the proposed initiatives should also fit well with the political and cultural contexts in place. However, considering a margin for inspiration by other successful stories of capacity development from the world could be helpful.

To build up support for the proposed response, it is useful to highlight the available assets and points of strength of the stakeholders. Also, defining a list of quick-impact activities as well as affordable wins or goals that could be achieved on a short- to medium-term can be received as encouraging proposal components. It is important, however, to engage a long-term perspective early on in the process and ensure that perceived short-term activities, such as training courses, will contribute to long-term strategies to sustain the desired impact (Pearson, 2011). Finally, aligning the proposed response with the national budget structures as well as with the corresponding legal frameworks can play a major role to secure necessary approvals and continued funding.

For effective implementation of the response, it important to transform it into an implementable work plan, which includes the following points:

6.2.5. Assign Responsibilities, Priorities and Timeframe

Preparing a workable plan requires a close examination of all proposed initiatives. It is crucial here to establish a balance between ambition and reality and to identify which measures are affordable and which goals are truly achievable due to the given time and resources. Refined initiatives specify necessary activities to be performed, desired milestones to be reached and deadlines to be met. Assigning the designated activities to appropriate partners should be done following the significance and urgency of each measure. It should also acknowledge the constraints of the partner to be in charge (e.g., available time, budget, authorization, etc.) as well as the beneficiaries.

6.2.6. Define Expected Results and Indicators of The Progress

In order to monitor the performance of the capacity development response, two sets of indicators are required to measure both sides of the capacity development equation: the quality of implementation

of designated development measures and the extent of resulted change or impact. While the first is often referred to as outputs, the latter is regarded as outcomes. Similarly to any project, the set of indicators measuring outputs should be specific to capacity development

Progress monitoring should allow for refinement of a capacity development response and potentially the design of new initiatives to address evolving needs.

The conclusion to the process: It is not a one-off intervention but an iterative process of design-application-learning-adjustment. UNDP captures this in a five-step process cycle. Approaching capacity development through this process lens makes for a rigorous and systematic way of supporting it, without using a blueprint and improves the consistency, coherence and impact of efforts. It also helps promote a common frame of reference for a programmatic response to capacity development including for procurement.

Local capacities are considered to be a major asset for capacity development. It is important for the process, therefore, to address the existing knowledge and know-how, available skills as well as accessible tools and technologies and make them ready for utilisation.

6.3. Evaluating Capacity Development

The United Nations Development Program (UNDP) has developed a useful framework to measure capacity development results. This framework is divided into four levels, which are dependent on each other: inputs, outputs, outcomes and impacts. (i) Inputs, at the lower level, refer to the available resources (human, financial and physical) which are needed to generate (ii) outputs or products divided into four main levels of change or core issues: institutional arrangements, leadership, knowledge and accountability. These outputs can generate (iii) outcomes, which are mainly referred to as changes regarding the institutional performance, stability and adaptability. These outcomes can produce tangible (iv) impacts in the people's wellbeing, evidencing the positive effects that capacity development can produce in the long term (see Figure 27).

It is important to describe the already mentioned four core issues taking part in the outputs level, since these four levels of responses are mainly the generators for capacity development to happen:

- Institutional arrangements: Policies, practices and systems enhancing work efficiency within an organisation or any other entity.
- Leadership: The ability to inspire, motivate and influence others to achieve determined objectives and beyond, as well as the ability to anticipate and respond to change in effective ways.
- Knowledge: The enhancement of individual capacities as well as effective educational systems and policies that allow the spread of knowledge.
- Accountability: The willingness of institutions (especially coming from the public sector) to promote systems of monitoring, self-regulation, feedback captioning, transparency and future legitimacy for decision-making.

FRAMEWORK FOR MEASURING CAPACITY DEVELOPMENT
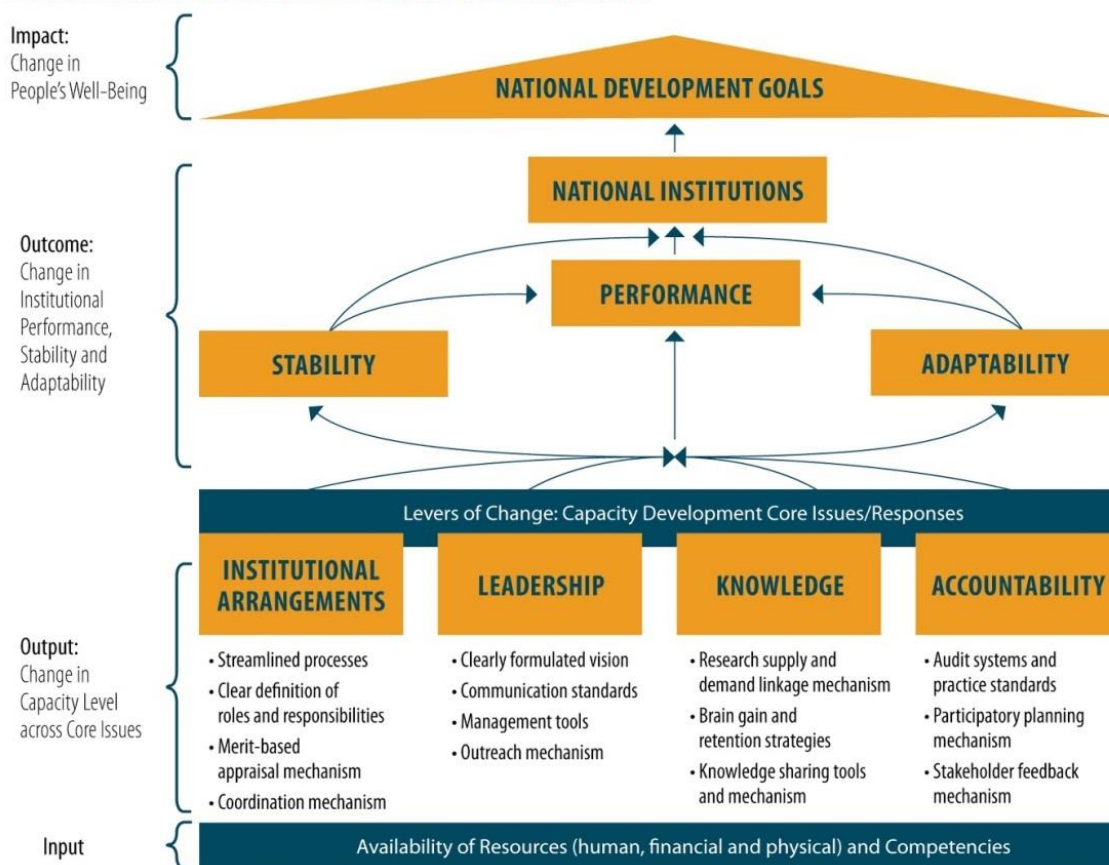
Figure 27: Framework for Measuring Capacity Development. Source: (UNDP, 2009)

Conclusions

Based on the projects previously described, it could be concluded that in the presence of the above-mentioned criteria for implementing capacity development processes it is more likely to achieve both the main objectives and their desired long-lasting impacts.

Trans-sectorality and cooperation are processes that require considerable time and openness from the stakeholders to work effectively, but when implemented they strengthen the projects by increasing the stakeholder´s capacity to discuss challenges and opportunities. In this regard, the success and further potential of the projects or initiatives lie in the integration of the segregated services and systems included in the Rapid Planning related sectors, with social and behavioural change. Continuous processes of building trust and awareness with the public, administrative and institutional sectors become crucial, make or break factor for the projects. While political will and commitment make the projects happen, onsite presence and the provision of clear access means and channels for the residents will further attract and improve the local engagement.

Since economic feasibility is a key factor to sustain development efforts, an adequate financing period, the private sector involvement and the diversification of funding sources can enhance the project´s transferability and capacity to expand, generating at the same time commercial viability. Furthermore, limited time and human resources can also limit or shape the project´s outcome.

Lastly, with regard to the administrative system, a flexible and well-integrated set-up with clearly defined performance measures and indicators is a key element to support city planning processes and to achieve an efficient and effective urban progress.

