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Published in: Cairo, Arab Republic of Egypt

Comments and Suggestions:

The NIGSD would like to have your feedback on this first issue of the Governance and Sustainable Development Review. Please inform us about your comments and suggestions regarding the sections and topics addressed in this issue. Your feedback can help us update and refine the next issue. You can contact us via email at SRPU@nigsd.gov.eg or mail your feedback and suggestions to our office address specified above.
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The establishment of the Governance and Sustainable Development Review aligns with the State’s efforts to promote scientific research and its active role in governance and sustainable development. This conviction is the basis for national visions and strategies, that are created to keep pace with and stimulate current developments and rapid changes in Egypt, and around the world. To that end, the National Institute for Governance and Sustainable Development (NIGSD), the training arm of the Ministry of Planning and Economic Development, has been selected to carry out this mission. This is part of the NIGSD’s objectives as a center for research, training and consultancy services, which aims to become a leading regional knowledge hub and an active contributor to the implementation of national strategies, notably the Sustainable Development Strategy: Egypt Vision 2030.

The NIGSD plans to devote each issue of the Review to discuss and present a prominent and important topic, related to the various developments and issues of governance and sustainable development. The Review aims to create a space for discussion and interaction between leading researchers and specialists in a scientific, systematic manner, which will support the decision-making process in Egypt. In order to present diverse visions and ideas, and benefit from the experiences of other countries, local and international specialists in the areas of governance and sustainable development will be invited to contribute to the Review with their research and articles. The ultimate goal of each issue is to publish the latest proposals and policies that align with Egypt’s current situation, as well as to review the most prominent leading regional and global practices and experiences. These ideas will contribute to pushing the development wheel and promoting the advancement of the State in all areas of development.

In addition, the establishment of this Review aims to increase scientific awareness and knowledge among emerging researchers in particular, and society as a whole, with regards to the key issues related to both sustainability and governance. Finally, this Review will disseminate modern scientific concepts and foundations within the State’s plan to adopt knowledge, innovation and scientific research as key pillars of development while supporting and raising Egypt’s ranking in local and international reports.

Dr. Hala ElSaid
Minister of Planning and Economic Development
The Governance and Sustainable Development Review is a specialized quarterly scientific journal in governance and sustainable development issues, and it publishes the work of local, regional, and global researchers from various disciplines, from within and outside the Institute. This publication supports the Institute's objectives, and enhances its contribution to the realization of Egypt Vision 2030.

The National Institute for Governance and Sustainable Development (NIGSD) is mainly an economic body tasked with research, training and consultancy on various topics, with a special focus on governance and sustainable development. The NIGSD's services cover all three sectors: government, private and non-profit. The Institute has several objectives which include promoting scientific research and improving its quality, becoming a leading local, regional, and international center, and a meeting place for specialized scientific cadres, decision makers, entrepreneurs, civil society leaders and citizens with the aim of raising awareness and discussing issues of governance and sustainable development alike.

Therefore, and as part of the NIGSD’s responsibility to communicate and spread awareness about the concepts of governance and sustainable development, the NIGSD has sought to produce this Review on a periodic basis and select the topics and articles in question, aimed at identifying the most important and up-to-date scientific research in the area of sustainable development and governance, while learning about local and global developments in both areas.

The Review is divided into two main sections. The first section includes a collection of research or articles written by national and international specialists. In each issue, this research will address a specific topic selected by the Institute according to its importance and priority in the development context, on the local and global scene. The second section presents an overview of the most important developments, achievements, initiatives and policies on governance and sustainable development at the national, regional and international levels since the beginning of 2022. This section mainly aims to follow up, evaluate and raise awareness about the developments in these areas.

In this regard, the editorial board of the Review decided to devote the first issue to address the topic of "the New Administrative Capital and Governance" in order to cope with the current unprecedented progress in all areas of development in Egypt, which manifested itself during the current transitional step. The administrative capital is not only considered a vital step towards establishing the new republic, it also reflects a remarkable level of growth and development in Egypt's modern history. The capital has generated a wave of innovation and mobilized technological advancements to serve and promote Egypt's path to sustainable development, and make it a leader in development, investment and competitiveness. This surge comes amidst the outbreak of COVID-19, which reflects Egypt's resilience and ability to overcome economic and social obstacles. Additionally, the new capital is an integrated smart city model, that lays the foundation for Egypt's digital identity.

Accordingly, this issue of the Review aims to assess the case of the New Administrative Capital and its relevance to several prominent issues in Egypt, mainly anti-corruption, e-government, digital transformation applications and artificial intelligence. Additionally, it promotes the principles and mechanisms of good governance as well as smart city applications in terms of the sustainability of energy resources and green buildings.

Dr. Sherifa Sherif
Executive Director of the NIGSD and Editor in Chief
An Interview with

H.E Dr. Hala ElSaid

Minister of Planning and Economic Development
First question: Considering the launch of the New Republic, how does moving to the New Administrative Capital (NAC) contribute to strengthening Egypt’s efforts to achieve the National Sustainable Development Strategy: Egypt’s Vision 2030?

The New Administrative Capital project comes within the framework of the State’s development outlook which focuses on expanding the scope of grand national projects. These projects include the establishment of 23 fourth-generation cities, three of which are smart cities, namely the New Administrative Capital, New Alamein, and New Mansura. The New Administrative Capital is a national project to be achieved according to international technological standards. Its implementation has also coincided with the launch of the “New Republic”. It is a project that would change the present and build a better future for all Egyptians. Improving citizens’ quality of life is a strategic goal of the State. Toward this end, we make sure that all State institutions embark on concerted and integrated efforts to achieve this, as well as other grand development projects, effectively, efficiently, and with the highest standards of quality.

The State also perceives the move to the New Administrative Capital as central to raising the efficiency of government performance. It is not just a change of location, but rather a transformation into a new, well-organized administrative culture and mindset. It would also guarantee higher individual and institutional performance efficiency when it is coupled with qualifying and training civil servants, thus making the utmost out of Egypt’s human wealth. This falls under the broader State vision and framework of investing in human capital.

For all those reasons, the project has become even more important. It achieves several Sustainable Development Goals (SDGs), particularly SDG 11, which focuses on sustainable cities and communities.

Second question: How does technology and digital transformation play an important role in building the New Administrative Capital? And what is the role of the ministry in this regard?

Given the current fast-paced global environment, the Egyptian State takes digital transformation seriously. Today, the international debate is about the fourth industrial revolution, big data, and future jobs. Digital transformation, heavy investment in information technology, and encouraging creativity and innovation have thus become major components of Egypt’s development plans and programs. The project of the New Administrative Capital fits into this perspective because it is — as previously mentioned — one of several smart cities that the State plans on establishing. Digital transformation plays an important role in the establishment of, moving to, and working in the new capital.

It takes concerted efforts from all stakeholders to achieve digitization, whether in the New Administrative Capital project or other projects. The State is keen to digitize, develop work systems, and guarantee the accuracy and integration of databases. Therefore, a digital transformation unit has been established in each ministry to facilitate developing and integrating databases, managing the in-house digital transformation system, and testing the transfer of specialized applications. These units also seek to build the technical capacity of civil servants in their respective ministries and develop a plan to digitize or electronically archive ministry documents — and those of other entities that plan to relocate to the new capital — to replace paper copies.

The Ministry of Planning and Economic Development contributes to the digital transformation process through different programs. The ministry is working on a project to improve the provision of public services, such as the services provided by local governments and new urban communities. There is also the program for upgrading the provision of public services through mobile technological centers (mobile service vehicles). Moreover, the Egypt Services Center project is now
underway, which establishes one-stop-shops across Egypt, such as the Aswan Services Center. The ministry is working on establishing similar centers in all governorates to facilitate the provision of cheap, timely, and high-quality services.

Third question: Training and capacity building is a major component of the State’s human development plan and is necessary to moving to the New Administrative Capital. How does the ministry contribute to this endeavor?

Investment in human capital is a top priority of the State and is also the best type of investment. Capacity building is at the core of guaranteeing performance efficiency and institutional development. Therefore, the Ministry of Planning and Economic Development has worked since 2018 on training more than 40,000 civil servants, in ministries and affiliated agencies, on several technical and specialized programs. The goal is that each civil servant joins at least one training program before moving to the new administrative capital. The most prominent of these training programs are:

The Governmental MBA program, in collaboration with the prestigious French ESLSCA University. The goal is to provide the government with competitive cadres capable of dealing with new technology and well-trained to implement Egypt’s sustainable development projects and programs in the upcoming period. The number of civil servants, from different ministries and affiliated agencies who graduated from this program has now reached 1100 individuals, 575 of which earned the Master’s degree. Of these graduates, 55% are women, which is an extremely good indicator that will certainly leave a positively impact their workplaces.

Through its training arm – the National Institute for Governance and Sustainable Development (NIGSD) – and in collaboration with several prestigious international academic institutions, the ministry is working on designing specialized training programs. The programs envisioned are a Public Policy Diploma, in collaboration with King’s College London in the United Kingdom, and an Executive Business Administration Program, in collaboration with the University of Chicago. We also worked on a collection of training programs in cooperation with the United Arab Emirates, such as workshops on data analysis and statistical capabilities, developing strategies to upgrade public services, future studies, and institutional performance management. The ministry is also working on youth capacity building through the leadership project “Rowad 2030”. It aims at encouraging entrepreneurship, promoting the culture of self-employment, motivating youth innovation and creativity, and building projects that provide jobs for the promising and outstanding among them.

Fourth question: Women represent a large percentage of civil servants in ministries and affiliated agencies. How does the Ministry of Planning contribute to women empowerment as well as training for leadership positions?

We reiterate that we believe in women economic empowerment. International development frameworks, such as the UN SDGs, especially SDG 5 on gender equality, and the objectives of the regional and national strategies, make it abundantly clear that women empowerment is no longer simply a social issue, nor is it just an issue of gender equality. It has rather become an economic necessity that helps us capitalize on women productivity and creativity. Women’s economic empowerment increases the added value and achieves sustainable and comprehensive growth. It is for this reason that the President of Egypt has devoted unprecedented attention to women economic, political, and social empowerment. Such an attention has been embodied in the Sustainable Development Strategy: Egypt Vision 2030 and in the National Strategy for the Empowerment of Egyptian Women 2030. The latter aims at placing women at 30% of the most senior administration positions by 2030. Empowering women to occupy such positions based on merit cannot happen without providing them with the necessary qualifications. In the last few years, the State has been working on expanding the implementation of a collection of training programs targeting women. According to the Central Agency for Organization and Administration’s statistics, women represent over 43% of the total state-run administrative bodies, and this was how the idea for the “Women Leaders Qualification Program” originated. The program was designed in
Fifth question: How do you motivate state institutions and civil servants to improve their performance and achieve efficiency? And how do you nurture the spirit of positive competition among them?

We have several initiatives and projects focusing on performance and competitiveness such as Egypt's Government Excellence Award, launched under the auspices of the President of the Republic in 2018. The award aims at disseminating the culture of excellence, improving government performance, and stimulating positive competition among individuals and institutions. It offers material and moral rewards for those who excel in providing public services, thus instilling the value of giving and the sense of belonging. It also motivates everyone to improve performance levels and abide by quality standards. In this sense, it should help achieve the goals of the Sustainable Development Strategy: Egypt Vision 2030, especially the goal of “Governance of State Institutions and governance and Strengthening Partnerships”. It is a strategic goal and an essential pillar for developing institutions, enhancing transparency, preventing corruption, bolstering accountability and liability, and empowering local administrations.

The Award events have gained continuous momentum. The momentum of the latest round was particularly invigorated when we added new categories under which people may apply, such as the best employee and the best team categories. The goal is to promote teamwork and stimulate the spirit of positive competition in government institutions. In the last two rounds, the Award achieved considerable success in terms of the number of participants and the positive reaction of both individuals and institutions. We have also received a lot of excellent initiatives. Building on this success and on the State's objective of empowering women, we have recently launched the Government Excellence Award for Equal Opportunity and Women Empowerment. It was approved by the President of the Republic last March on Women's Day. We plan to widen the scope of the award to include non-governmental agencies, start-ups, and youth initiatives.
New Administrative Capital: Factsheet
1. LOCATION AND AREA:

- The New Administrative Capital is located on the borders of Badr City, in the area between the Cairo-Suez Road and Cairo-Ain Sokhna Road, just after New Cairo, Mostakbal City and Madinaty. One of the New Capital’s best features is its location which is 60 km away from Ain Sokhna, Suez and Downtown Cairo.

- The area of the administrative capital is 170,000 acres, about 714 km², equivalent to the size of Singapore and 4 times the size of Washington. Due to its vast area, the implementation of the New Administrative Capital was divided into three phases as follows:

  **Phase I:** an area of approximately 40,000 acres, representing 161.87 km² of the total area of the Administrative Capital in kilometers.

  **Phase II:** an area of about 47,000 acres, representing 190.2 km² of the total area of the New Administrative Capital in kilometers.

  **Phase III:** an area of about 97,000 acres.

2. NEW ADMINISTRATIVE CAPITAL: TOWARDS AN EFFICIENT AND EFFECTIVE ADMINISTRATIVE BODY

- Since 2015, Egypt has embarked on the establishment of the New Administrative Capital, reflecting a clear political will to overcome the challenges facing the state’s administrative body, moving forward towards the comprehensive development of the state’s administrative body to be more efficient and effective, providing quality services and increasing the satisfaction of citizens with service provision. There is a plan in place to move the ministries and the administrative body to the New Capital, to mark a new era, reflecting the values of justice, governance, and equal opportunities.

- Strengthening the information technology structure of the New Administrative Capital is one of the objectives set by Egypt to promote digital transformation, improve the effectiveness of services provided to citizens, and reduce forms of corruption. The strengthening of the information infrastructure seeks to achieve a leap in government performance to transform into a smart government in which information is exchanged through digital mechanisms, and through the establishment of digital transformation units in all state administrative body units to support digital operation when moving to the New Administrative Capital.

- Human capital is one the key factors Egypt focuses on in moving to the new administrative capital. The Egyptian Government has developed an implementation plan to train the candidate employees of the state administrative body transitioning to the New Capital. The plan includes a set of programs aimed at enhancing the capacities of all employees in many areas including strategic planning, monitoring and evaluation, communication and citizen service. Currently, nearly 50,000 employees are ready to move to the New Administrative Capital after completing their training. The Central Agency for Organization and Administration has completed the training of about 49,295 candidate employees transitioning to the New Administrative Capital.
PUBLIC GOVERNANCE AND INTEGRITY

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ABSTRACT

There has been a paradigm shift towards the concepts of public governance and integrity as a means to decrease the high levels of corruption and inefficiency existing in the public sector. The integration of both concepts contributes to developing and implementing effective public policies and strategies while ensuring efficiency and effectiveness in the stages of the policy cycle including the design, implementation, and evaluation. Nevertheless, the lack of integrity in the public sector encourages corrupt actions to take place, leading to higher levels of inefficiency, loss in productivity and decrease in output. This paper explores the main elements and approaches needed to enforce public governance and integrity in the public sector based on international practices and recommendations developed to decrease the levels of inefficiency and corruption.
I. INTEGRITY AND CORRUPTION – CHALLENGES OF PERFORMANCE AND GOVERNANCE

Integrity is one of the core values of the public sector. It refers to "the consistent alignment of, and adherence to, shared values, principles and norms for upholding and prioritizing the public interest in the public sector" (OECD, 2017c). The importance of integrity has increased significantly in the public service of OECD countries over the previous decade (Fig. 1). Together with impartiality, legality, and transparency, integrity leads the core values of the public service.

![Figure 1: Frequently Stated Core Public Service Values](image)

Percentage of the 29 countries that responded to both the 2000 and 2009 surveys

Note: Time series data not available for the Slovak Republic.

While integrity has been a subject of public administration scholarship for a long time, it has attracted greater attention in public policy practice in the context of the paradigm shift from New Public Management to Public Governance. The former had focused on strengthening the efficiency of the public sector by adopting management techniques and experiences of the private sector. Public Governance, by contrast, refers to the formal and informal arrangements, that determine how public policy decisions are made and how public actions are carried out from the perspective of maintaining a country’s constitutional values. Integrity entered therefore prominently into each stage of the policy cycle, from design to decision, implementation and evaluation.

The critical role of safeguarding integrity becomes obvious when central features of today’s public sector reality are considered, such as:

- Increasing presence of multiple stakeholders in the public policy process, such as advisory boards, interest groups, lobbyists...etc.

- Emergence of blurred boundaries of the public sector through interactions with business as service providers, in public procurement, PPP or co-ownership of enterprises.

- Greater voice of civil society through consultations, mixed investment committees, partnerships.

- Revolving doors practices, i.e. growing mobility of employees and experts between public and private sectors.
In the changing governance context, the exposure of public officials at administrative and political level to potential conflicts between public and private interests increases significantly. Therefore, calls for reinforcing ethics and integrity in both the public policy process and in public service delivery are considered essential to stimulate new reform initiatives. Nowadays, not only central governments but also regional and municipal governments develop stronger measures of safeguarding integrity and preventing corruption.

It is fair to say that the analysis and policy discussions of public integrity have also been driven by growing awareness and declining tolerance of corruption by citizens and businesses. The perception surveys, such as those carried out regularly by Transparency International and other civil society institutions, demonstrate that citizens around the world are keenly aware of when and where corruption happens in their communities and countries. Complementing the battle against bribery with strong prevention measures in the public sector, both the demand and supply side of corruption are targeted. It reflects the basic truth that corruption "takes two to tango".

The Edelman Trust Barometer 2017 indicated that corruption had become the most important fear of citizens globally, ahead of globalization, eroding social values, immigration and innovation (Fig 2).

**Figure 2: Edelman Trust Barometer 2017**

Concerns Have Become Fears

- **Corruption**
  - Fearful: 40%
  - Concerned: 69%

- **Globalisation**
  - Fearful: 27%
  - Concerned: 62%

- **Eroding Social Values**
  - Fearful: 25%
  - Concerned: 56%

- **Immigration**
  - Fearful: 28%
  - Concerned: 55%

- **Pace of Innovation**
  - Fearful: 22%
  - Concerned: 51%
Individual personal enrichment of members of government or senior officials in the administration, fraudulent procurement processes are either linked to financing of political parties or to corrupted legislation to the benefit of private interests. Corruption comes in all shapes and forms, financial or non-financial, petty and big; it is found in all countries, at all levels of government, from the local community to regional and central government, in all branches of government, and increasingly across borders. The latter is often called (one of) "the dark side of globalization."

Measuring the material damage of corruption and the failure of integrity is complex, for obvious reasons. Estimates by the WEF evaluate the cost at USD 2.6 trillion - or 5% of the global gross domestic product. The World Bank believes that USD 1 trillion are paid in bribes each year; they also suggest that 20% to 40% of official development assistance is lost to high level corruption every year.

In an analysis of foreign bribery cases, OECD found that their sectoral distribution is relatively balanced, while the most important purpose (60%) is to influence public procurement processes (Fig 3).

The cost of corruption can of course not only be expressed in terms of losses of output and prosperity. Looking at the benefits of prevention and sanctioning corruption effectively appears to be another interesting and politically perhaps more attractive approach. In the case of Iraq, the IMF has recently calculated the positive effects of reforms in governance, such as reducing bribes, facilitation payments and tax evasion (IMF, 2019). These reforms were reflected into impressive improvements in growth of private investment, private consumption and output, as well as marked reductions of public debt are projected over a 10 year’s horizon.

Negative indirect effects of lack of integrity and corruption in the public sector, even harder to measure, include the loss of trust in government which has been declining, especially since the great financial crisis of 2008. It reduces the capacities and efficiency of public policy decision-making and service delivery, as both are exposed to the underlying suspicion of personal benefit of the actors at the expense of the public interest. Lower levels of trust results in slowing down reform initiatives and increasing the resources required for more regulation and its enforcement. As regards the impact on the private sector, the effective allocation of capital across countries and geographical places is undermined through the extent of corruption. It distorts the decisions of private sector actors where to invest, create employment, trade and to compete in local or national markets.

No wonder therefore that the calls for safeguarding public integrity and the battle against corruption remain high on the agenda of policymakers, business and civil society.

2. SAFEGUARD INTEGRITY AND FIGHT CORRUPTION: INSTITUTIONS, INSTRUMENTS, PRACTICES

Wide-ranging reform programs of establishing, rebuilding, and enforcing public integrity and fighting bribery are numerous and ubiquitous. As center pieces figure typically the establishment of institutions, instruments and processes, at national, international and subnational levels. Academic research and the exchange of experiences and good practices at all levels of government contribute to broadening knowledge, understanding and the evidence base, and help identifying what works (and what does not work) in this critical policy area.

National anti-corruption efforts have multiplied since the early 2000s (Transparency International, 2015). Countries have adopted and implemented a large variety of approaches and tools, with a focus on raising awareness about corruption, enhancing legislative and regulatory frameworks, detecting and monitoring corruption vulnerabilities and practices, preventing corruption and effectively sanctioning corrupt behavior.

Some anti-corruption tools are implemented in the public administration generally, while others are sector specific. Among the most common tools are anti-corruption laws, specialized anti-corruption agencies or authorities, national anti-corruption strategies, and selective anti-corruption and public integrity measures. Countries across the world have also adopted a number of indirect anti-corruption strategies and policies. Major areas in this regard include public financial management, including public procurement; social accountability initiatives; and oversight institutions, in particular supreme audit institutions. The role of civil society and the media in helping expose and address corruption is also critical.

International Organizations, from the UN to the World Bank, the IMF, OECD, many other regional institutions, such as GRECO, and civil society have been equally engaged in the battle for a considerable time. Growing attention to corruption as a development challenge is reflected in the number of international and regional anti-corruption instruments, including the United Nations Convention Against Corruption (UNCAC). Among the sectoral approaches, the G20 Compendium of good practices for promoting integrity and transparency in infrastructure development refers explicitly to UNCAC which birds all G20 members and beyond as the accepted international framework for prevention, criminalization, international cooperation and asset recovery (G20, 2017).
The OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (OECD Anti-Bribery Convention) and its accompanying 2009 Anti-Bribery Recommendation focus on the supply side of foreign bribery. They set standards for an effective legislative and enforcement framework for combating foreign bribery, and address related issues aimed at enhancing prevention, through the promotion of corporate anti-corruption compliance, and detection, through the development of reporting channels for public officials, promotion of whistleblower protection.

In the context of the UN 2030 Agenda, questions include how the high level of participation in international anti-corruption agreements can be leveraged for SDGs implementation, and how countries can build on their experience with those instruments to strengthen coordination and monitoring of anti-corruption reforms in support of the SDGs.

It is an important indication of the need for action that the UN Agenda 2030 includes in goal 16 on the governance of SDGs explicitly the call for reducing corruption and bribery in all forms. “Effective prevention, detection and sanction of corrupt practices are fundamental for building inclusive institutions and achieve all the SDGs. SDG16 acknowledges the importance of anti-corruption as an institutional principle through target 16.5, which aims to substantially reduce corruption and bribery in all their forms. Other institutional principles embraced by the 2030 Agenda - accountability, transparency, participation, and inclusion - are crucial for combatting corruption [...] integrity has also become a cornerstone of many anti-corruption approaches.” (United Nations, 2019).

Raising awareness of conflicts of interest, finding institutional responses and engineering processes to avoid and manage potential conflicts has become an important challenge not only for the executive branch of government. Parliaments and the judiciary have been engaged to determine the rules of the game of upholding the public interest in their respective areas. While similar; separate systems have been developed over time, and recently a major effort of aligning the rules was undertaken by OECD (OECD, 2017c).

The OECD Recommendation on Public Sector Integrity offers a comprehensive approach consisting of three building blocks: the system, culture and accountability. A critical feature is the ambitious coverage of the Recommendation. It proposes the same standards of integrity for all branches of government and leverages its impact in all interactions of government with business and citizens.
A coherent and comprehensive integrity SYSTEM

**Commitment**
Top-level management develop the necessary legal and institutional framework and display high standards of personal propriety.