The documents reviewed for this paper indicate a certain correlation between a successful exercise for capacity development and proper consideration of a group of aspects regarding the levels of interventions, preparation and implementation and major fields of action. The research suggests that it is necessary to work with the local stakeholders from the preparation phase forward for an increased commitment and better outcomes. It is recommended to consider a proper representation that inspires a change on the individual and institutional levels as well as the overall working environment on the longer term. In cooperation with the local partners, the utilized content and materials should aim at the enhancement of the proposed institutional arrangements, leadership skills, individual as well as institutional and public knowledge and also accountability. The reviewed documents indicate that if these aspects were considered, the designed measure for capacity development would achieve its goals and stimulate positive impacts on a larger scale.
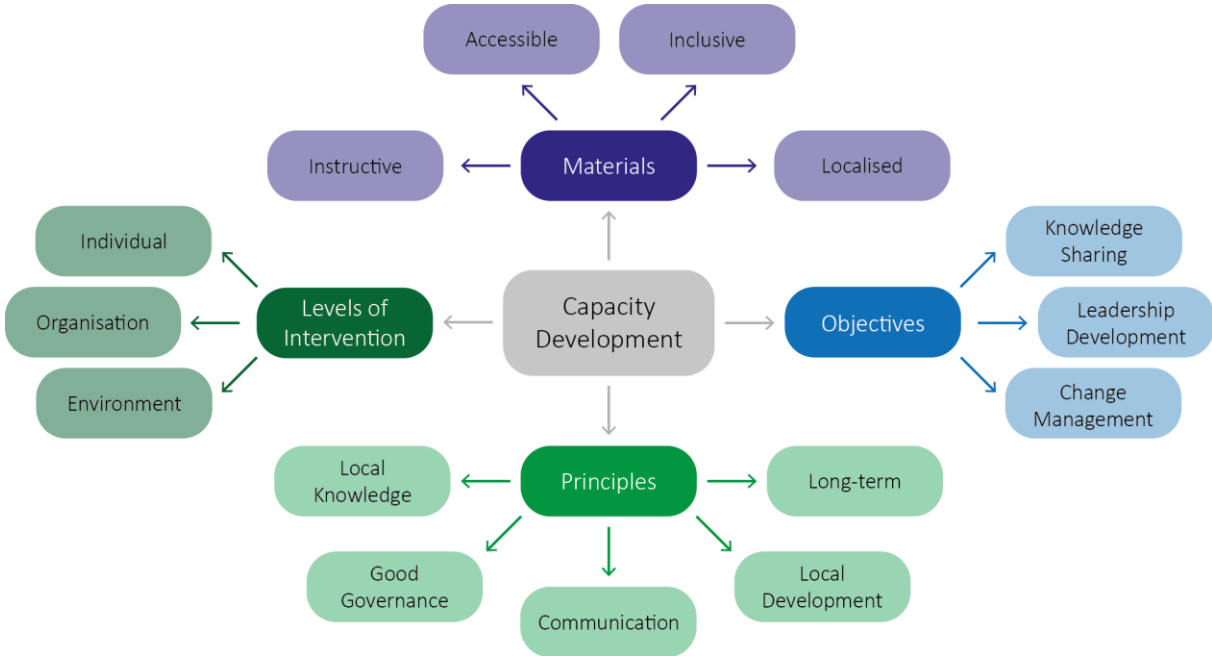
Figure 28: Capacity Development Approach for Rapid Planning

The good practices reviewed in capacity development processes identified several key criteria to be implemented to achieve the main objectives and their desired long-lasting impacts. Trans-sectorality and cooperation of the stakeholders increase the project´s capacity to identify and discuss challenges and opportunities, being the integration of the Rapid Planning services and systems a key element for the project success. Continuous processes of building trust and awareness of the different sectors, along with political will and commitment are fundamental to make the projects happen and to improve the local engagement. Economic feasibility of the projects, with adequate financing periods, private sector involvement and diversification of funding sources enhances the project´s transferability and capacity to expand. Lastly, an adequate amount of time and human resources, as well as a flexible and well-

integrated administrative set-up with clearly defined performance measures and indicators, are also some other key elements to support city planning processes and to achieve an efficient and effective urban progress.

The proposed capacity development activities, therefore, should take into account the orientation of the approach to capacity building intended in this paper as well as the recommendation concluded from the reviewed documents and projects.

PART C

Capacity Development for the Rapid Planning Project

This section connects the Rapid Planning Project as a strategic planning approach with the theory presented in the former chapter for capacity building and development. The objective of this section is to propose a capacity development process that could introduce the Rapid Planning processes into the infrastructure planning procedure of a local municipal department. Considering the similarities between the Rapid Planning Project and the strategic planning process established in Part A, the FRA-UAS team utilises the already established strategic planning process as the basis for proposing the capacity development approach, defining a process of definition of stakeholders, assessment of needed capacities, objectives and strategies for developing said capacities and how these connect with the Rapid Planning Project activities implemented in the past five years.

The purpose of the capacity development component for administrations is to provide the instruments for the interested municipalities to obtain the knowledge and understand the main concepts of strategic planning involved in the Rapid Planning Project, to facilitate the adoption of the Rapid Planning Project. The main objective of Rapid Planning is to make the urban planning process more efficient regarding procedural times and more effective in the utilisation of human, natural and financial resources.

The final aim of capacity development is knowledge transfer from the project results to the interested municipalities aiming to promote a progressive institutional evolution in the planning practice. The design of these components is based on self-learning, self-organisation, allowing the interested administrations to select the concepts in accordance with their knowledge needs for the implementation of the Rapid Planning Project. The self-learning strategy is based on training focused on specific individual capacities of the employees in order to create a learning environment which would result in behavioural changes and improved performance of the organisation (Taylor and Clarke, 2008; Pearson, 2011). This training approach is divided into three main learning components: Customised training; Experiential Training; and Leadership Development (Pearson 2011, p. 34). The training approach aims at building or developing technical along with organisational capacities among the employees e.g. communication, collaboration, reflexivity, leadership, etc., based on sharing theoretical as well as practical knowledge.

1. Strategic Planning as a Capacity Development Process

Strategic planning in its essence is a learning process due to the relevance of the multi-stakeholder collaboration and integrated planning process, which lead municipalities to transform some inter-departmental or institutional practices to accommodate the participatory nature of strategic planning. These transformations are processes that create capacities in themselves for coordination, collaboration and communication. In order to disseminate the knowledge or capacities generated through the implementations of the strategic planning approach, it is also necessary to formulate a structured process of capacity development activities for each phase of strategic planning; this includes an identification of relevant stakeholders, the capacities to be targeted, objectives of those capacities and possible strategies and instruments for achieving the capacities.

Strategic planning as a capacity development process focuses on the local municipal planning institutions and structures to provide materials, planning instruments and activities for promoting an integrated collaborative planning approach among public officials. Based on the process defined by the UNDP (UNDP, 2009), the research identifies the following factors to consider for the formulation of an effective capacity development process that could support the implementation of a strategic planning approach, hence, also support the implementation of the Rapid Planning process:

- **Stakeholders:** definition of the relevant stakeholders, their functions, resources, interests, responsibilities and participation scheme;
- **Assessment of Capacities:** identify the existing and required capacities for effective and efficient planning and decision-making processes;
- **Objectives** of the capacity development process as well as the specific objectives of the activities to be implemented;

- And the **Capacity Development Strategies**: instruments and means to create or develop the capacities needed for strategic planning

In order to formulate a capacity development process that can be driven by any municipality, two points become essential to consider; i) It is important to define clearly the objectives of the process and the main purpose; ii) It is also essential that the promoters have sufficient knowledge on how to guide a capacity development process. Informing the stakeholders about the objectives and the relevance of capacity development in the planning process becomes an important first step in engaging the stakeholders and motivating participation.

The similarities between the approaches of strategic planning and Rapid Planning (see Part A) permit the transfer of the capacity development process for strategic planning into the Rapid Planning process. This section utilises the Rapid Planning Project activities as examples of the instruments that can be implemented for introducing the strategic planning approach into the municipality's infrastructure planning practices. It is important to note that strategic planning processes are not linear processes, as they are susceptible to adjustments, reformulations and revisions. Thus, the Rapid Planning Project is not a linear rigid planning instrument. The purpose of having a multi-stakeholder approach and the objective of informed decision making is to keep the planning process pre-active, feeding the process with accurate information in terms of data, regulations, emergent urban issues and political decision-making

2. Structuring a Capacity Development for Strategic Planning

The need to define a clear process for capacity development for the Rapid Planning Project has led to the formulation of a structure for capacity development based on the five initial phases of strategic planning, namely i) Stakeholder mobilisation, ii) Mapping, iii) Urban Assessment, iv) Conceptualisation, and v) Strategy formulation. This section presents a capacity development structure that proposes objectives as well as instruments for each one of these phases.

The description of the capacity development structure will concentrate on presenting the purpose and objectives that creating capacities would bring to the different phases of strategic planning as well as the specific skills and abilities required for achieving the proposed objectives. Furthermore, the capacity development objectives and requirements of each strategic planning phase are formulated following the theory presented in Part B about the process of capacity development, proposing specific instruments to be utilised in accordance to the capacities required for the strategic and Rapid Planning processes.

The Rapid Planning Project, as an applied research process, realised several sectoral and trans-sectoral meetings, workshops and conferences in the case cities of Da Nang, Frankfurt and Kigali. Likewise, as part of the research process, the project realised activities for data collection and processing which required skill training, presentations and inter-departmental collaboration; most of these activities executed by the Rapid Planning Project are coherent with the theory of capacity development. Therefore, in order to provide practical examples to the capacity development process proposed, the activities realised by Rapid Planning are listed accordingly to the strategic planning phase that they identify with.

2.1. Capacity Development Considerations for Stakeholder Mobilisation

Enhancing the capabilities of municipal officials to ensure support for the implementation of the Rapid Planning Project requires the presence of willing and well-informed partners from both the public and private sectors. The starting point addresses the identification of stakeholders as a prerequisite to the process. In this context, all relevant actors who influence, affect, benefit or promote infrastructure development should be addressed as stakeholders. As learned from the research done in Frankfurt am Main[3], the relevant actors in infrastructure development are generally municipal offices, public or private service provision companies, as well as the local planning and environment departments (Peterek *et al.*, 2019). Public and private institutions related to infrastructure technology as well as construction companies should also be considered. Likewise, universities and research centres that connect theory with the praxis in infrastructure development should be addressed as they can provide valuable insights and widen the perspective of development.

In the community participation aspect, in order to make sure that the local community is on board and that their interests and concerns are considered, community representatives are seen to be an essential partner to infrastructure development. Active participation of the local community at this early phase increases the legitimacy of the projects, as well as facilitating the cooperation with the residents of the targeted areas, especially in the later phases of the work, i.e. Data collection and pilot projects.

Strategic Planning Phase & Objective	Capacities Assessment			Capacity Development Strategy		Rapid Planning Activities
	Level of Intervention	Identification of Capacities	Objectives of CD	Learning Approach	CD Instruments	
STAKEHOLDER MOBILISATION Promote good governance through participatory practices	Individual: municipal officers, communities	Capacities for communication and promotion of participatory practices	Foster influential participation of diverse stakeholders in planning procedures	Communication	Multi-stakeholder meetings	Stakeholder Conferences
	Institutional: Municipal Departments and public stakeholders	Inter-departmental communication and information sharing procedures		Knowledge management	Documentation of participatory practices by municipal stakeholders	Stakeholder Analysis
	Environment: Decision makers, private companies and commu-nity repre-sentatives	Information sharing and among vertical management structures	A flexible institutional framework for participation	Leadership development	Definition of a participation strategy and establishment of communication channels among stakeholders	Sectoral Workshops
		Involvement of stakeholders external to the municipality		Partnerships and networks		Empowerment Workshops

Table 3: Capacity Development Process for the Stakeholder Mobilisation Phase

In order to effectively engage the relevant stakeholders, certain institutional capacities become essential. It is necessary to observe the current procedures of communication and inter-departmental collaboration and assess the efficacy of existing practices. Similarly, procedures for communication and

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[3] See also *"Deliverable 10 - Experiences in Infrastructure Development in the Reference City Frankfurt am Main"*

cooperation with stakeholders beyond the municipal departments need to be addressed and assessed to determine whether or not the current institutional practices, as well as available experiences will actively engage a wider spectrum of stakeholders. The assessment of the capacities for this phase should establish effective communication channels as well as a common platform where the different perspectives, interests and concerns of the stakeholders could be discussed, addressed and documented.

Moreover, it is important to allocate the respective tasks and responsibilities for planning and implementation of the approach to capable and interested stakeholders who are invested in future developments. Thus, the responsibility of coordinating the mobilisation, exchanges and motivating stakeholders falls on the public administration. Organising stakeholder conferences to discuss the strategic/Rapid Planning approach, bilateral meetings or workshops to establish communication channels between stakeholders are effective instruments for capacity development.

Empowerment Workshop

In this context, an Empowerment Workshop is seen to help the local partners enhance their institutional capacity to formulate a trans-sectoral vision for the future development, together with the participation of the stakeholders. In principle, this vision addresses the future desired by the development partners and it is usually formulated in the form of one ambitious development goal, or more, that all participants are keen to achieve. Later, this vision is to be amended by different trans-sectoral groups representing each of the major development sectors in order to identify the objectives, through which a full achievement of the stated development vision can be made possible, from the different points of view of each sector. These objectives must be specific, measureable, achievable, relevant and timely and they are often referred to as the sectoral defining objectives. The trans-sectoral groups continue to dissect these objectives in order to conclude the sectoral obstacles that can hinder the desired progress towards achieving the sectoral defining objectives. When identified, these obstacles will indicate the required milestones, or intermediate objectives, that are required to overcome the stated obstacles. It must be noted that these sub-objectives should not represent any form of solutions as this can severely limit the options for the formulation of action plans.

After a round of prioritisation of the approved milestones, an actual working plan including all possible sets of actions for each sector could be issued in order to meet the demanded contributions from each sector to the overall development vision. It could be concluded, therefore, that Empowerment Workshops are seen to serve as a mechanism for consensus building among a variety of development partners and stakeholders with regard to future development.

This agreement is to be built on the basis of a common understanding of the current situation at hand as well as of the consequences indicated by the analysis of enacted plans and development policies.

Figure 29: Example of an Empowerment Workshop

2.2. Capacity Development Considerations for Mapping

The strategic planning phase of mapping aims at generating the data and information needed to analyse complex urban settings. Different planning and infrastructure sectors, service providers and communities are seen as major stakeholders as well as valuable sources of information. The mapping and data generation processes require intense stakeholder engagement as well as trans-sectoral cooperation. Obtaining the information and data necessary for the Rapid Planning process constituted an essential part of the project and the research activities in the field. The goals of data generation and spatial modelling coincide with the mapping objective of strategic planning in collecting the necessary information about the planning area to being able to analyse the population, development and needs trends. Establishing an integrated digital data-warehouse with current and accessible information for all urban infrastructure sectors allows the sharing of the same parameters of information among all the stakeholders. The main focus of the Rapid Planning data gathering activities was to acquire the information about demand and supply of public services, as well as population and urbanisation patterns.

Generating reliable data at this phase is fundamental to the success of the overall planning progress. This requires the stakeholders to create or develop capacities in data collection and processing. The collection process requires training of a diversity of actors e.g. communities, students, municipal officers, service providers, etc. There is an essential capacity in preparing and conducting surveys and field observations, in order to collect reliable data that can cover the requirements of all departments.

The data processing could demand hiring processes in the municipality or consultancy from private companies to create, manage or obtain the software or technical skills required for the manipulation, storage and processing of the collected data e.g. Data digitalisation, utilisation of applicable soft- and hardware, as well as usage of geographic information systems (GIS) and computer-aided design (CAD); these technological tools can be advantageous to the implementation. Furthermore, the mapping process involves the visualisation of the data collected which requires capacities for digital modelling, as well as expertise in the presentation of data sets for the use of the other actors in the form of tables, figures, maps, etc.

These capacities are to be addressed at the individual level of the staff regarding their knowledge, skills and available tools. In terms of knowledge, relevant methods of quantitative and qualitative data collection, processing and visualisation are to be enhanced. At the institutional, an improvement of the technological infrastructure for statistical analysis, categorisation and spatial modelling should be encouraged. This infrastructural enhancement will impact directly in the technical skills of the staff, since the availability of technological tools such as computers, tablets and geolocation devices, as well as the accessibility to technologies such as remote sensing can improve the quality and efficiency of the results significantly.

It is also important to consider a regulatory framework as well as an accessible municipal platform for inter-departmental data sharing and cooperation for data generation. It is expected that enhancing these capacities can inspire a municipal inter-sectoral collaboration atmosphere, at the organisational level, which promotes a culture of cooperation and availability of information across the different sectors. Consequently, the chances for integrated, interdisciplinary and trans-sectoral planning and informed decision-making can significantly improve.

Strategic Planning Phase & Objective	Capacities Assessment			Capacity Development Strategy		Rapid Planning Activities
	Level of Intervention	Identification of Capacities	Objectives of CD	Learning Approach	CD Instruments	
MAPPING Integrated data for a holistic visualisation and understanding of urbanisation	**Individual:** municipal or external technicians and experts in data processing and statistical analysis	Skills for data collection	Institutionalisation of systematic data collection and processing methods for integrated urban development	Customised Training	Training and Recruiting	Categorisation of urban structures (Qualitative)
		Capacities for data digitalisation & processing		Knowledge Management	Statistical analysis office	Remote Sensing (GIS)
		Skills for geographical information software			Data-sharing procedures among municipal departments	Surveys sector specific data
		Technological infrastructure for statistical analysis, and spatial modelling		Organisational Strengthening		(Quantitative)
	Institutional: technological setting for information sharing	Inter-departmental framework for information sharing	Interpretation and visualisation of integrated urban data		Investment in technical infrastructure	Qualitative + GIS + Quantitative
		Medium understanding of urbanisation and existing development plans		Communication	Consultancy	Baseline Scenario
	Environment: experts and relevant stakeholders in urban development				Multi-sectoral communication	Reference Scenario
		Participation strategy for the inclusion of external stakeholders		Partnerships and Networks	PPP's	Trans-sectoral Scenario

Table 4: Capacity Development for Data Collection and Spatial Modelling

In order to enhance the needed capacities for a proper process of data generation, analysis, visualisation and modelling, training sessions can be considered as an instrument to create the capacities to use the new software. These sessions should not only incorporate a presentation of the adopted methods and user-manuals but also introduce the mapping procedure and focus on the workflow between the different steps, all in relation to the purposes of the overall implementation.

Building a municipal platform for data can significantly increase the accessibility to information on demand, which increases the efficiency of municipal conduct and helps share relevant information with a wider spectrum of stakeholders when needed. An integrated data warehouse, therefore, is perceived as another capacity development response to support the institutional capacity of data provision of the stakeholders. The provision of tangible capacities such as necessary soft- and hardware, technical equipment and access to certain technologies and services should be guaranteed.