**Responsibilities**
Public sector organizations co-ordinate well with each other, with well-defined responsibilities. It is clear ‘who does what’.

**Strategy**
Using data and indicators for evaluation and based on legitimate risks to integrity, a strategy is developed outlining objectives and priorities.

**Standards**
Rules and public sector values are reflected in laws and organizational policies and are effectively communicated.

A CULTURE of public integrity

**Whole of society**
Businesses, individuals and non-governmental actors uphold public integrity and do not tolerate corruption.

**Leadership**
Managers lead with integrity in public sector organizations; they carve out the ‘integrity agenda’ and communicate it to the organization.

**Merit based**
The public sector serves to employ professional and qualified people that have a deep commitment to the public service integrity values.

**Capacity building**
Public officials are skilled and trained to apply integrity standards.

**Openness**
Integrity concerns are openly and freely discussed in the workplace and it is safe to report suspected violations of integrity.

Effective ACCOUNTABILITY

**Risk management**
An effective integrity risk management and control system exists in public sector organizations.

**Enforcement**
Corruption and other violations to integrity are detected, investigated and sanctioned.

**Oversight**
Oversight bodies, regulatory enforcement agencies and administrative courts perform external control.

**Participation**
A transparent and open government allows for the meaningful participation of all stakeholders in the development and implementation of public policies.

3. SELECTED KEY INSTRUMENTS AND AREAS OF SAFEGUARDING INTEGRITY

Long term sustained efforts, and tailored, multi-pronged anti-corruption approaches combining multiple tools, are needed to effectively address corruption. Against the background of the SDGs, integrated anti-corruption policymaking seeks to enhance consistency among anti-corruption interventions in various sectors, and to address potential tensions and maximize coherence between anti-corruption and other policies. For example, addressing corruption in road projects may enhance access to health services. Conversely, development initiatives, such as investments in education, may pay off in enhancing integrity and decreasing corruption over time. Different instruments, such as corruption risk assessments, can be used to systematically identify and address potential inconsistencies and tensions between anti-corruption measures and other instruments.

Adopting systemic approaches can contribute to more coherent and integrated anti-corruption policies in support of the SDGs. A country’s (or an organization’s or sector’s) anti-corruption system is made up of multiple bodies, actors, laws and norms, processes and practices that have responsibilities in preventing, detecting, prosecuting and sanctioning corruption. The effectiveness of anti-corruption measures depends on the performance of the whole accountability system, including the interaction between all its parts. Institutional coordination of entities with a mandate and authority for anti-corruption (including prevention) is one way of advancing integrated approaches. However, effective coordination has been a common challenge.

4. CODES OF CONDUCT

Fostering integrity relates to encouraging desired behavior over undesired behavior, including - but not limited to - corrupt practices. Several approaches can be taken to create these desired behaviors, including a compliance/rules-based approach and a values-based approach.

A compliance-based approach includes attention to prevention through establishing enforceable standards, often found in laws, regulations, and codes of conduct, as well as providing education, training, and counselling on these standards. This approach ultimately provides for a range of enforcement mechanisms based on the severity of the misconduct.

A values-based approach is often aimed at inspiring integrity through raising awareness of ethics, public-sector values, and the public interest, and adherence to codes of ethics or guiding principles. International experiences show that integrity policies are most successful when these two approaches are combined and well-balanced, with the exact relative importance, as well as the actual shape of both approaches, depending on the social, political and administrative context and on the history of the organization concerned.

A "code of conduct" is a typical instrument of a rules-based approach to integrity management. It starts from the assumption that people are essentially self-interested and that they will only behave with integrity when this coincides with their self-interest. Hence, a preferably detailed code of conduct will describe, as specifically and unambiguously as possible, which behavior is expected. Such a code of conduct will also establish strict procedures to enforce the code, with systematic monitoring and strict punishment of those who break the rules (Box 1).
Codes of conduct: good practice examples

The German civil service's anti-corruption code is often acclaimed as best practice in developing codes of conduct. As a mechanism, it aims to increase awareness of corruption risks and to motivate civil servants to fulfill their duty and obey the law. The first section consists of several simply stated precepts detailing how individual civil servants should behave in particular situations, while the second part focuses on the role managers play in integrity management. The code also discusses practical issues such as internal financial audit procedures, behavior in corruption opportunities, rotation of staff, the obligation of heads of service to inform the public prosecutor’s office when corruption is reported, and, finally, how to deal with gifts and other possible conflicts of interest.

The UK’s code of conduct for board members of public bodies is useful in that it is tailored to non-executive board members of public bodies, a position often vulnerable to conflicts of interest. The code sets out, clearly and openly, the standards expected from those who serve on the boards of UK public bodies and forms part of board members’ terms and conditions of appointment. It begins by laying out the UK’s key principles of public life: selflessness, integrity, objectivity, accountability, openness, honesty, and leadership. It then discusses the use of public funds, allowances, gifts and hospitality policy, use of official resources and information, political activities, employment and appointments, members’ interests, and responsibilities.


5. MANAGING CONFLICTS OF INTEREST

A conflict of interest arises in a situation in which "a public official has a private or other interest such as to influence, or appear to influence, the impartial and objective performance of his or her official duties". The appearance of a conflict of interest can be sufficient to damage an institution's reputation. Conflicts of interest are themselves not evidence of wrongdoing. Given that officials inherently occupy multiple social roles they are almost bound to occur. With the right measures in place, conflicts of interests are quickly detected and easily defused - usually voluntarily - before any impropriety can take place. However, if these situations are not identified promptly and managed adequately, public officials may take advantage of their position to pursue private advantage at the expense of the public interest. This private advantage should be understood broadly to include not merely illicit financial gain but also attempts to curry favor with potential future benefactors or employers and the professional advancement of friends and family.

Thus, while an unambiguous legal definition of conflicts of interest is an essential part of any public sector integrity system, it is impossible to legislate for all possible conflicts of interest. It is therefore advisable for public officials to be able to seek guidance from an internal ethics commissioner or, better still, an external public ethics body. Ethics training to educate public sector workers about conflict of interest legislation is also recommended.
6. REGULATING CONFLICTS OF INTEREST

Measures to address conflicts of interest can take different forms, ranging from legislation explicitly designed to deal with conflicts of interest, to more general codes or conduct and management guidelines. Indeed, alongside general civil service legislation, individual public bodies should draft their own specific behavioral standards. Conflict of interest provisions should also be included in officials’ employment contracts to facilitate disciplinary proceedings where necessary. Whatever form they take, regulating conflicts of interest is essential to the development of accountable and scrupulous procedures in decision-making.

The distinction between rules-based instruments and behavioral standards exists also in the management of conflicts of interest. Box 2 presents a comparison of the US and UK approaches.

Box 2: Managing conflict of interest, Principles- vs Rules-based

<table>
<thead>
<tr>
<th>Principles-based approach e.g. United Kingdom</th>
<th>Rules-based approach e.g. United States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Responsibility</strong></td>
<td></td>
</tr>
<tr>
<td>Dispersed across government</td>
<td>Office of Government Ethics.</td>
</tr>
<tr>
<td><strong>Authority</strong></td>
<td></td>
</tr>
<tr>
<td>No specific conflict of interest legislation. Local guidance. Companies Act applies to directors. Management code specifies some &quot;rules&quot;.</td>
<td>Enforceable conflict-of-interest prohibitions defined in statute with criminal or civil penalties.</td>
</tr>
<tr>
<td><strong>Other standards</strong></td>
<td></td>
</tr>
<tr>
<td>Behavioural and ethical standards defined in codes of conduct and &quot;Nolan principles&quot;.</td>
<td>Civil restrictions for certain outside activities. Administrative standards of conduct.</td>
</tr>
<tr>
<td><strong>Disclosure requirements</strong></td>
<td></td>
</tr>
<tr>
<td>Devolved, voluntary disclosure system for civil servants. MPs’ financial interests are declared and published. Information on senior civil servants and ministerial hospitality, gifts, travel and external meetings is published.</td>
<td>Central mandatory financial disclosure systems. Public reporting is required for all senior officials. Other employees make confidential financial disclosures.</td>
</tr>
</tbody>
</table>

Source: OECD (2015), P. 60

Certain officials and members of government should be obliged to regularly declare their past and present interests. A good disclosure regime will include both financial assets and other interests. Financial assets and income entail concrete financial benefit. Interests, on the other hand, encompass a range of benefits which, at the time of declaration, may not offer any particular advantage to the official, but which could exert influence on an individual’s decision making. Currently, less than 30 per cent of countries oblige officials to declare private business activities such as board memberships, consultancies or government contracts (Transparency International, 2015).
7. LEVELS OF GOVERNMENT

Many local governments have adopted anti-corruption strategies and measures, often resorting to innovative strategies that leverage the potential of information and communication technologies to increase internal controls and monitoring by citizens. Some countries provide support to local governments, and experiment with different mechanisms for enhancing the coordination of anti-corruption measures between levels of government.

8. SUPREME AUDIT INSTITUTIONS

Supreme audit institutions are among the few institutions for which there exists some consistent evidence of positive anti-corruption effects. In sectors, measures that have been found to have potential include public expenditure tracking tools, specialized audits and, under certain conditions, selected social accountability measures in combination with other interventions.

9. HUMAN RESOURCE POLICIES

Mainstreaming integrity into HRM practices offers an additional opportunity to build a public workforce, which is aware of the expectations of integrity as well as potential sanction mechanisms (Box 3). From workforce planning to performance management and termination of contractual relations, integrity becomes an element of decision-making.

**Box 3: Mainstreaming integrity throughout HRM practices**

<table>
<thead>
<tr>
<th>HRM practices</th>
<th>Mainstreaming integrity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources planning</td>
<td>Assessing integrity risks of different positions and planning accordingly.</td>
</tr>
<tr>
<td>Entry</td>
<td>Background checks, ethical tests, managing potential conflicts of interest arising from previous employments (revolving doors); developing job descriptions with ethical considerations in mind.</td>
</tr>
<tr>
<td>Professional development, training and capabilities certification</td>
<td>Tailored trainings on integrity policies.</td>
</tr>
<tr>
<td>Performance evaluation</td>
<td>For managers: assessing their management of employees’ conflict of interest or ethical dilemmas. For employees: assessing adherence and compliance with integrity policies.</td>
</tr>
<tr>
<td>Severance</td>
<td>Monitoring potential conflict of interest arising from nature of next employment (i.e. revolving doors).</td>
</tr>
</tbody>
</table>

Source: OECD (2015), P. 56.

10. THIRD PARTY SERVICE PROVIDERS

Extending the integrity requirements of the public sector into other parts of society would seem to be an ambitious undertaking. Nevertheless, some inroads have been made in this direction. The ethical standards of providers of public services in the UK provide an example of practices that could inspire initiatives elsewhere. They were developed by the Committee of Standards in Public Life (CSPL) and lead to practical recommendations. The OECD Recommendation on public integrity has integrated a similar approach among its principles.
II. NATIONAL STRATEGIES

As in public policies in general, there is no one size fits all approach of safeguarding integrity either. Countries will have to determine their own course of action depending on their history, society and economy. At the same time, experiences and practices elsewhere can be inspiring and useful to know.

Box 4: Approaches and Instruments of Integrity Strategies

<table>
<thead>
<tr>
<th>Approaches</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criminalization of corruption</td>
<td>Laws and regulations, International agreements</td>
</tr>
<tr>
<td>Encouraging behavior</td>
<td>Codes of Conduct Compliance- based</td>
</tr>
<tr>
<td>Managing conflicts of interest</td>
<td>Code of Ethics Values-based</td>
</tr>
<tr>
<td>Enforcement, Surveillance</td>
<td>Rules based and/or behavioral standards</td>
</tr>
<tr>
<td>Evaluation</td>
<td>AC Agencies, Authorities of Public Integrity</td>
</tr>
<tr>
<td></td>
<td>Supreme Audit Institutions</td>
</tr>
</tbody>
</table>

The proposals for action which the OECD has developed in its 2015 Open Government Review of Morocco could serve as such a valuable source of inspiration of other countries in pursuing integrity in the public sector and fighting corruption (OECD, 2015). It is no coincidence that the review makes explicit reference to the wider context of integrity and anti-corruption which is transparency and open government.