At the end of this phase, it should be assumed that the stakeholders leading the data generation and modelling process are capable of providing the required data sets and information for the later phases of the implementation, especially for assessment and conceptualisation. The outputs of this phase are to be gathered, documented and made accessible. During implementation, there could be a need to revisit some data-sets for further investigation that is required by the later steps of the implementation or for a re-evaluation of an existing issue or an emergent one.
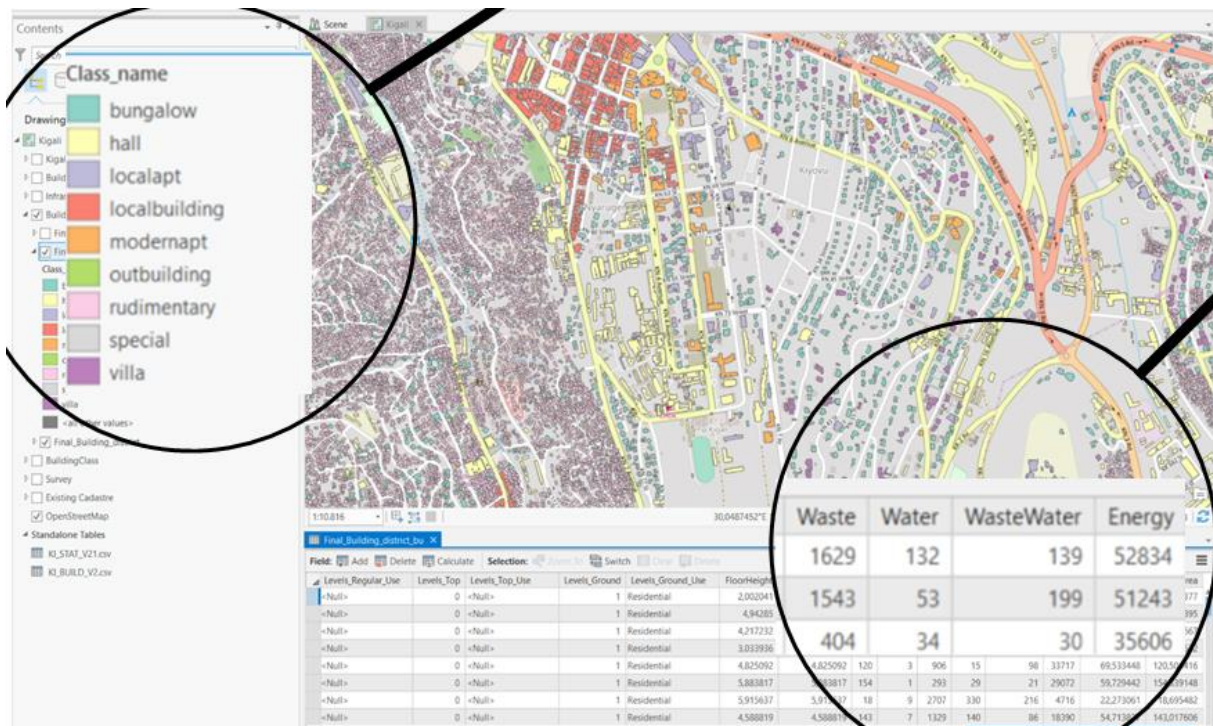
Figure 30: Example of Modelling/Visualisation Process for Rapid Planning

2.3. Capacity Development Considerations for Urban Analysis

Based on the outputs and materials produced by data generation and spatial modelling, the process of urban analysis can produce an integrated spatial assessment of the conditions of the built environment and the most pressing needs of the city in terms of urban infrastructure and service provision in the area of implementation. This spatial assessment serves as a basis for the different stakeholders to discuss the current issues of development as well as the future plans and policies based on a common understanding and informed points of view. It should be noted that producing the visualisation of the available data in a simplified manner is important for the stakeholders, especially the decision-makers, to help them read the reality of the city and steer development towards the improvement of the urban condition.

To achieve the purpose of this phase, an active engagement of a variety of stakeholders is important to enriching the discussions, widening the perspectives and validating positions on the variety of issues of urban and infrastructure development. Therefore, the different stakeholders should be embodied by credible representatives with sufficient decision-making power to influence the direction of development. The participation of the relevant municipal departments, planning authorities, local community and local expertise is crucial at this phase. They should also promote a trans-sectoral mind-set among the stakeholders and encourage them to gain a general understanding of the outputs of data generation and spatial modelling, especially about the current demands of the development and the limitations of the available resources.

Therefore, the diversity of stakeholders ensures that some participants have the capacities to transmit the knowledge about local urbanisation trends and challenges, while others, can bring knowledge about the planning system, as well as the applicable regulations and planning instruments. This type of institutional capacity is crucial for a proper spatial analysis, since it establishes the initial condition of

development along with a framework and a common language for the stakeholders coming from different areas of practice or expertise, producing a holistic understanding of the urban conditions, development needs and challenges.

Similar to the former phase, a stakeholder conference, organising a scenario development workshop or a series of similar workshops and bilateral meetings with the stakeholders transforms into a communicative and learning-by-doing process. These instruments for capacity development can spread knowledge across a variety of development sectors and, at the same time, provide a platform for the stakeholders to examine, reflect and establish an integrated understanding of the conditions of existing infrastructure and the demands of the municipal development plans for the future.

As an outcome this phase, the stakeholders should have a general idea of urbanisation processes, challenges of urban and infrastructure development and availability of resources as well as to the definition of the scope and limitations of the existing development policies and plans.

Strategic Planning as a Capacity Development Process					
Strategic Planning Phase & Objective	Capacities Assessment			Capacity Development Strategy		Rapid Planning Activities
	Level of Intervention	Identification of Capacities	Objectives of CD	Learning Approach	CD Instruments	
URBAN ANALYSIS Support and promote participatory urban planning and informed	Institutional: Experts from municipal departments	Medium to advanced knowledge of existing municipal development plans	Generation of a participatory urban analysis process for the holistic understanding of the urban condition, development needs and challenges	Communication	Establish inter-departmental collaboration and communication strategy	Urban metabolism
						Environmental impact assessment
				Knowledge Management	Recruiting	Appraisal of the current condition of existing infrastructure
	Environment: representati-ves of communities, private sector and external relevant stakeholders	Medium to advanced understanding of rapid urbanisation processes, patterns, and challenges			Consultancy	
				Exposure	Define a participation strategy for urban assess-ment for relevant stakeholders	Appraisal of future infrastructure needs
				Organisational Strengthening		

Table 5: Capacity Development Process for Urban Analysis

2.4. Capacity Development Considerations for Conceptualisation

As an essential component of the Rapid Planning Project, trans-sectoral planning builds on the results of the urban analysis to identify potentials for development plans. In principle, these plans should have a greater chance to achieve the development goals and they should fall in line with the local planning regulations and enacted development policies. Based on a close examination of the consumption and disposal of energy, water, waste-water, solid waste and food, trans-sectoral planning capitalises on the interpretation of material flow analyses to close the life-cycle of as many materials as possible i.e. Utilising the outputs of one infrastructure sector as the main input for the functioning of another sector. Decreasing the depletion on the natural resources and reducing the production of waste products by reusing or recycling them would increase the efficiency of existing infrastructure and ease the pressure

on the natural resources reducing the environmental footprint of urbanisation. However, this would require a shift from conventional sectoral planning, where sectoral affairs are managed in an isolated manner, towards an integrated approach of trans-sectoral planning, where inter-departmental communication and collaboration are the foundations of planning practices. This will also involve a municipal commitment to investing in new solutions and appropriate technologies that enable beneficial transactions across the sectors. A proper trans-sectoral planning process necessitates the availability of extensive knowledge of the features of available technologies. It will also require the institutional capacity to drive the required change in the municipal management and further shape, regulate and empower the growing practice of inter-departmental collaboration.
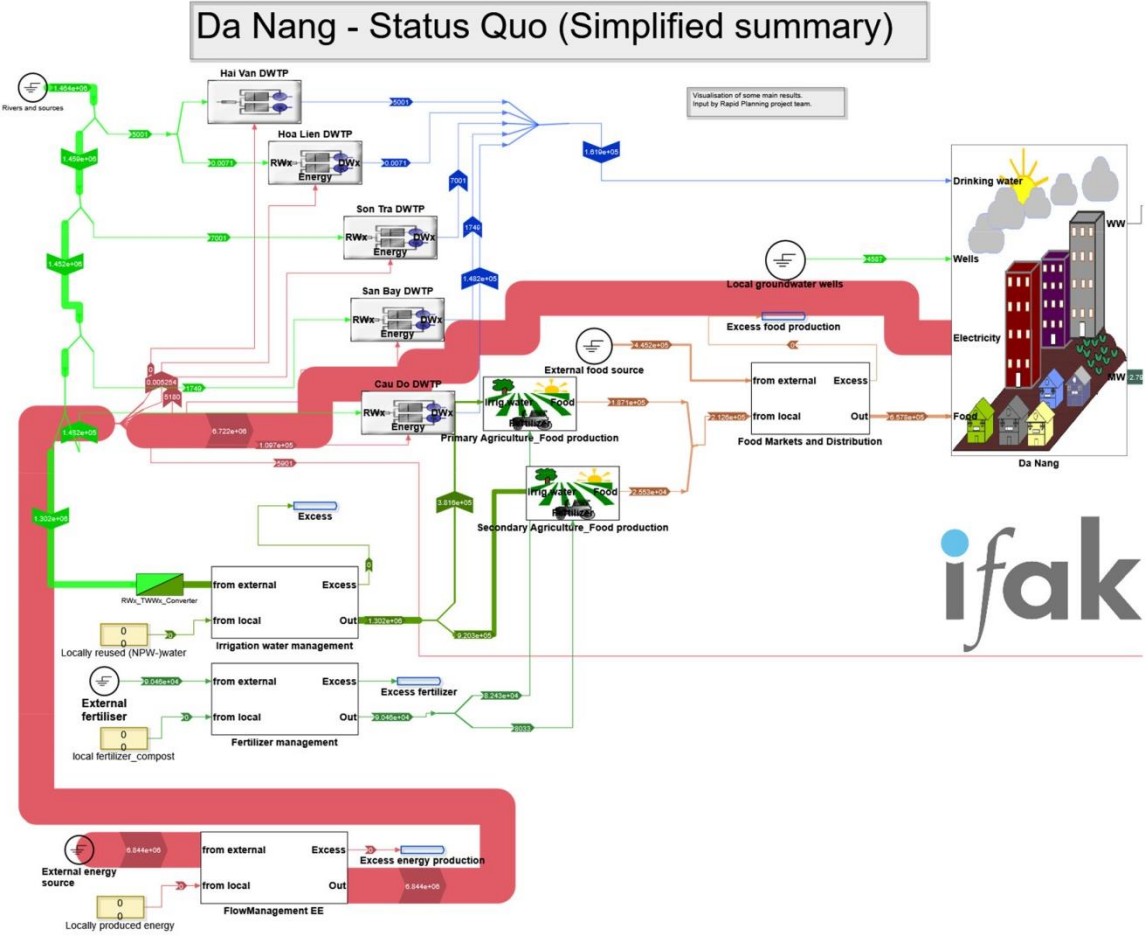
Figure 31: Example of a Material Flow Analysis for the Status Quo of Da Nang Within the Rapid Planning Project ©ifak 2018

Similar to the former phases, the active engagement of a variety of stakeholders representing the main sectors of service provision, local communities as well as policy-makers are also seen necessary in trans-sectoral planning. Additionally, the presence of the private sector and consultancies related to infrastructure solutions, construction and development are considered to be an advantage to the process as it can secure access to recent technologies and applicable knowledge, and increase the creativity and innovation in development.