Proposals for action in Morocco included:

- Use the Charter of the public service to entrench values of openness and inclusiveness in the public service.
- Promote greater coordination and co-operation between entities in charge of preventing and fighting corruption.
- Institutionalize citizens' participation in anti-corruption policy making to engage citizens as active partners in policy design and implementation.
- Streamline the use of ICTs to enhance public scrutiny by providing accessible, aggregated and easily understandable information.
- Review and fully activate the asset declaration regimes with a view toward managing and detecting conflicts of interest and illicit enrichment.
- Define a comprehensive approach in promoting transparency in political party and campaign finance.
- Ensure that the law establishing the new Central Authority for Corruption Prevention respects international standards and gives the authority the power to conduct investigations enabling it to become an effective actor in preventing and fighting corruption.
CONCLUSION

Corruption remains a widespread feature around the world, keeping up the pressure on further investment in safeguarding public integrity and fighting corruption. To make the measures enduring, the reform efforts will have to be stepped up and carried forward continuously.

A general definition as provided at the outset does not mean integrity is understood the same way everywhere. Cultural differences exist among countries. Measures to promote integrity in the public sector are heavily contingent on a country’s legal and institutional setup and are dependent on the nature of the corruption challenge itself. Accordingly, different instruments and processes as well as institutions will need to be tailored to the countries’ specific situation.

At the same time, as corruption is a critical factor of economic, social and environmental development, progress must be made. All the more, as corruption plays out unequally among citizens, with the weakest hit most where it exists.

As corruption is also a critical factor of investment decisions, corruption is a factor of competitiveness. Greater transparency of the situation and conditions in individual countries allows domestic and foreign investors to choose their preferred location.

Safeguarding integrity and battling corruption are two sides of the same coin, addressing supply and demand of corrupt behavior. It seems fair to say that anti-corruption policies consist typically of criminalization of corruption and the establishment of anti-corruption agencies. They are regularly strengthened or reinforced after violations of anti-corruption laws in widely publicized corruption cases. As the ex-post reform measures are often taken under pressure and politically driven, they risk being poorly calibrated. This “culture of cases” contrasts with the ex-ante promotion of a “culture of integrity” aiming at preventing corruption and based on principles and values of the behavior of public agents.

To succeed, an integrated approach is imperative across policy areas, sectors, levels of government, and branches of government. Following the logic of the SDGs, a culture of integrity will be best suited to exploit synergies and minimize trade-offs between the inner and outer policies of integrity.

Learning integrity must be key. How to detect the existence of a conflict of interest remains at the origin of any effective policy for integrity. No matter what quality the technical infrastructure of integrity policies has, in the end, the capacity of the individual employee of the public sector to recognize the issue of public versus his or her private interests will be decisive. Promoting greater internalization of values and ethical behavior founded on intrinsic motivation is indispensable. Research, analysis and the exchange of practices are the way to go.
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SMART CITIES AND THE ROLE OF TECHNOLOGY IN FIGHTING CORRUPTION: THE CASE OF THE NEW ADMINISTRATIVE CAPITAL

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Acknowledgments: the author would like to thank Ms. Sarah Tarek and Ms. Perihane Badr for their extensive research assistance.
ABSTRACT

The main objective of this article is to highlight how the move to the New Administrative Capital (NAC), being a smart city, would help in combating corruption in Egypt. The article shows the role of technology and digitalization as anti-corruption tools. It also presents a view on how smart cities like NAC and the smart governance for these cities enable countries to avoid the dangers of corruption. It is expected that the move to the NAC, being an integrated smart city that is based mainly on the use of ICT in all life aspects, should be beneficial in reducing the levels of corruption. This could happen through fostering coordination, enhancing government capabilities to overcome information constraints, as well as easing data collection and analysis, which in turn improves project monitoring and governance, and discourages rent-seeking and other types of corruption.
BACKGROUND

Corruption is considered one of the most serious problems the world is facing nowadays and perceptions about this phenomenon continue to rise higher than ever, considering the fact that corruption has detrimental effects on all aspects of society. Corruption limits the productivity of public institutions, hinders economic growth, discourages investment, hurts development, destabilizes social values, and undermines democratic institutions. There are different causes for this problem, but generally, the lack of transparency and accountability, high levels of income inequalities, as well as increasing levels of poverty and illiteracy, are among the main universal causes of corruption. Although this issue is present almost in every country, developing countries are suffering more from the spread of corruption and its negative implications (Wickberg, 2013).

Governments and international organizations have recognized the dangers of this problem and they are working extensively to prevent its growth. In this regard, many countries started to consider fighting corruption as one of the top priorities in their government agendas, and they developed national strategies to fight it. Moreover, numerous reports have been presented across the globe by regional and international organizations, the purpose of which is to analyze the performance of different countries in well-known international corruption indices, to highlight their efforts in the fight against corruption, and to spotlight the reasons behind their success or failure. It has been noted that all the countries that managed to deal with this problem are performing soundly regarding their development strategy and policy building and that their public policies have helped them in dealing with this issue (Baker, 2005). Due to the secret nature of corruption practices, the different forms they can take, and being a complex phenomenon that is seldom explained by a single cause, the process of measuring and combating corruption is generally considered very complicated (Tanzi, 1998). Hence, a well-structured, clear, inclusive, and coherent anti-corruption strategy should be adopted. This strategy should make use of the most recent and efficient techniques in fighting corruption (Farrag and Ezzat, 2016).

In the wake of the fourth industrial revolution and the digital transformation adopted by many countries, technology and data are valued as key assets for anti-corruption practices and institutions, as they aid in the detection and prevention of fraud and other corrupt practices. The use of artificial intelligence (AI) along with big data can detect areas or transactions that are high risk, and give warnings of suspicious financial flows. Furthermore, vulnerabilities and risks could be revealed and predicted using data analytics. Also, the digital transformation of government is expected to reduce opportunities for corruption. The elimination of paper and allowing open access to data, both with the automation of public services, reduce the risk of solicitation. The technology of blockchain and digital identities also makes it easier to secure transactions, prevent data tampering, manage risk compliance, prevent money laundering, and have clear audit trails (World Economic Forum, 2020).

Similar to the different developing countries, Egypt is struggling to fight corruption in order to prevent its negative consequences, with the aim to promote investment and development. In 2014, the Egyptian government launched the first phase of the National Anti-Corruption Strategy, intending to improve the public sector performance and the offered public services.

Additionally, the government also aimed at safeguarding the presence of a strong legislative system that supports combating and preventing corruption. Despite the success achieved, the implementation of the first phase was faced with some challenges. In 2019, the second phase of the national anti-corruption strategy was built following the successes of the first phase while simultaneously strategizing to overcome the challenges it faced. It included a set of clear objectives, as well as the necessary operational procedures, programs, and mechanisms to achieve these objectives. One of the main aspects highlighted in the Egyptian national anti-corruption strategy with its two phases is the importance of relying on ICT and digital technologies as well as e-government to offer better services, enhance transparency, and prevent corruption (NIGSD and ACA, 2021).
Alongside anti-corruption efforts, Egypt’s Sustainable Development Strategy (SDS) declares in its core goals the creation of a new sustainable administrative capital. As announced by the Egyptian government, the New Administrative Capital (NAC) is a new city that is located 45 km away from Cairo. The city is designed to host 7 million inhabitants on a total area of 700 km². The city includes 100 districts and 21 housing residential areas. The project intends to host more than 600 facilities for health care and education services, an international airport, a regional park, and solar farms of renewable energy. Most importantly, the NAC will include districts that will host different ministries and governmental institutions, as well as a district for the diplomatic representation of the different international embassies (Serag, 2017). One of the main features of the NAC is being a “smart city”. The concept of smart cities is based on the integration of ICTs into the infrastructure of the city to promote effectiveness and efficiency especially in urban management and service provision, and subsequently reduce the risk of corruption (Jiang et al., 2020; Tan & Taeihagh, 2020). Being a smart city is defined in the NAC through the usage of smart facilities and utilities, such as smart traffic systems, smart buildings, modern communication infrastructure technology, smart energy management, and the monitoring of the city through city control centers (Administrative Capital for Urban Development, 2017).

Since researchers have argued that using technology proved to be an effective tool in fighting corruption. Thus, the decision of the Egyptian government to establish the smart city NAC, and to relocate many of the governmental institutions to it while adopting the e-government mechanisms, will presumably help to reduce corruption levels in the country and would help the government in avoiding its negative consequences.

Against this background, the main aim of this article is to highlight how the move to the NAC, being a smart city, would help in combating corruption in Egypt. The article starts by defining corruption and its negative consequences, moving to highlighting the role of technology and digitalization as anti-corruption tools. Finally, the article presents a view on how smart cities like NAC and the smart governance for these cities enable countries to avoid the dangers of corruption.
I. CORRUPTION AND ITS NEGATIVE CONSEQUENCES

Defining Corruption

One of the problems confronting researchers tackling the issue of corruption lies in defining it. The main reason for this is that corruption can take many shapes and forms, which are difficult to capture in one single clear-cut definition. Thus, there is no concrete and precise definition, which captures all types, forms, degrees, and aspects of corruption, or which would be universally accepted (Lancaster & Montinola, 1997).

A group of scholars defines corruption as a moral problem. For example, Gould (1991) defines corruption as “an immoral and unethical phenomenon that contains a set of moral aberrations from moral standards of society, causing loss of respect for and confidence in duly constituted authority”. However, considering corruption as a purely moral problem tends to individualize this social phenomenon and disregards the broader socio-political context of corruption (Seldayo & de Haan, 2006). Another group of scholars defines corruption narrowly as a behavior that deviates from legal norms (Nye, 1967). However, defining corruption as an illegal act is criticized because not all illegal acts are corrupt, and conversely, not all seemingly corrupt acts are illegal (Lancaster and Montinola, 1997; Tanzi, 1998).

Klitgaard (1988) identified the main ingredients of corruption through an equation, which is equal to monopoly plus discretion minus accountability. If public officials have monopoly power over the provision of government goods or services, they can control the distribution of this good or service and they can ask for bribes to make it available. In addition, the greater the amount of discretion given to a public official, the more opportunities will be available for officials to give “favorable” interpretations and explanations of government regulations and rules to business investors or entrepreneurs in exchange for illegal side-payments or equivalent services. Moreover, the problem of asymmetric information makes it difficult to monitor the actions of the public officials effectively and hold them accountable for their actions, when they fail to carry out an assigned task.

In general, most of the corruption literature adopts a slightly narrow but famous and commonly used definition of this core concept, which is: “the abuse of public office for private gain” (Seldayo & de Haan, 2006). Under this definition, corruption may take several forms or types varying from the minor abuse of power to organized kleptocracy and institutionalized bribery. This definition has been adopted by many international organizations that view corruption as one of the most important obstacles to social and economic development. Thus, they rank anti-corruption measures high on their policy agendas, such as Transparency International, United Nations, and the World Bank (Khan & Krishnan, 2019; Shah & Schacter, 2004).

Consequences of Corruption

One may note that, among different scholars and policymakers, there exists a consensus that corruption, which is considered one aspect of poor governance and a result of weak institutions, has considerable negative effects on economic development and hence social welfare. However, some economists have not agreed with this view from theoretical standpoints. In fact, there are two opposing schools of thought concerning the impact of corruption on economic growth (Anoruo & Braha, 2005). The first one suggests that corruption could have a positive effect on economic performance and growth. The supporters of this view (e.g. Leff, 1964; Huntington, 1968) rely on a hypothesis called “grease the wheels”, which considers corruption as the oil that facilitates and greases the engine of economic growth. They argue that, in the presence of a cumbersome and inefficient bureaucracy, corruption may counteract government failure. This leads to increasing the efficiency in which transactions occur, which, in turn, affects economic growth positively (Shaw et al., 2006; Ahmad et al., 2012).
This argument has been used to explain the high growth rates attained by some countries from South-East Asia that were characterized by widespread corruption – at least until the Asian crisis in 1998. But it is worth mentioning that even those who argue that corruption could be economically beneficial do not believe that corruption is efficient per se. For example, Leff (1968) describes corruption as a tax on economic activity that hurts the process of growth and especially in long-run. Yet, they argue that corruption, combined with low quality of governance aspects, may be more efficient compared to other alternatives.