Keeping in mind the institutional capacities suggested for spatial analysis, a trans-sectoral planning process requires the stakeholders to consolidate their expert knowledge in each of the infrastructure sectors as well as in sustainable practices for urban development in general. Expanding this knowledge by reviewing global experiences and examples of development practices or consulting specialised companies lead the municipality to innovate and utilise more sustainable approaches to infrastructure development or potential combinations of different technologies and solutions that fit with the urban settings of the area of implementation.

Based on the modelled results of the urban analysis the stakeholders are in capacity to introduce a concept for future development. The optimisation of material life-cycles through trans-sectoral technologies can produce a more efficient proposal for future development. Comparing a diversity of proposal and scenarios for development can provide the decision-makers with a solid basis to implement, amend or to alter the existing development plans based on real information. Visualisations and spatial models are also very relevant in this phase to help decision-makers comprehend complex development scenarios that could otherwise be overloaded with information. As in the previous phases, it is continuously important to promote a municipal working environment of collaboration and trans-sectoral thinking and provide a regulatory framework as well as a municipal platform that facilitates and encourages inter-departmental cooperation and collaborative planning.

Strategic Planning as a Capacity Development Process						
Strategic Planning Phase & Objective	Capacities Assessment			Capacity Development Strategy		Rapid Planning Activities
	Level of Intervention	Identification of Capacities	Objectives of CD	Learning Approach	CD Instruments	
CONCEPTUALISATION Promote and institutionalise integrated urban planning processes	Institutional: Experts from municipal departments	Medium to advanced understanding of urbanisation processes,	Institutionalisation of participatory urban planning and informed decision-making processes	Communication	Interactive discussions and workshops with the stakeholders	Definition of applicable sustainable infrastructure development
		Expert knowledge about sustainable practices for urban develop-		Knowledge Management	Consensus on development objectives	Identify trans-sectoral
	Environment: representatives of communities, private sector and external relevant stakeholders	Local knowledge about urbanisation issues		Organisational Strengthening	Inter-departmental collaboration strategy	Definition of the Rapid Planning trans-sectoral development scenario
		Skills for promoting participatory urban planning			Definition of an integrated urban development vision	

Table 6: Capacity Development Process for Trans-Sectoral Planning

Empowerment and trans-sectoral workshops are seen as good instruments for capacity development at this phase. Both kinds of workshops, one for defining long and medium-term development visions, and the latter to define short-term objectives of infrastructure development are seen to contribute to the individual and institutional capacities of the stakeholders to properly manage an active decision-making process. In this context, empowerment workshops are seen to help the stakeholders conceptualise their development vision and goals, define the required sectoral contributions to the overall development, identify the sectoral obstacles that can hinder the desired progress, formulate

feasible action plans in order to overcome these hindrances and move forward towards the goals. Trans-sectoral workshops help the stakeholders explore the potential of trans-sectoral applications, refine them together with sectoral expertise and finally lead the discussions regarding the future development towards strategies for implementation. On this basis, empowerment and trans-sectoral workshops help the advancement of the Rapid Planning Project as well as to develop the capacities of the stakeholders to examine, reflect and approve an integrated development model for the future as well as to acquire necessary sectoral inputs and spread knowledge across the sectors.

Trans-Sectoral Workshop Guidelines – Scenario Definition

The RP team has developed a scenario simulator consisting of sectoral and trans-sectoral models of the water, wastewater, energy, waste and urban/food agriculture. The simulator will produce trans-sectoral models, as simplified representations of reality, based on existing data and information of sectoral supply and collection infrastructures.
General workshop objective: Produce a set of strategic clear action plans for the implementation of a previously defined urban development goal.

Stage 1: Urban Development Goals Definition
Stakeholders: Planning/ Urban Development Department & Representatives of the Main Sectoral Actors.

Specific objective: Create consensus on an urban development goal and sector specific goals
• Step 1: The stakeholders define and agree on a general development goal, time-frame and scope
• Step 2: The stakeholders discuss and define sector-specific goals with a focus on trans-sectoral linkages and synergies.

Stage 2: Trans-Sectoral Development Scenario
Stakeholders- Plenum: Planning/Urban Development Department, Sector Experts, Infrastructure Development Actors, Senior Partners and Operation Level in each sector.

Specific objectives:
• Understand the current situation of the city.
• Identify sectoral synergies and alternatives for urban development.
• Produce proposals of trans-sectoral development: preliminary scenario outlines
• Definition of a development scenario for the city

Knowledge and sector expert workshop experiences should be available as reference for the scenario definition process, summarised into a set of sectoral maps. These maps display the existing and planned infrastructure and content from the masterplan regarding urban development. The maps also contain key data and information in text boxes: Key facts, major trends, masterplan/strategies goals and empowerment workshop results.
• Step 1: Definition of possible trans-sectoral scenario outlines on the basis of key sectoral data and information, general development goals, sector-specific goals, potentials and challenges.
• Step 2: The scenario outlines are documented in a compact scenario document containing explanations and data for different time lines, i.e. baseline scenario (status quo of the city), reference scenario (future without trans-sectoral planning) and trans-sectoral scenario.
• Step 3: The preliminary scenario outlines are discussed from a sectoral perspective in relation to urban development and with an emphasis on trans-sectoral linkages, revised and finalised with the input of all the participants.

Figure 32: Guidelines for a Trans-Sectoral Workshop

2.5. Capacity Development Considerations for Strategy Formulation

The Rapid Planning Project as a capacity developing process increases the stakeholders' capacities to lead efficient and effective urban planning and infrastructure development. It establishes a good understanding of existing situations, the implications of the implementing existing development plans and policies and producing an integrated trans-sectoral development alternative that has more potential to achieve the desired development goals with less time, efforts and resources. While the project does not go to the actual specific project implementation of the trans-sectoral development strategies, it provides the stakeholders with sets of recommendations concerning the formulation of strategies that are required to make trans-sectoral plans a reality.

Informed decision-making encourages the stakeholders to integrate the regional dimension into the process of planning and policy-making, formulating feasible strategies for the future implementation of the trans-sectoral approaches to infrastructure development. The goal is to promote self-sufficient regions and closing the life-cycle of resources e.g., water, energy, food, waste-water and solid waste, within the boundaries of the region, to avoid the importation costs and secure a regional added value that can be mobilised to support the intended implementation. Further, strategy formulation based on regional and local perspectives of planning encourages the stakeholders to revisit the planning system including the planning regulations and instruments. This is in order to promote accountability and support participatory, collaborative and trans-sectoral processes. Since these processes are considered to be a key to the implementation of the Rapid Planning Project, introducing constructive changes to existing planning practices is crucial.

This phase provides general guidelines for strategizing, involving changes in institutional settings and management. In this context, adjustments with regard to administrative structures, regulations and legal enforcement, municipal management and allocation of finances should be considered. Change, however, should not only be limited to the administrative aspects of a municipality but also go beyond the regulatory frameworks to establish a municipal environment of inter-departmental communication, cooperation and coordination and make room for new technologies and more efficient municipal procedures. Raising awareness and capacity development are essential fields of change management; both are also important to help the stakeholders depart from a mentality that is shaped by long practices of isolated sectoral planning into a mind-set of integrative and trans-sectoral thinking.

In order to for the stakeholders to enforce a process of informed decision-making that takes the mentioned aspects of strategy formulation for regional integration, planning systems and change management into account, it is important to continue engaging the sectoral experts from the municipal departments to assist and guide the policy-makers throughout the formulation of the required strategies. This involvement can increase the commitment of the municipal departments to integrated development. Also, it could secure the coherence of development policies in the long term, especially in the case of changing municipal administrative cycles or political shifts at the level of decision-making.

In this sense, the Rapid Planning Project could be utilised as an opportunity to support a localised model of good urban governance that is built on the basis of accountability and participation. Thus, this phase can require certain capacities, among them, the stakeholders should acquire experience regarding the utilisation of sustainable technologies in the fields of urban and infrastructure development. They should also acquire capacities to bring all the participatory processes that took place along the former phases to a fruitful conclusion. The goal is to make sure that the variety of diverse perspectives and interests of the stakeholders are represented in the formulated strategies and will be carried on to the implementation. And, it is an advantage to establish a transparent decision-making platform, on which direct communication between the decision-makers and the experts can be shared and documented.