In contrast, the second school of thought relies on a hypothesis called “sand the wheels”, which argues that corruption hinders economic growth, as it increases transaction costs and brings considerable uncertainty in the process of decision-making. Supporters of this view (e.g. Murphy et al, 1993; Shleifer & Vishny, 1993; Mauro, 1995; Mo, 2001; Monte & Papagni, 2001) suggest that corruption is disadvantageous to economic performance as both a market distortion and a tax on productivity. Moreover, they argue that corruption, as well as the creation of a market for political influence and favors, generate high opportunity costs, due to the diversion of resources away from productive uses (Anoruo & Braha, 2005; Drury et al., 2006).

In general, the majority of literature leans towards the second view that corruption impedes growth and development through different channels, such as investment, openness, and political instability. Corruption may reduce incentives of private investment, lowers the level of foreign direct investment, and distort public investment decisions. Thus, it challenges the competitiveness of the country and lowers its GDP. Moreover, corruption affects negatively income distribution and increases income inequality, which may lead to social tensions and instability. In fact, corruption could lead to a decrease in the quality of public services and the diversion of government expenditures, which in turn causes market inefficiencies, tempting companies to enter the unofficial economy. All of this results in lower tax revenues, restricting the political influence to implement regulations, and the difficulty to keep up law and order by the government in the country (Enste and Heldman, 2017).

2. TECHNOLOGY AND DIGITALIZATION AS ANTI-CORRUPTION TOOLS

Digital technologies and ICTs can be used for a wide range of purposes within and by governments. Whether they are used to improve internal workflows and systems, or in interactions with various stakeholders such as citizens and the private sector, they are credited with improving the effectiveness and efficiency of operations by replacing paper-based systems and recording every transaction. In that sense, e-government is characterized by the use of ICT to improve services, enhance management, strengthen governance, and support public participation (Khan et al., 2021).

There is substantial research to support e-government, and the use of smart and digital technologies, as anti-corruption tools. Additionally, and due to noting the increases in efficiency and effectiveness, most arguments that are used in this regard also link e-government with an increase in transparency, accountability, citizen participation, and responsiveness, all of which are direct means to diminish corruption.

The reasoning behind this argument is that e-government reduces the direct interaction between service providers and recipients by simplifying and standardizing processes and systems. It also increases transparency and the availability of information regarding services; thus, citizens are capable of knowing their rights. Consequently, corruption at the service delivery level is more controlled with the use of e-government. The use of ICTs can also reveal corruption from within the government, as transactions, communications and actions can be monitored through digital audit trails. Therefore, corruption cases among government officials can be deterred through the use of smart and digital technologies.
Moreover, one of the main deterrents of corruption is the participation of active and informed citizens in decision-making, which can be facilitated by e-government tools. Through electronic complaint mechanisms, citizens are able to report on corrupt individuals and give feedback on the quality of services. Also, they can reach government officials easily and demand information at any time. More broadly, the increase in transparency and availability of information, provided by e-government, can empower citizens and other stakeholders to hold government officials accountable and enhance their participation in decision-making processes (Khan et al., 2021; Addo & Senyo, 2020; Rustiarini, 2019; Adam & Fazekas, 2018; Kossow & Dykes, 2018; Gemma Aiolfi, 2017).

There are many forms in which e-government takes shape such as transparency portals, open data portals, service automation, online services, and issue reporting. Another relevant form of e-government is online corruption reporting platforms, which allow citizens to report on corruption or file grievances. These forms are often employed in corruption-vulnerable areas such as tax-systems and government contracts. Nonetheless, research shows that there needs to be more investment in ICT use in other areas such as procurement systems, quality of human resource management systems, and service delivery to reduce opportunities for abuse of power in these areas (U4 Anti-Corruption Resource Center, 2016).

Given its remarkable potential and in response to the disparity in e-government use among countries, the World Economic Forum (WEF) has issued some recommendations for governments concerning e-government. The WEF recommends automating high-risk bureaucratic procedures and public services, focusing digitalization on high-risk transactions, and using blockchain to secure records and transactions. Moreover, oversight agencies, in particular, are advised to use data analytics to expose corruption and minimize its risks. With regards to private-sector corruption, tech-based, data-intensive solutions can be utilized to strengthen corporate governance and compliance with integrity systems. Some of the recommendations provided by the WEF to utilize ICTs in fighting private sector corruption include opening corporate data, strengthening the autonomy of compliance offices and their capacity for integrity analytics, and investing in tech innovations and data analytics to mitigate risks, improve due diligence and ensure regulatory compliance (World Economic Forum, 2020).

In line with these recommendations of different international organizations for using ICT technologies in fighting corruption, Egypt’s National Anti-Corruption Strategy emphasizes digitalization and ICT adoption as two important tools to fight corruption. Some of the targets within the 2019-2022 strategy include establishing e-payment for government services, automating service delivery, and reinforcing digital data flows between government bodies (Administrative Control Authority, 2019).

Moreover, the Egyptian government is adopting a capacity-building program, in which the civil servants and government employees are enrolled to enhance their skills in different areas, in preparation for the move to the NAC. This program focuses mainly on promoting digital skills and digital culture, as well as enhancing the capabilities of employees in the information systems and digital transformation units. In addition, the program also aims at disseminating and strengthening the culture of fighting corruption. However, it is worth mentioning that there is a strong emphasis by the Egyptian leadership and government on the importance and role of ICTs and digital technologies in the jobs and tasks carried out by civil servants, to prevent corrupt practices and increase efficiency, whether they will relocate to the NAC or not (Ministry of Communications and Information Technology, n.d.).
3. THE SMART NEW ADMINISTRATIVE CAPITAL (NAC) AND ITS ROLE IN REDUCING CORRUPTION

Regardless of anti-corruption measures, corruption in urban areas still proves to be a considerable risk. This sub-field is receiving significant attention in corruption research, urban studies, and the international community due to its impact on sustainable development and inequalities in urban areas. Moreover, the New Urban Agenda, which was developed in 2018 by UN-HABITAT to become the central set of global policy commitments for urban development for the next twenty years, commits signatory countries to promote preventive anti-corruption measures as part of their commitment to achieving the SDGs (Zinnbauer, 2019).

Smart cities have emerged as a trendy political ideal that is widely adopted as an impressive development vision in many countries. As previously mentioned, the main characteristic that distinguishes a smart city is the use of ICTs to promote more efficient and effective systems and operations (Zinnbauer, 2019). Nowadays, the concepts of e-government and smart city are used extensively to refer to one another i.e. they started to converge. E-government was introduced mainly with the aim of having a better services delivery, by focusing on internal processes and the use of ICT technologies by different governmental units and administrations. Meanwhile, smart city goes a step further by relying on e-government and ICT and digital technologies, to foster innovation by collecting, processing, integrating, and using data on a larger scale than ever before. This in turn leads to more informed decision making, high-quality services and reduced risk of corruption, but it requires more complex partnerships with all relevant stakeholders, including the private sector, civil society, academia, individual citizens, and so on (Walravens & Mechant, 2018).

Functioning as a smart city, that adopts new ways of administration and management through ICT, traditional anti-corruption measures, will undoubtedly fall short in containing corruption in a smart city. Therefore, the digital technologies employed by a smart city are integral tools in governance and anti-corruption mechanisms. They will also be imperative to the efficiency of the smart city, and the ambitions for human development and environmental sustainability (Zinnbauer, 2019).

It is also worth noting that Smart city is often accompanied by the concept of ‘smart governance’. This is described as a proactive governance structure that depends on the involvement and collaboration between different actors to maximize the performance of the city and to resolve negative externalities. Smart governance requires the transformation and restructuring of administration to evolve it into a ‘smart’ and innovative administration. That is, governments need to utilize ICT and digital technologies to interconnect and integrate information, processes, institutions, and physical infrastructure (Meijer & Bolivar, 2016). Therefore, the smart governance of a smart city is expected to reduce information asymmetries between government and different stakeholders, which will, in turn, increase civic participation, inclusion, and curb corruption, as the operation of the smart city depends on the active involvement of all stakeholders. Open data portals are thus vital in smart cities to ensure citizens know their rights, find data about public services, and have the knowledge to make decisions and hold authorities accountable (UN-HABITAT, n.d.).

One of the primary purposes of smart governance is the efficient collection and analysis of data. In this regard, smart governance can use a variety of smart technologies such as big data, Internet of Things (IoT), and Artificial Intelligence (AI). In fact, smart city models are dependent on the deployment of different layers of ICTs from the use of sensors, smartphones, and smart cameras to using the IoT, and mobile communication technologies, and deeper analytical tools that analyze data in real-time using cloud computing platforms. The expected outcome is that decisions can be made based on the information that was collected and analyzed, thus eliminating the long processing times, increase operational efficiency, and greatly reducing the risk of corruption (Tan & Taeihagh, 2020). Reflecting on the case of Egypt, The New Administrative Capital (NAC) is a major urban development project that is intended to be a smart city integrating its smart infrastructure to provide many services to citizens. It also has a large number of integrated health, educational, residential, commercial, and administrative projects, where it is planned that all the government will be moved to the NAC in its new form as a “smart government”.
Therefore, the NAC should play a pivotal role in modernizing anti-corruption measures through the use of smart and digital technologies. The smart systems that the New Administrative Capital will depend on are expected to reduce opportunities for corruption and promote an environment of productivity, efficiency and accountability. Moreover, the adoption of e-government mechanisms in the smart city NAC should also reinforce the ability of the government to fight corruption and offer high-quality services to its citizens.

CONCLUSION

Developing countries started to engage extensively in smart cities development in order to face challenges like congestion and disaster management. In fact, smart cities development is a vital step in achieving transformative progress in these and other areas, provided national governments embrace quality governance. The main aim of this article is to show that smart cities and the extensive use of ICT and digital technologies could help in avoiding the dangers of corruption and reducing its degree in any society. This is to ensure that the move to the NAC in the case of Egypt, being an integrated smart city that is based mainly on the use of ICT in all life aspects, should be beneficial in reducing the levels of corruption. Moving to the smart NAC is expected to foster coordination and enhance government capabilities to overcome information constraints.

Moreover, the development of the smart NAC would ease data collection and analysis, which in turn improves project monitoring and governance, discouraging rent-seeking and other types of corruption. Yet, it is worth mentioning that without good governance, returns on ICT investment will lag. Thus, data openness, together with transparency, participation, as well as collaboration are seen to be fundamental principles to smart cities’ governance.
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EGYPT’S NEW ADMINISTRATIVE CAPITAL: PLANNING AND DESIGN PERSPECTIVES FROM MALAYSIA

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ABSTRACT

This paper examines recent moves to establish new administrative capitals in East Asia, focusing on the case of Malaysia. It studies how Putrajaya was conceptualized and implemented by Malaysian planners. The paper also contextualizes the Malaysian experience through a planning and design perspective. It concludes by distilling Malaysia’s management of Putrajaya, offering some policy insights for the Egyptian government’s planned move to establish a new administrative capital off Cairo.
INTRODUCTION

This paper assesses the development of Putrajaya, Malaysia’s administrative capital. It was conceptualized in the 1990s with multiple objectives such as reducing traffic congestion and promoting digital transformation. Some of these objectives have since been reached, while others remain (partly) unfulfilled. Malaysia’s experience in managing the entire developmental cycle of Putrajaya is a relevant discussion topic for Egyptian planners who are aiming to relocate to a new administrative capital.

Announced in 2015, Egypt’s new administrative capital is to be located about 50 kilometers off Cairo, the North African country’s largest city-cum-capital. It is envisaged as a 700 square kilometers urban hub, with 32 residential districts to accommodate 6.5 million people. However, the chosen location does not house existing settlements, meaning that there is intention to build a new metropolis on a clean slate (Ghalib et al., 2021). Aiming to attract global investors, plans are underway for the inclusion of at least six foreign universities, over 600 medical facilities, and 40,000 hotel rooms. It will also have a theme park four times the size of Disneyland, an airport as large as London’s Heathrow, and a financial centre with the tallest building in Africa (Bolleter and Cameron, 2021).