Strategic Planning Phase & Objective	Capacities Assessment			Capacity Development Strategy		Rapid Planning Activities
	Level of Intervention	Identification of Capacities	Objectives of CD	Learning Approach	CD Instruments	
STRATEGIES FORMULATION Create an institutional culture of integrated informed decision-making for urban development Promote vertical And horizontal decentralisation processes	Institutional: Experts from municipal departments	Expert knowledge about Integrated urban development	Improve the process of good governance through participatory planning processes	Communication	Establish an institutional framework for collaborative planning	Considerations for change management Lessons learned for integrated and participatory planning processes
		Institutional capacities for supporting participatory planning processes		Knowledge Management	Multi-stakeholder workshops	
	Environment: representatives of communities, private sector and external relevant stakeholders	Framework for participation and communication between municipal departments, communities, private sector and decision makers		Partnerships and Networks	Establish policies for the institutionalisation of participatory planning and integrated urban development	Capacity developments materials for different target groups
				Organisational Strengthening		

Table 7: Capacity Development Process for Informed Decision-Making

As part of the capacity development activities for change management and strategy formulation, the Rapid Planning Project produced a series of International Capacity Development Workshops for the municipal officials of the case cities in Frankfurt. The goal was to provide the stakeholders with an overview of the Rapid Planning Project, discuss the research activities in the case cities of Assiut, Da Nang and Kigali, as well as the required capacities to lead the successful implementation of the project and to foster an exchange of experiences between the cities.

Providing such insights from the project as well as from relevant international experiences and implementation models can support the local processes of strategy formulation and informed decision-making. Both stakeholder and capacity development workshops are considered to be instruments of a potential implementation of the Rapid Planning Project. In order to sustain the knowledge transfer of these activities, a series of documentation and capacity development materials were discussed with the stakeholders to help them further disseminate the knowledge produced or collected by the project among the municipal offices.

At this phase, the stakeholders can carry out a transparent process of informed decision-making that engages the sectoral experts from the municipal departments and represents the interests and addresses the concerns of the diverse stakeholders involved in development. This process should be a starting point for good urban governance that stresses the importance of institutional accountability.

Conclusions

In order to lead the successful implementation of the Rapid Planning Project, certain capacities at the individual level become necessary. These are mainly the capabilities of the municipal personnel to collect quantitative and qualitative data, mainly through surveying, to process these data sets, to materialise the generated information in a variety of forms such as tables, figures, maps, plans and models. The ability to produce visualised information legibly can significantly improve the communication among the development partners, stakeholders and decision-makers. Having access to relevant technologies such as remote sensing and geo-location devices is considered to be an advantage. This is in addition to modelling and simulation tools such as the Rapid Planning Simulator as well as other relevant software such as Computer-Aided Design (CAD) and Geographic Information Systems (GIS). Similarly, it is also an advantage to have sufficient knowledge of sustainable practices with regard to urban planning, infrastructure development and service provision. The institutional level of capacity development is particularly important for the potential implementation of the Rapid Planning Project. This is due to the high extent of stakeholder engagement and inter-departmental collaboration that is required throughout the whole process of implementation in order to advance its course. The institutional capacity to establish communication channels and collaboration platforms for information sharing, discussion and decision-making as well as to regulate and lead administrative processes of an interdisciplinary nature is considered to be vital for potential implementation of the approach. On the long term, the course of research activities of the Rapid Planning Project including the indicated capacity development responses are seen to encourage the stakeholders to influence their working environment and inspire a shift from isolated practices of urban planning and infrastructure development to integrated development models that are based on inter-departmental collaboration and trans-sectoral thinking.

Capacity development is a continuous process that cannot be limited to certain measures such as training courses and development sessions. In order to enhance the addressed capacities of the stakeholders, therefore, all other forms of fieldwork and research activities performed by the Rapid Planning Project are also seen to enhance the knowledge, skills and accessibility to relevant tools and technologies of the stakeholders. In this context, the series of Stakeholder Conferences, Scenario Development Workshops, Empowerment Workshops and Trans-sectoral Workshops of the Rapid Planning Project are seen not only to advance the progress of the research but also to enhance the capacities of the stakeholders and to complement the role of the Capacity Development Workshops as well as of the training sessions. To sustain the impact, a series of documentations and capacity development materials were produced to support the stakeholders disseminate the knowledge collected or produced by the project and its activities among the municipal offices. A thorough documentation of the overall process preserves the procedural knowledge, promotes transparency and accountability and increases the institutional capacity of the stakeholders to initiate more project of a similar nature.

In the context of the Rapid Planning Project, capacity development is considered to be an integral component rather than an isolated development measure. It introduces its suggestions with the acknowledgement of the important role of the stakeholders to localise the suggested measures and put them within their local context.

APPENDIX

Best Practices in Capacity Building

Good practices are examples to enrich the understanding needed for capacity development processes in relation to the Rapid Planning Project. This document looked into the best practices presented in the Urban Nexus Project (GIZ and ICLEI, 2014)*, as well as the examples documented in the UNDP report by Lopes and Theisohn (2003).*

Comparing the results and lessons learned from these best practices with the capacity development levels of intervention and principles described earlier, it is clear the importance of defining a locally tailored capacity development process that understands the context and addresses the specific needs of the population. However, in the lessons learned from these projects (see appendix) some similarities among diverse contexts can be highlighted and related to the theory of capacity development for sustainable development.

The review of these examples illustrate the importance of the levels of intervention for capacity development, making especial emphasis on the societal level represented by the reiterated focus on community participation which questions the existing governance structures and rigidity of regulatory frameworks, calling for flexible adjustable instruments for planning and development. Moreover the projects exhibit challenges related to the sustainability of implementation, highlighting the importance of a long-term vision for both urban and capacity development, as well as a long-term plan for financial sustainability including international aid institutions.

The lessons learned from diverse projects indicate the need for an enabling environment where governance structures are strengthened through decentralisation, bringing the process to the level of institutions, where the local context becomes crucial for the definition of local development processes. Furthermore, at the institutional levels, the introduction of governance procedures would imply the participation of a diversity of actors and demand multi-stakeholder collaboration as well as consensus building among actors, based of good practices pf communication along with transparency in decision-making and accountability of political institutions.

On the individual level, when we consider communities as the recipients of urban projects, capacity development highlighted the feasibility of proposing and implementing low-cost projects, as long as communities and the governments reach consensus about partnerships, project ownership and appropriation of interventions.

Therefore, for the further development of this paper, it will be recommended that the design of measures and activities for capacity development in the later steps of the research project should take into account a sufficient involvement of partners, as well as knowledge materials that stimulate capacity development on the individual, organisational and the overall working-environment levels. Since capacity is found at these three levels, a complete presence of capacity development on the three of them would show significance to the desired overall success of capacity development measures.

Furthermore, regarding the steps of implementation, a capacity development measure is recommended to integrate all stakeholders in the early stages of preparation. These could be relevant organisations, civil society groups, universities and research centres, private institutions, public entities and local governments. This step is essential to define the current assets and urgent needs for capacity development, roles to be assigned to each partner, plan and scope of the development measure and finally the implementation, monitoring and evaluation of mechanisms. Here, it is important to mention that the Rapid Planning Project effectively sets the stage through mapping the relevant sectors, governance structures, political economy and stakeholder analysis. For a smoother implementation, a proposed measure is preferred to coordinate with the currently-existing capacity development projects, if possible. Since the targeted organisations would operate more likely through their current systems and will not develop independently from their contexts, the proposed measure should adhere to the national planning and budgeting procedures, if applicable. It should also utilize simplified and user-friendly tools that are based on previous experiences.

In accordance with the methodology and proposal of the Rapid Planning Project, a proposed capacity development measure should intrinsically address the enhancement of work efficiency within the targeted municipal entities. As an action field, therefore, a capacity development measure should identify and promote the necessary institutional arrangements together with the local partners. Enhancing the skills of the municipal leadership to inspire, motivate and influence a wider spectrum of individuals to achieve the desired development objective and promote proactive thinking is yet another major field of action. Also, transferring well-defined knowledge elements to deal with specific aspects in a simplified manner could effectively enhance the individual capacities. In this action field, it is also considered to be very influential to equip capacity development measures with effective educational systems and policies to spread the knowledge. Inspiring accountability is an important action field, where systems of monitoring, self-regulation and feedback captioning, as well as transparency and future legitimacy for decision-making, should be promoted for better overall outcomes of the development process.

The overall goals of such capacity development measures, if applied within the frameworks of the Rapid Planning Project, could promote the institutional participatory processes as well as public participation in defining and handling the current problems. The technical cooperation, transfer of technology and know-how processes could be effectively shared. In addition, proactive thinking and responsive institutional structures could be addressed and enhanced. In a similar manner, the promotion of trans-sectoral thinking would help the cities to better deal with their environmental and urban development challenges. And finally, such development measures would promote the concept of institutional capacity in both public and private spheres, which can cause a lasting impact on a wider scale. It is important to remember, however, that the Rapid Planning Project is an external partner and thus it cannot enforce capacity development on the local stakeholders or their institutions, but rather support the establishment of a lasting capacity development process that encourages the individual will to change, develop and learn.

Continuous processes of building trust and awareness about the challenges in the different infrastructure sectors, along with political will and commitment are fundamental to make the projects succeed and to mobilise local partners. Economic feasibility of the projects, with adequate financing time periods, private sector involvement and diversification of funding sources enhances the project´s transferability and capacity to expand. Lastly, an adequate amount of time and human resources, as well as a flexible and well-integrated administrative set-up with clearly defined performance measures and indicators, are also some other key elements to support city planning processes and to achieve an efficient and effective urban progress.

Summary: Casebook of Experiences and Lessons

- *Nashik, India:* Demonstrating the Urban NEXUS approach to optimize water, energy and land (Thakur and Kumar, 2014).
- *Vancouver, Canada:* Targeting NEXUS food security: Vancouver's Regional Food System Strategy (Kanuri, 2014).
- *Hannover, Germany:* Kronsberg District - scaling up integrated planning with KUKA (Price, 2014).