Several points make the analysis of Putrajaya relevant to the Egyptian policymaking community. Firstly, Malaysia and Egypt are both majority Muslim countries with sizeable ethnic and religious minorities. They are also middle-income economies with aspirations to uplift their citizens’ living standards. Some of their more ambitious plans are the Malaysian Shared Prosperity Vision 2030 and the Egyptian Vision 2030 respectively.

Secondly, and perhaps more importantly, the proposal to push their respective new administrative capitals occur(ed) at a time where both countries face(d) stiff headwinds in the global economy. The construction of Putrajaya took place amidst the 1997 Asian Financial Crisis (AFC), which caused a sharp recession in the country and most of East Asia. The financial pressure meant that the rolling out of Putrajaya did not progress as smoothly as envisioned, at least in the years during the AFC and the immediate years after the crisis. For Egypt, it has been badly affected by the COVID-19 pandemic, financially, economically, and socially. World Bank (2021) forecasts Egypt’s growth to decline from 3.6% in FY2019/20 to 2.3% in FY2020/21, complicating the task of constructing the country's new administrative capital.
I. CELEBRATION OF MODERNITY AMIDST SOME OVERSIGHT

The idea of relocating the Malaysian federal government’s administrative function out of Kuala Lumpur, the then commercial capital-cum-administrative capital, was mooted in the 1970s. Malaysia’s steady economic and population growth following the end of World War Two meant that infrastructure within Kuala Lumpur was getting increasingly strained. Worsening traffic jams and frequent flash floods were some of the notable complaints of that era (Johan Ariffini, 2003).

In 1994, a site 25 kilometre south of Kuala Lumpur was chosen as the new administrative capital. It was to be developed as part of the Multimedia Super Corridor (MSC), which stretched from Kuala Lumpur to the then soon-to-be-completed Kuala Lumpur International Airport (KLIA). The MSC was envisioned as the local version of ‘Silicon Valley’, functioning as a hub to attract high-technology industries and smoothen the economy’s transition to a knowledge-based economy (see Bunnell, 2004). These reasons are broadly similar to those presented by Egyptian city planners in the proposal to move part of the Middle Eastern country’s administrative functions out of Cairo (City Monitor, 2015; The National, 2015).

Putrajaya’s construction began as early as 1995. In 1999, key staff members of the Prime Minister’s office moved to Putrajaya. By the mid-2000s, most, if not all, of the civil service has relocated to the newly constructed administrative capital. According to Johan Ariffini (2003), Putrajaya’s vision, set by then Prime Minister Mahathir Mohamad (1981 to 2003; 2018 to 2020), was to be a ‘City in a Garden’ and an ‘Intelligent City’. Translated into more specific and actionable goals meant the following: it should be striking and distinctive; meet the needs of the present population as well as future generations; timeless in aesthetic and functional terms; and embody elements that reflect Malaysia’s tradition and culture. As of 2021, it can be said that many of these objectives have been attained.

Most importantly, Putrajaya is widely perceived as a ‘success story’ by government officials, especially in the Global South. Officials, planners, architects, and students from Africa and Central Asia, have travelled to Putrajaya to see it first-hand. They usually also visit the MSC to gain a wider perspective. In particular, representatives from the Muslim world view Putrajaya as a model progressive ‘Islamic’ city in which religious piety co-exists with modernity and high-tech ambitions (Goh and Liauw, 2009; King, 2007). According to Moser (2010), officials and designers of Dompak, the new capital city of Indonesia’s Riau Islands Province, drew explicit inspiration from Putrajaya. They have visited Putrajaya several times, aiming to emulate its achievements in their respective constituency.

Despite its acclaim, Putrajaya seems to suffer from two major shortcomings. Firstly, there remains much to be done regarding its vision as a ‘City in a Garden’. To this end, the city’s microclimatic cooling design has been critiqued for not adequately accounting for Malaysia’s tropical climate (Moser, 2010). In street design, for example, Putrajaya has primarily adopted wide formal avenues, which inadvertently exposes pedestrians and buildings to direct sunlight. Worsening the situation is the city’s planting scheme which primarily grooms short, decorative vegetation such as trimmed hedges and flower beds. The lack of tall far-spreading shade trees, to a certain degree, discourages walking and cycling. Additionally, many of its buildings are not designed with the explicit intention to save energy, meaning that sunlight and the resultant heat is not efficiently directed inwards and dissipated thereafter. This means that heavy air-conditioning is necessitated, especially during daytime, to keep the interior of buildings cool (Moser, 2010). However, growing awareness about energy conservation and climate change in recent years have partly alleviated this issue. For instance, solar energy is increasingly viewed as an alternative energy source by Malaysian households and businesses (Azhar, 2021). Secondly, Putrajaya seems to espouse more Middle Eastern Islamic symbolisms rather than the unique features of Malaysia’s multicultural society. In other words, the city planners’ goal of promoting a distinct Malaysian identity has only been partially fulfilled. For example, experts have taken issue with the architecture of the Putra Mosque, the main mosque in the administrative capital. They claim that it had overemphasized designs originating from the Middle East rather than those from Malaysia (Goh and Liauw, 2009; King, 2007). Amongst other things, it is said that the mosque’s 116 meter-high minaret and a basement wall bear too close a resemblance to the Sheikh Oman Mosque in Baghdad and the King Hassan Mosque in Casablanca respectively (Mahmood, 2005).
Other architecture that has been critiqued along similar lines include the 435 meter Putra Bridge and the Prime Minister’s Office (see also King, 2007). To a certain degree, this Middle East imaginary is understandable, given the Malaysian leadership’s desire ‘to forge a pan-Islamic world bloc to stand against others that have long denigrated the Islamic world and have, at worst, exploited it’ (King, 2007, p.135). This will also provide Malaysia with a stronger voice in the international arena.

2. POLICY IMPLICATIONS

How does Putrajaya’s experience inform the Egyptian policymakers then? For one, urban planning and design has to be contextual. More specifically, policies such as the creation of an administrative capital have to be tailored to suit the peculiarities of the countries in question. As discussed previously, the ecological features of Egypt’s new administrative capital have to be properly evaluated, if only to avoid repeating the oversight of Malaysian planners. Some of the relevant issues include active and passive cooling designs.

These are especially crucial when one factors in the Egyptian climate (i.e., intense sunlight and dry environment). Egyptian city planners could also consider bolder commitments to renewable energy and other environmentally friendly designs, including but not limited to solar energy adoption, to reduce carbon footprint. Recent research by Bolleter and Cameron (2021) indicates cause for worry. They point out that the natural wadi topography of the area generally runs from north to south. However, this has been compromised following the shift in alignment of the entire city to an east-west axis. In other words, the axis shift has strained the ecosystem, complicating the task of accessing potential water sources.

Although Egyptian planners have allocated about 41% of the area as their ‘green space’, the reality is that the vegetation cultivated has significant implications for water usage, especially when the natural wadi topography is not efficiently utilized. In addition to water demands, energy (to move the water) and chemicals are likely to be spent heavily to ensure the greenspace survives under Egypt’s climate. Such a profligate use of water also raises equity issues given the water shortages experienced by residents of older Cairo quarters (Bolleter and Cameron, 2021).

Relatedly, there have been complaints on a lack of public transportation in Egypt’s new administrative capital. Aerial snapshots of the area show major freeways criss-crossing various parts of the city, suggesting mobility will be predicated on having access to a vehicle (Bolleter and Cameron, 2021).

Nevertheless, Egyptian Prime Minister Mustafa Madbouly announced in June 2021 that the first phase of a monorail project linking the new administrative capital to East Cairo is set for completion by the end of May 2022 (Ahram Online, 2021). Although the monorail’s eventual fruition cannot be ascertained until at least a few years later, its introduction has – at the very least – gone some way towards addressing the lack of public transportation in the area.

Another key consideration is how best to install features that project Egypt’s diverse society and rich history. Malaysia’s experience in developing Putrajaya’s main architecture shows us that the task of balancing the host society’s sociocultural identity and that of the broader Islamic world is a tricky task. To this end, the Egyptian government can perhaps hold more regular consultation sessions with important stakeholders from both the private as well as non-governmental sectors. Their viewpoints can provide a useful complement to Egyptian city planners. According to Ghalib et al. (2021), the main mosque and main church have recently been built and inaugurated. They are amongst the first buildings to be ready for public use in the new administrative capital. In view of Egypt’s occasionally tense ties between different religious groups, these events can be interpreted as a public gesture by the Egyptian government to reassure minority religious groups. More importantly, it underlines the government’s wishes to promote more social cohesion and intergroup harmony.
CONCLUSION

This paper has examined the development of Malaysia’s administrative capital that is Putrajaya. It was conceptualized and pushed through by a determined Malaysian government, even in spite of the economic turmoil induced by the 1997 AFC. Although Putrajaya will likely take at least a few more decades to reach maturity, the prognosis thus far has been relatively positive. Put another way, its establishment has fulfilled some of the objectives that the Malaysian government identified earlier on. It has also become a role model for other developing countries – not least those from the Muslim world – aspiring to catch up to the rest of the industrialized world. The paper, however, has discussed some of Putrajaya’s shortcomings, namely its under provision of green features and an overshadowing of Islamic symbolisms vis-à-vis Malaysia’s local culture. These issues serve as useful considerations for the Egyptian planners.

Notwithstanding the insights generated, the analysis here has relied almost exclusively on secondary information, especially journal articles and newspaper reports. In future research, attention should be devoted to a more in-depth investigation of the urban development of Putrajaya as well as Egypt’s new administrative capital. Site visits and face-to-face interviews with key stakeholders would be helpful to unpack relationship between official plans and actual on-the-ground outcomes. Such assessments would further enrich our understanding of the mushrooming of administrative capitals in the Global South.
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LEVERAGING PRINCIPLES OF ECONOMIC GEOGRAPHY AND TOURISM CLIMATOLOGY FOR SUSTAINABLE TOURISM DEVELOPMENT IN EGYPT’S NEW ADMINISTRATIVE CAPITAL

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Acknowledgements: This work was partially supported by the grant “Mideast Meets Midwest: Enhancing Middle Eastern Studies in Missouri Universities”, awarded by the US Department of Education 2017-2019. The funding from this grant supported several undergraduate students who assisted with data collection and assimilation. Special thanks is noted for Mr. Ryan Wissmann who designed and created tourism maps used in this research.
ABSTRACT

In 2015, The United Nations 70th General Assembly designated 2017 as the International Year of Sustainable Tourism for Development. The international year focused on several key areas including economic growth, employment, poverty reduction, climate change, resource efficiency, cultural heritage, and peace and security. With the exception of the COVID-19 pandemic shutdowns, sustainable tourism as applied in a development sense has had significant positive outcomes on a consistent yearly basis. This paper reviews key aspects of how tourism is being used for development, and why current planning paradigms are in need of incorporating both economic geography and tourism climatology methods. To do so, it starts by looking at tourism in Egypt and contextualizing the New Administrative Capital (NAC) as a tourism development hub within the region. The structure of the NAC will have significant impacts on the movement of labor and demand for services both in the NAC and beyond to Cairo. The ability to effectively manage increased populations, tourist numbers, and labor needs must be accounted for in light of increasing resource demands and the changing employment landscape between Cairo and NAC. The paper then provides an analysis and overview of tourism climatology to emphasize how global climate change, weather data and environmental change interact with present and future initiative development within the tourism sector. Finally, the study concludes with considerations and suggestions of how principles and tools from tourism climatology can be utilized in this field moving forward, hopefully providing insight for Egypt’s New Administrative Capital.
INTRODUCTION

Egypt, a country with a long history of tourism development can continue to benefit significantly as it integrates the tourism sector strategically in the sustainable development of the New Administrative Capital (NAC). Doing so requires many considerations. This paper reviews the importance of why sustainable tourism principles and ideas should be implemented as a key part of the NAC’s strategic plan. In doing so, it provides an introduction as to why tourism should be a significant factor in planning and development decisions. The evaluative part then addresses two major considerations: 1) how economic geography principles can be utilized to better understand tourism and how it will ‘fit’ within the new spatial organization of Cairo and the NAC; 2) how a specific methodology of ‘tourism climatology’ can be used to link weather and climate data in order to assist with planning from both supply and demand sides of the tourism sector. Finally, after introducing these ideas and frameworks, the study concludes by providing examples of successful implementation with policy recommendations and ideas that planners, businesses, and developers may use to implement the aforementioned principles.
I. THE IMPORTANCE OF SUSTAINABLE TOURISM IN THE DEVELOPMENT OF EGYPT'S NAC

Egypt's propensity to be a global leader in tourism has a well-established and long history. From pre-modern tourism 'explorers' to extrapolated acculturation routes off “Europe's Grand Tour” trod by the noble classes and by travelers today; with its wealth of tourism amenities, tourism has and will continue to be well represented in Egypt. Reviewing UNESCO World Heritage Sites, Egypt has many: Memphis and its Necropolis – the Pyramid Fields from Giza to Dahshur; Ancient Thebes with its Necropolis, and Nubian Monuments from Abu Simbel to Philae, Historic Cairo, Abu Mena, Saint Catherine Area, and Wadi Al-Hitan (Whale Valley). Despite the propensity for visitors to focus on historical and cultural tourism, Egypt is also home to protected environmental tourism areas as established in the Omayed and Wadi Allaqi biosphere reserves.

Overall, Egypt has many diverse tourism amenities to offer to a significant number of tourists. This can be verified by data obtained from the UNWTO as recent pre-COVID era tourism numbers indicate that tourism supported a large portion of the Egyptian economy. Between 2013 and 2017, total arrivals of inbound tourists ranged from 5.4 million in 2016 to 9.8 million in 2014. Of these arrivals the vast majority (over 98%) were for personal leisure reasons. Indeed, expanding UNWTO data inquiry from 1997 to 2018, business arrivals in Egypt have never exceeded 4% of totals. That said, the number of business travelers, both in number and overall proportion of inbound travelers is likely expected to increase with the development of the NAC. Business travelers reflect those visiting Egypt and the NAC for purposes such as meetings and conventions, as well as those on official governmental business. The active planning of space within the NAC to accommodate these types of activities expands the resource base for business tourism—particularly given the administrative and business nature of this new region. Such proxy examples, regarding increases in business tourism in countries seeking to use business tourism for economic development, have been seen in places such as Rwanda (Rogerson, 2013) and Kazakhstan (Mussina et. al., 2019).

In addition, from 2013 to 2015, domestic visitors (both overnight and same-day visitors) varied from 24.4 million in 2013 to 25.7 million in 2015. To provide for these tourists, employment in tourism as of 2015 totaled nearly 2 million workers throughout Egypt. When comparing tourism in Egypt to the larger region, Egypt remains strong. Egypt stands out in terms of overall inbound tourism expenditures (Figure 1) (indicating a significant tourism export economy) as well as the growth in these numbers from 2013 to 2017 (Figure 2). As a percentage of GDP, tourism 'balance' shows high shares of tourism per the economy (Figure 3) as well as growth in the GDP proportion from 2013 to 2017 (Figure 4).

Figure (1): Tourism Expenditures, 2017.
Figure (2): Inbound Tourism Expenditures (2013-2017).

Figure (3): Greater Middle East Tourism Balance, 2017.

Figure (4): Greater Middle East Tourism Balance (2013-2017).
Egypt ranks 65th globally in Travel and Tourism Competitiveness as determined by the World Economic Forum (2019). Within the ‘Middle East and North Africa’ (MENA) region, Egypt is a ‘top scorer’ among categories of environmental sustainability and cultural resources/business travel. Additionally, Egypt shows trends of improvement as within MENA as it is ‘most improved’ in areas concerning safety and security, ground and port infrastructure, and natural resources. Based upon these metrics, the NAC has a great potential to expand tourism in Egypt through the creation of new business tourism markets, generating increased accessibility for inbound transportation, and increasing Egyptian wealth through tourism entrepreneurship, thereby resulting in increased domestic tourism. These goals are plainly apparent to leadership within Egypt as the country is ranked 31st globally in the ‘prioritization of travel and tourism’.

2. SUSTAINABLE TOURISM DEVELOPMENT IN THE REGION

Sustainable development of tourism requires adherence to successful long-term maintenance of elements of environment, culture, society, and economy. Tourism should thus be viewed as a vehicle for achieving these sustainable outcomes for the betterment of society. In this respect, the integration with the UN Sustainable Development Goals (SDGs) can help guide aspects of sustainable tourism to achieve proactive outcomes associated with development (Hall, 2019; Sharpley, 2021). Successful in its implementation in the region is the comprehensive Jordan Tourism Development Project (2008-2013) which was funded by the United States Agency for International Development (USAID). This project achieved many goals for Jordan’s development through tourism including improving tourism amenities and visitor experiences, enhancing promotion, establishing educational pathways for those in tourism, and promoting artisan empowerment through local handicrafts. For other cases in the region, Mansfeld and Winckler (2008) through topical exploration and historical narrative, explored how tourism has helped Bahrain diversify its economy beyond oil and become more economically sustainable. They concluded, while elements of social sustainability were yet to be adequately addressed (i.e., heavy dependence on cheap foreign labor), Bahrain’s efforts to attract FDIs in a tourism economy, beyond oil, show promise. Recently, Saudi Arabia has opened a UNWTO office in Riyadh and has begun promoting the Alula Framework oriented to promote sustainable community development through tourism (UNWTO, 2020). Despite COVID-related difficulties, in travel, the opening of this office in 2021 has extended UNWTO global initiatives such as rural tourism, women’s empowerment (Elshaer et al, 2021), and climate action into the region where they actively apply strategies in a local context (UNWTO Report of the Secretary General, 2021). On the other hand and in order to adhere to a sound sustainable tourism plan, decision-makers must better understand how changes will impact local labor populations. The movement of stated labor and capital within the context of the tourism sector are of utmost importance (Vignati et al., 2015).

3. EVALUATION 1: ECONOMIC GEOGRAPHY CONSIDERATIONS FOR THE NAC AS IT PERTAINS TO TOURISM

The New Administrative Capital has a potential to radically change the economic geographical landscape of Cairo and the region as a whole (Menshawy, 2021; Serag, 2017; Hussein and Pollock, 2019; Ghalib et al., 2021). Within tourism, the NAC provides potential advantages to both the new areas as well as ‘old Cairo’ (Manshawy, 2021).

Today, Cairo and its hinterlands rank as the 6th largest metropolitan area in the world, with a population in excess of 20 million. With population growth and Cairo continuing to serve as a regional political, social, and economic hub, extreme crowding-in has been a significant problem. In fact, according to a World Bank Report (2010), estimated annual costs in Cairo due to congestion are estimated at 50 Billion EGP. Though not the sole reason for the development of the NAC, population densities and inefficiencies resulting from an overcrowded Cairo metropolis have contributed significantly to the decisions behind creating the new capital (CUBE Consulting, 2017).
Additionally, climate change, and its health impacts on residents within the urban environment have also been discussed as reasons for adaptation techniques in Egyptian governance (Yara et al., 2021). This is particularly valid as it relates to those who are more economically disadvantaged in Egyptian communities (Abdel Ghafar, 2021). Developing and/or maintaining a healthy tourism economy in this type of landscape proves challenging. The concept of ‘over-tourism’ (Koens, 2018; Milano et al., 2019) frequently is assessed as a detriment to the long-term sustainability of the tourism market where both locals and tourists suffer from overcrowding. Examples are often cited in the context of popular European cities such as Venice and Barcelona. Additionally, as seen in the Kathmandu area of Nepal, crowding coupled with an influx of tourists is socially detrimental (Phuyal, 2020).

Creation of the NAC will have the potential to simultaneously increase tourist flows within the region and decrease crowding thus improving the ‘health’ of local tourism economies. Tourism in Cairo should be expected to grow as it can be assumed that Cairo will continue as an antiquities hub for cultural heritage and UNESCO-oriented tourists in the region. Regardless of whether travelers fly directly and visit the NAC for business and conventions or for leisure, there is a high likelihood they will still visit Cairo. Given the development of the high-speed rail between the NAC and Cairo and the creation of another airport hub within the NAC, it is very likely that overall tourism numbers will increase both in Cairo and Egypt in total. Regionally, the NAC will act as a business traveler hub, contributing to a potential hub-and-spoke tourism pattern with visitors traveling to the NAC and beyond. To increase length of stay and tourism revenues, if tourism planning facilitates the multi-directional patterning of travel beyond the NAC (e.g., Luxor, Cairo, Hurghada City), it can subsequently decrease unsustainable over-tourism crowding. This same type of strategy has been successfully implemented in the Dolomite region of Northern Italy as Venice, one of the busiest tourist locations in the world, seeks to limit guest numbers by geographically diffusing travelers, rather than limiting their raw numbers (Bertocchi et al., 2020).

Reviewing the supply-side of tourism, movement of human capital from Cairo to the NAC will create a potential challenge associated with the distribution of middle and upper management labor. With the building of new international hotels, as well as upper-middle income housing in the NAC, there is a high likelihood that many upper-level jobs are likely to move from Cairo to the NAC. Changes in these economic geographies of the region do raise concerns (Menshawy, 2021; Serag, 2017, Hussein and Pollock, 2019) associated with something similar to United States’ ‘suburbanization’ (Caves, 2004). Ills of suburbanization in the United States resulted as the wealthier classes departed inner-cities and left areas without adequate tax bases—resulting in inner-cities comprised of poorer citizens, dilapidated infrastructure, inadequate schools and blighted high-crime areas (Downs et al., 2005). Without adequate lower income housing in the NAC, lower-income employees within tourism facilities (i.e., restaurant wait staff, housekeepers) will be left to commute from afar—creating strain on the NAC commuter transportation systems.

Understanding these needs of the tourism industry and their predispositions to hire both upper management and lower wage labor positions, will allow the sector to be well served to cater to the potential ‘losses’ Cairo may experience as a result of shifting labor and population movements. Given its mystique, the nature of tourism in the Cairo area is likely to continue with consistent demand, however, not if it becomes blighted or safety concerns arise—both resulting in lost jobs and depressed economies. Such urban blight will also encourage tourists to stay outside core tourism site areas, further diverting monies outside areas that likely need it most. Furthermore, without a structural labor plan for Egyptians, there is the potential for any labor shortages to be assumed by foreign companies who fill the void of supply. Better understanding the labor needs in light of demographic and structural changes to the area is thus crucial for better ensuring social and economic sustainability for future development.
Overall, there is significant information regarding tourism and tourism for sustainable development in areas of culture, climate change, and economies collectively. As separate areas, however, there is generally a lack of frameworks that incorporate environmental data into the social component. A key to understanding the relationship between social sustainability and environmental sustainability is the relationship between people and the surrounding ambient environment. Such a relationship can be better understood by implementing a tourism climatology perspective (de Freitas, 2003) that serves as a framework for establishing the appropriate connections between these elements. In this context, the importance of linking environment and society becomes apparent. Day-to-day actions are generally influenced by the weather in any country, and business costs are very much connected with the environment. Also, when reviewing climate change, adaptation becomes a key element where policies are modified to accommodate potential changes in the weather and thermal regimes in the future.

In general, people are only presented with esoteric information regarding the weather. Tourism climatology, however, begins with a re-analysis of the weather from the perspective of the end-user and then presents it in a way for decisions to be made on both the supply and demand sides. Tourists and visitors adequately prepare and adapt, thus making their visits more pleasant. Planners and businesses can adjust for those visitors by understanding appropriate communication and sustainable building development (de Freitas, 2003); however, usage of a tourism climate framework for sustainable tourism development takes differing forms depending on the geographic context. To do so, the following items should be taken into consideration:

1. **Establish weather data needs regarding the current context.**

Weather informational needs may or may not be the actual weather data in its raw format. The establishment of a tourism climatology weather data display focuses on the useful communication of weather information. Figure 5 shows what a hypothetical long-distance overseas tourist (or planning agency representative) to the NAC might review prior to planning their tourism event: average daily minimum and maximum temperatures by month and monthly rainfall totals. [Weather and climate data were obtained from the World Meteorological Organization through a partnership with The Egyptian Meteorological Authority and displayed through the website maintenance of the Hong Kong Observatory. Climatological information is based on a 30-year normal 1981 to 2010.] The assumption being made in these materials is that the tourist/agency might use the NAC as a ‘hub’ while people visit other touristic areas of Egypt in their leisure time, hence the added locations of Alexandria, Cairo, and Luxor. While this information is generally useful for those local to the area and may be quite informative to more engaged weather-aware people, it is a difficult aspect to ascertain for those who casually observe the weather and are not familiar with the destination they are visiting. For most, the information provides an overview of the dry months, wet months and a general sense of the warmest and coolest times of the year but is lacking in overall utility. Developing data specifically for the end-user is part of the tourism climatology.