- *Tianjin, China:* A bilateral institutional NEXUS for cutting-edge sustainable metropolitan development (Weiss, 2014).
- *eThekwini, South Africa:* Urban NEXUS opportunities at the Mariannhill Landfill Conservancy Plant (Cauchois, 2014).

Each case was reviewed to provide a rough summary regarding the location of the program, involved sectors or service provisions, developed program, trans-sectoral application, stakeholders and cooperation nature, outcomes of the development, economic feasibility, transferability, lessons learned and suggestions, as well as the current situation of the development.

Nashik, India

Nashik is a city located in the north-east side of the Maharashtra region, 160 kilometres away from Bombay. The Urban Nexus approach was adopted there to introduce a collaborative design and the implementation of a set of innovative solutions and programs for optimizing water, energy and land resources in peri-urban agricultural practices.

The stakeholder group decided to implement several pilot projects in the Makhmalabad area, at north of the city, in order to improve resource productivity. Management and optimized utilization of energy and groundwater were the main aims of these projects, to reduce the impacts of limited resources on farmers and, therefore, local production. Four pilot projects were conducted in this area:

- Evaluation of the Performance of Agricultural Pump Sets
- Creation of a Groundwater Recharging System
- Mapping of local Biogas Potential
- Promotion of Agro-education among School Children

All four projects are interlinked and demonstrated a successful example of well-coordinated planning that is required for efficient urban interventions. The stakeholder group consisted of more than 30 representatives from different institutions at district and state level, as well as from different departments within the Nashik Municipal Corporation. These stakeholders represented departments and institutions that are primarily involved in decision-making processes regarding the water, energy and food sectors. In addition, the Nashik Municipal Corporation signed a tripartite project agreement, between the community, the Municipality and ICLEI South Asia.

The outcomes of the implementation of the Urban NEXUS approach in Nashik are visible at many levels. First of all, it resulted in an interlinked systemic strategy that aimed to address several issues at the same time. The establishment of basic measures resulted in an integrated and comprehensive manner. It also improved the inter-departmental coordination, and multi-level governance was achieved through the involvement of stakeholders from the district to the state level. Concerning technical matters, the energy efficiency was improved and higher resource efficiency was accomplished by promoting the recuperation of non-functional biogas plants. Also, mitigation measures towards climate change were developed. Training and capacity building of local farmers helped in sensitizing them to the utilization of energy efficient pumps. Likewise, the awareness of students from municipal schools was raised and, consequently, on a larger scale within the community. This raise of awareness resulted in a greater community appropriation and engagement.

The project was implemented with modest funds under the Urban NEXUS and there were significant in-kind contributions from the Nashik Municipal Corporation. The technical expertise was supported by Groundwater Survey and Development Agency (GSDA) and KK Wagh Agricultural College of Engineering and Technology.

The Nashik Municipal Corporation, along with other involved stakeholders, has expressed their interest to replicate the project to the entire city with the help of external technical and financial support. However, although the Nashik Municipal Corporation is interested to invest in infrastructure improvements, it will still need support in terms of foreign development assistance to bridge institutional and thematic silos.

The four pilot projects planned for the ''Operationalization of Nexus Approaches in Nashik City'' project have been concluded in 8 months, from December 2013 to July 2014. This project brought many lessons; some of them are listed below:

- Bringing together multiple levels of governance requires considerable time.

- Limited time and human resources can shape an Urban NEXUS outcome.

- Creating openness to the Urban NEXUS approach is crucial.

- Building trust with communities is a make or break factor.

- Political will and commitment ensure that an Urban NEXUS project will take flight.

- Building awareness is a continuous process.

Figure 33: Demonstration of the New Pumps to Local Farmers

(Thakur and Kumar, 2014, p. 7)

Vancouver, Canada

This project was selected due to its connection to the Urban Agriculture sector. The program developed in this Canadian city is called the "Vancouver Regional Food System", which seeks to address the challenges of contemporary global food systems through a multi-pronged strategy that involves various levels of the metropolitan administration and a variety of private stakeholders.

Given the multi-sectorial nature of food systems, a process was developed to involve a wide range of participants: farmers, food processors, distributors and retailers, public health authorities, municipalities, NGOs, community groups, academia, provincial and federal governments and their agencies. Also, the involvement of "Metro Vancouver" as a key stakeholder was crucial. Metro Vancouver is a is a federation of 21 municipalities, one Electoral Area and one Treaty First Nation that has three broad roles: to provide core utility services, i.e. Water, sewage and drainage, and solid waste management, to its members, to carry out planning and regulatory responsibilities related to the three utilities, as well as to develop and implement strategies related to issues of regional interest and to serve as the main political forum for the discussion of significant community issues at the regional level. It is a political body operating as a regional district and an administrative level of government. Apart from the Metro Vancouver Housing Corporation (MVHC), other three separate legal entities were included: the Greater Vancouver Regional District (GVRD), the Greater Vancouver Water District (GVWD), and the Greater Sewerage and Drainage District (GVS&DD).

The institutional Nexus between public and private stakeholders enabled the Metro Vancouver Board to set the primary goals:

- Increase the capacity to produce more local food;
- Improve financial viability of local farmers and food processors;
- Encourage people to adopt healthier diets;
- Reduce waste in food system;
- Protect the ecological health of the region and surroundings waters.

The project successfully achieved the first implementation of the regional management plans. In addition, the tax farm policy was reviewed by the Ministry of Community and Rural Development in order to ensure a fair and equitable evaluation system. Also, through proposed initiatives at different administrative levels, the Regional Food System serves as a model for the governing institutions not only of other regions and provinces in Canada, but for other countries as well.

Several lessons can be learned from this project. First of all, the Regional Food System institutionalizes an inter-sectorial approach to sustainable development, as it integrates different sustainable management plans regarding waste management, water and air management food system. To achieve an efficient planning, it was required flexibility and a well-integrated administrative layout that could oversee the regional management plans, as well as clearly defined performance measures.

Nowadays, the Vancouver Regional System is still ongoing and it takes part of the local food goal of the Greenest City 2020 Action Plan (GCAP). The target is to increase city and neighbourhood food assets by 50% by the year 2020. Also, current initiatives at the municipal level are supported and taken into consideration for the proposal of further action towards achieving the objectives of the Regional Food System Strategy. More information about the program is available on the website http://vancouver.ca/people-programs/vancouvers-food-strategy.aspx
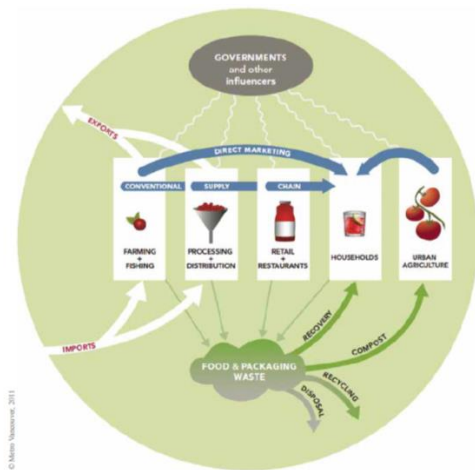
References

Figure 34: Regional Food System Strategy.
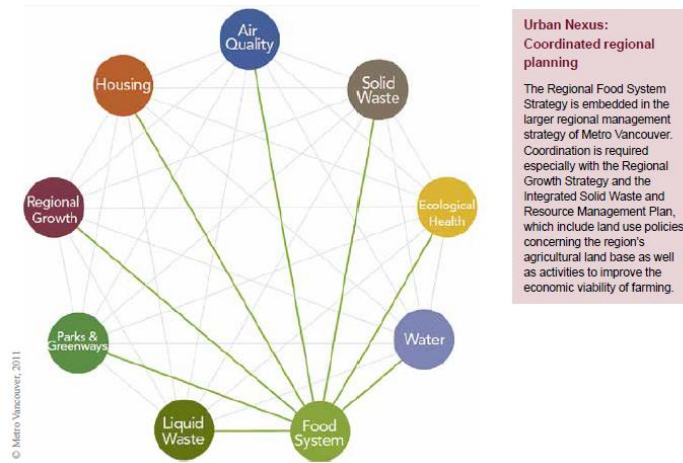Source: (Kanuri, 2014, p. 4)

Figure 35: Coordinated Regional Planning.
Source: (Kanuri, 2014, p. 6)

Hannover, Germany

The city of Hannover, located in the northern part of Germany, decided to create a new ecological district in order to solve its problems of affordable housing and social inclusion. This district would follow the three main concepts of the World Expo 2000 (humankind, nature and technology) that took place in the city and of what it would be the main attraction. The new district was then named Kronsberg and is an excellent example of how an ecological, economical and socially inclusive community can be achieved through scaling up technologies, behavioural changes and an integrated planning.

The plan of the district included leading-edge concepts for ecological optimization, which included energy, water, waste, soil management, and mobility for a mixed-use, socially inclusive residential and commercial community. In this project, the involved stakeholders were the City of Hannover's World Exposition Planning Group, the Environmental Planning Group, and the Directorate of Health, Youth and Social Services. Their responsibility was to plan and implement Kronsberg's ecological, economic, and social aims. In addition, the approved advisor to communicate recommendations to the City Council was the Kronsberg Advisory Council.

The Kronsberg-Umwelt-Kommunikations-Agentur GmbH (KUKA) participated as well as the coordinator of every stage of the planning and implementation process. This agency worked with city officials, urban planners, builders, future residents, and visitors alike. Its responsibility was to coordinate and monitor the quality of the planning and construction of the district, as well as to provide training and consultation services in the areas of waste, nutrition, energy, water, community work, soil, mobility and green areas. Also, and maybe its most important task, was to raise the awareness among the future inhabitants, the media, scientific experts, EXPO visitors and public in general.

KUKA was the product of joint funding by the city of Hannover together with the German Environment Foundation, the Expo Company and the European Union. Also, the non-profit trust "Förderverein der Kronsberg-Umwelt-Kommunikations-Agentur .eV" and the City of Hannover remained the primary shareholders responsible for financing the 5-year duration of the project.
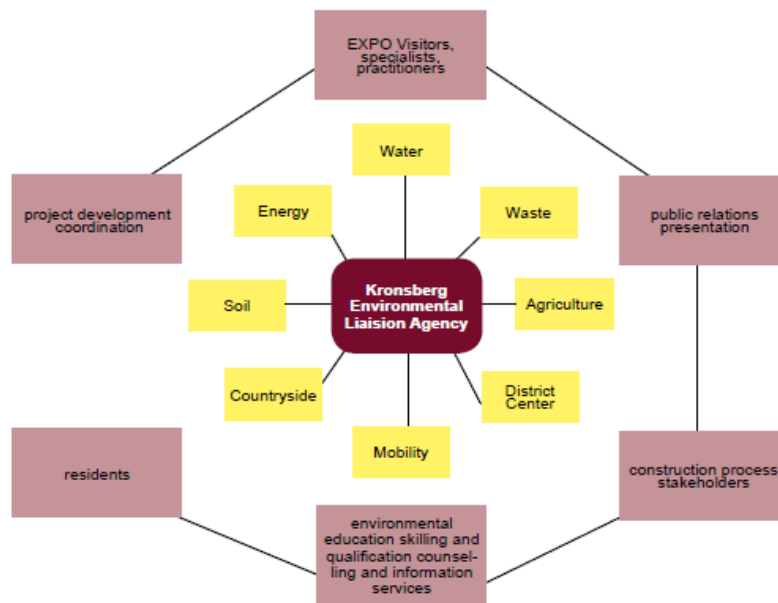
Figure 36: KUKA's Target Groups and Nexus Areas of Intervention.
Source: (Price, 2014, p. 3)

The new district gave outstanding quality control and consultation to builders and developers through KUKA's skilling and an intensive press and communications among EXPO visitors was accomplished, thanks to the KroKus information centre, guided tours of the district and an intensive media campaign.

Several lessons can be learned from this project. First, awareness raising and consultation has been and is fundamental to Kronsberg's sustainability. Second, the participation of KUKA was essential to achieve the given goals. Its efforts were heavily anchored in environmental initiatives and its onsite presence was a key factor in the success of the project.

Currently, the Hannover City Council is creating a resolution to transfer the standards used on the Kronsberg district to the entire city of Hannover (RUMMING). For its transferability, the creation of a linking committee such as KUKA is highly replicable and a recommended tool to integrate a broad spectrum of stakeholders into the planning, implementation, and end-use phases of any urban development project.

Figure 37: Layout of the Central Kronsberg District.
Source: (Price, 2014, p. 4)

Tianjin, China

Tianjin, a city located in northern China, is a model for innovative sustainable urban development through bilateral cooperation between two countries, this time involving China and Singapore. The institutional NEXUS between the governments and private consortia has resulted in a holistic Master Plan and Key Performance Indicators to ensure the Eco-City reaches its goals.

The Tianjin Eco-City master plan was a multi-stakeholder effort, supervised by the Urban Redevelopment Authority and designed by the China Tianjin Urban Planning and Design Institute, the Academy of Urban Planning and Design, and the Singapore planning team. The plan was influenced by the Singapore Neighbourhood Concept and tailored to meet the local requirements of Tianjin.

At an inter-ministerial level, the Singapore's Ministry for National Development and the Chinese Ministry for Housing and Urban Rural Development formed the Joint Working Committee, which supervises the implementation of the Eco-City project, together with the Tianjin Municipal Government. The Eco-City Administrative Committee (ECAC) constitutes the Chinese authority which governs all administrative functions in the Eco-City. Under the ECAC, there are six sub-committees in the areas of urban planning, public housing, water management, social development, transport, and environment.

The economic feasibility of this project was achieved thanks to a grant given by the Global Environmental Facility, from the World Bank. The grant is specifically designated to assist the ECAC in planning and regulating the Tianjin Eco-City project. In addition, Singapore's governmental Agency for International Economic Development launched an assistance program running from 2012-2017. The private sector heavily supports the development of Tianjin Eco-City's laboratory of cutting-edge eco-technologies.

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Figure 38: Master Plan and District Planning Structure of the Tianjin Eco-city.
Source: (Weiss, 2014, p. 4)

The approach of country-to-country bilaterally coordinated planning is rare, but this project opened up new spaces for the exchange of experiences and it definitely set a reference for other projects to come. Another important outcome was the innovative system of water-energy resource loop, which is the outcome of the collaboration with the EU-China River basin Management Program that advises the Eco-City in water issues.

The Tianjin Eco-City project relies substantially on established government-to-government collaboration and private sector involvement from both countries. In order to realize a project of such magnitude, this kind of cooperation and investment is needed. The Eco-City is meant to function as model city for sustainable urban development and test site for emerging green technologies. It is expected that single solutions will be replicable on other scales as well.

However, one of the major challenges will be to attract residents to live in the Eco-City. To do so, an initial good transportation access is crucial for a sustained life of city. Also, the Key Performance Indicators will support the city planning processes and the involvement of the private sector in the project will be essential to enhance the Eco-city's commercial feasibility, as well as the project's potential for replication. Further NEXUS potential of integrating water, energy, food, and waste cycles are explored too.

Currently, the eco-city is still in construction and it is supposed to be completely finished by 2020. The goal is to attract 350 000 residents. For now, already 50 000 people live on the district (Asia Pacific). More information about the eco-district is available on the website http://www.tianjinecocity.gov.sg/

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Key Performance Indicators:
22 quantitaive and 4 qualitative Key Performance Indicators guide the Eco-City's development process and ensure that the highest ecological standards are met.

Figure 39: Key Performance Indicators.
Source: (Weiss, 2014, p. 5)

eThekwini, South Africa

The Metropolitan Municipality of eThekwini is located in the eastern coast of South Africa. The program realized in this city is characterized by the integration of two different services and facilities: environmental conservation and waste management, by implementing the Mariannhill Landfill Conservancy Project.

The main action of this project revolves around the planning and installation of the Mariannhill Landfill, which was projected with a two-fold strategy. In the first phase of the project, a landfill and a conservancy were built on the same place. The aim of the second stage was the generation of power from the emitted landfill gas. For this purpose, a gas-to-energy power plant was built. Its construction is part of a wider GHG emission reduction policy, which encompasses the collection of methane gas of two additional landfills in Durban, eThekwini´s main city.

This project is a one-of-a-kind case of success in the integration between waste management, electricity production, social equity, and environmental preservation. The Mariannhill Landfill Conservancy included the involvement of an institutional NEXUS and a high level of public participation. The key for the realization of the project was the combination of public consultation and the collaboration of the Durban Solid Waste Department (DSW) and the environmental non-governmental organisation WESSA. This collaboration between the government and civil society helped to reach a consensus among all parties involved. The DSW was the responsible of the construction of the project, with the supervision of the Monitoring Committee composed of volunteers representing several stakeholders including residents and environmental organisations. Thanks to this committee, it was possible for the DSW to work side-by-side with civil society in the design of the conservancy side of the project.

Figure 40: Aerial View of the Mariannhill Landfill Conservancy Plant. Source: (Cauchois, 2014, p. 2)

Figure 41: Study Tour Around the Landfill. Source: (Cauchois, 2014, p. 5)

The Mariannhill Landfill Conservancy Project was partly financed by the eThekwini municipality and partly by the World Bank, who additionally supported the project through the Clean Development Mechanism (CDM). The diverse sources of funding allowed the DSW to expand the project and to incorporate new elements to it.

The project has successfully resulted in controlling the environmental impacts of land filling, as the gas-to-electricity plant reduces the GHG emissions. Also, the Mariannhill project has increased the waste disposal of the city and has become an asset for the community. Likewise, the municipality should make profit through the CDM, which will contribute to finance the Mariannhill conservancy's facilities.

Several lessons can be learned from this experience. The improvement of public, institutional and administrative awareness and participation was crucial to its success, as well as the conscious effort of reintegrating segregated services and systems with social and behavioural change. However, the project could not have been possible without the capacity of the Durban Solid Waste Department to discuss the challenges and opportunities with diverse stakeholders and its strength to fight in order to make the project happen.

This project is highly replicable, but only if the managing authority is able to establish long-term cross-sectoral and inter-departmental collaboration. The participation of external experts and stakeholders (including horticultural consultancy) are key factors to reach an agreement that benefits everybody. Regarding the financial aspect, the landfill does not cost more than a conventional one since it is monitored through a natural, efficient and low-cost treatment system.

The Mariannhill project is a successful solution to problems related to solid waste management that has had positive and long-lasting effects on both the surrounding communities and the environment. It is also a successful example of ecosystem restoration and capacity development. Nowadays, it is still in operation and it is registered as a National Conservancy site. More information about the landfill is available on the website: http://landfillconservancies.com/index.htm

Community involvement

Community involvement is one of the key assets of the landfill conservancy. Community members are involved in activities such as woodlot management. Educational tours through all the facilities onsite are another means to involve local people and raise awareness amongst the population.

Figure 42: Community Involvement. Source: (Cauchois, 2014, p. 5)

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