**Figure 5:** Climate graphs of Egypt
Figure 6 shows how data can be alternatively displayed through a comparison of the high average temperatures, with a 'thermal stress' overlay accompanied with precipitation reformatting. High temperatures were chosen because the warm thermal regime in Egypt poses the greatest threats to personal comfort and thermal stress well-being—both key aspects for stakeholders within tourism. This is further established in biometeorology studies linking temperature profiles to human behavior and physiological incident (Perkins et al., 2016). Thermal stress bands corresponding with yellow (mild); orange (moderate); red (high) thermal stress situations can give viewers a context of the physiological risks regarding heat when visiting during a particular time of the year. If a climate is ‘too hot’, then outdoor recreationalist opportunities become difficult or alternatives are sought. Additionally, comfort and health can be put in jeopardy if not correctly planned. Proper adaptation to the weather elements is important for the tourist and the businesses trying to cater to the needs of the tourist to earn their money.

Not shown here is another possible thermal data modification through its descriptive contextualization. With this modification, thermal data can be tailored to the end-user by utilizing descriptive text such as ‘hot’ ‘warm’ or ‘cold’. This is done in a tourism sense because tourists do not necessarily understand the meaning of “20°C and 78% humidity”, but rather, might relate more to a term such as “warm” in their interpretation. Data indicating how weather might make tourists feel, has been established using surveys (Lin, 2011) with more specific thermal measures such as a Physiologically Equivalent Temperature (Hoppe, 1999).

Source: Data obtained from the World Meteorological Organization (WMO), and displayed by Egyptian Meteorological Authority
Precipitation information can also be modified (Figure 6) regarding number of rain days rather than amount of precipitation. This is primarily done to give more details to the end-user in terms of how precipitation will impact their experiences. For example, while meteorological forecasts are superior to climate probabilities in short-term planning, long-range planning (as in meetings and conventions) must rely more on climatology due to uncertainties in atmospheric modeling (Perkins and Debbage, 2016). This means that planners, when using information sets as seen in Figure 6, can interpret that Cairo averages nearly four rain days in January or February. The result indicates that on average, those visiting in this time frame are likely to experience at least one day of rain for approximately every week of their stay in terms of expected climate. While precipitation does not fall on such a regimented schedule, when accounting for profits and sales on weather-dependent activities at an annual scale, this type of calculation can assist in providing operators with an appropriate activity mix for visitors.

**Figure 6:** Alternate displays of weather information for end-users

**Average Daily Maximum Temperatures**

![Temperature Graph]

**Days of Rainfall**

![Rainfall Graph]

Source: Data obtained from the World Meteorological Organization (WMO), data display by author.
2. Focus on ‘general weather’ to understand its impact on people

The synoptic level scale of the weather often indicates a more appropriate macro-level assessment than thermal conditions regarding outdoor tourism and recreation. In this type of analysis, weather and climates are identified by the ambient ‘air mass’ contextualized for seasonal and geographic differences. The result is a general overview of the atmospheric conditions in broad but meaningful terms (i.e. ‘dry tropical’ = ‘hot and dry-type weather’). This level of information, when used in the tourism climatology context, generally accepts the idea that people do not react or change behaviors based on small changes in temperature or humidity, but rather as a result of ‘regime changes’ in the weather. For example, a ‘dry moderate’ (pleasant) condition juxtaposed with a ‘moist tropical’ condition (hot and humid) will generally incite different reactions among how an ‘average person’ will interpret their environment. As a result, such factors can be very important when implementing policy and decisions regarding weather changes both in short term and long-term contexts.

Table 1 establishes the spatial synoptic regime (Sheridan, 2003; Kalkstein, 1996) of data spanning 1943 to 2021 for the month of March. Those visiting Egypt in the month of March are likely to experience a high probability of ‘dry moderate’ conditions (rainless and warm) throughout the region; however, if visiting Luxor in March, the probability of ‘dry tropical’ (46.1%) is the highest, indicating rainless hot days. Looking further at Cairo, and the NAC, ‘hot humid/sultry’ days are most prevalent in the months of July, August, and September. These measures are important as they are relatable to visitors from outside of the region. While many may debate their personal physiological nature to varying temperatures (‘hot natured’ versus ‘cold natured’), a synoptic element: ‘cool and wet’ versus ‘hot and dry’ versus ‘hot and humid’ are general agreed-upon aspects relatable to most end users assessing the weather. Table #2 shows how data can also be further analyzed in smaller temporal scales as is displayed for Cairo on sample dates in early and mid-August.

### Table 1: Review of SSC climatology March

<table>
<thead>
<tr>
<th>Official name</th>
<th>Dry Polar</th>
<th>Moist Polar</th>
<th>Dry Moderate</th>
<th>Moist Moderate</th>
<th>Dry Tropical</th>
<th>Moist Tropical</th>
<th>Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>How it feels</td>
<td>Dry cold</td>
<td>Wet cold</td>
<td>Dry neutral</td>
<td>Wet neutral</td>
<td>Dry hot</td>
<td>Humid hot</td>
<td>Changing weather</td>
</tr>
<tr>
<td>Alexandria</td>
<td>0.1</td>
<td>2</td>
<td>44.7</td>
<td>10.6</td>
<td>5.3</td>
<td>27.1</td>
<td>10.2</td>
</tr>
<tr>
<td>Cairo</td>
<td>0.9</td>
<td>1.3</td>
<td>48.2</td>
<td>5</td>
<td>17.4</td>
<td>13.7</td>
<td>13.7</td>
</tr>
<tr>
<td>Luxor</td>
<td>0.8</td>
<td>0</td>
<td>41.3</td>
<td>1.1</td>
<td>46.1</td>
<td>3.7</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Source: Data obtained from: Spatial Synoptic Classification v3.0 (kent.edu), data organization and display by author.

### Table 2: Review of SSC climatology, select dates

<table>
<thead>
<tr>
<th>Cairo SSC % of days</th>
<th>Dry Polar</th>
<th>Moist Polar</th>
<th>Dry Moderate</th>
<th>Moist Moderate</th>
<th>Dry Tropical</th>
<th>Moist Tropical</th>
<th>Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 1-10</td>
<td>0</td>
<td>0</td>
<td>30.4</td>
<td>0</td>
<td>14.5</td>
<td>49.1</td>
<td>6</td>
</tr>
<tr>
<td>Aug 11-20</td>
<td>0</td>
<td>0</td>
<td>26.8</td>
<td>0</td>
<td>16.3</td>
<td>50.9</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Data obtained from: Spatial Synoptic Classification v3.0 (kent.edu), data organization and display by author.
3. Utilize synoptic scale weather for initial analyses of climate change in tourism

Understanding of weather relationships today can give insight into climate change tomorrow. The United Nations World Tourism Organization (UNWTO) has stated in its ‘Davos Declaration on Climate Change and Tourism’ that climate is a key resource for tourism as this sector is highly sensitive to climate change impacts (UNWTO, 2007). The UNWTO has further suggested that communities and governments should ‘develop regional and local climate information services tailored to the tourism sector’ and implement community policy based on the interface between climate and the businesses and consumers within the tourism industry (UNWTO, 2009 pg. 25). This suggestion focuses on climate, but broadly encompasses the need for a more thorough understanding of the interface between the atmospheric condition and tourism sector participants.

Reviewing Cairo weather data, Table 3 shows the trends among the SSC elements in days/decade from 1979 to the present (data obtained from Sheridan, 2021). What is apparent is that both ‘dry tropical’ and ‘moist tropical’ days for nearly every month are consistently rising. The conclusion is that it appears ‘hotter’ days whether they be humid or dry have become more numerous and will likely be more numerous in the future. Highlighted in the table are the months and respective synoptic weather types that have changed the most from 1979 to present. Changes were defined as either an increase or decrease accounting for the top 10% change in each category. This analysis shows that there is generally a decrease in the frequency of ‘dry moderate’ conditions—it would appear that the increase in ‘hotter’ days is coming at the expense of the ‘dry moderate’ days. This trend is something that must be accounted for as it shows a warming climate. It needs to be understood in today’s context to better supplement the ability of stakeholders to accommodate climate change as a result of a globally warming world in the future.

<table>
<thead>
<tr>
<th>Official name</th>
<th>Dry Polar</th>
<th>Dry Moderate</th>
<th>Dry Tropical</th>
<th>Moist Polar</th>
<th>Moist Moderate</th>
<th>Moist Tropical</th>
<th>Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>How it feels</td>
<td>Dry cold</td>
<td>Dry neutral</td>
<td>Dry hot</td>
<td>Wet cold</td>
<td>Wet neutral</td>
<td>Humid hot</td>
<td>Changing weather</td>
</tr>
<tr>
<td>January</td>
<td>0</td>
<td>-2.28</td>
<td>0.72</td>
<td>-0.08</td>
<td>0.01</td>
<td>0.95</td>
<td>0.76</td>
</tr>
<tr>
<td>February</td>
<td>0</td>
<td>-1.12</td>
<td>0.55</td>
<td>-0.24</td>
<td>0.02</td>
<td>1.48</td>
<td>-0.99</td>
</tr>
<tr>
<td>March</td>
<td>0</td>
<td>-3.35</td>
<td>0.64</td>
<td>0</td>
<td>0.03</td>
<td>1.61</td>
<td>1.07</td>
</tr>
<tr>
<td>April</td>
<td>-0.06</td>
<td>-0.39</td>
<td>0.9</td>
<td>0</td>
<td>0</td>
<td>0.34</td>
<td>-0.8</td>
</tr>
<tr>
<td>May</td>
<td>-0.45</td>
<td>-2.55</td>
<td>1.87</td>
<td>0</td>
<td>0</td>
<td>0.95</td>
<td>0.19</td>
</tr>
<tr>
<td>June</td>
<td>-0.41</td>
<td>-2.99</td>
<td>-0.65</td>
<td>0</td>
<td>0</td>
<td>4.02</td>
<td>0.03</td>
</tr>
<tr>
<td>July</td>
<td>0</td>
<td>-5.38</td>
<td>-0.31</td>
<td>0</td>
<td>0</td>
<td>5.27</td>
<td>0.51</td>
</tr>
<tr>
<td>August</td>
<td>0</td>
<td>-7.26</td>
<td>-0.9</td>
<td>0</td>
<td>0</td>
<td>5.82</td>
<td>1.35</td>
</tr>
<tr>
<td>September</td>
<td>0</td>
<td>-5.55</td>
<td>0.21</td>
<td>0</td>
<td>0</td>
<td>5.31</td>
<td>0.03</td>
</tr>
<tr>
<td>October</td>
<td>0</td>
<td>-5.02</td>
<td>-0.19</td>
<td>0.16</td>
<td>0.16</td>
<td>4.61</td>
<td>0.44</td>
</tr>
<tr>
<td>November</td>
<td>-0.39</td>
<td>-1.76</td>
<td>-0.04</td>
<td>-0.15</td>
<td>0</td>
<td>2.37</td>
<td>-0.01</td>
</tr>
<tr>
<td>December</td>
<td>-0.07</td>
<td>-1.73</td>
<td>0.13</td>
<td>-0.25</td>
<td>-0.26</td>
<td>2.11</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Source: Data obtained from: Spatial Synoptic Classification v3.0 (kent.edu), data organization and display by author.
Regarding tourism, the creation of new economic space in the NAC provides continued and significant economic development opportunity for the region (Ghoneim, 2021; Menshawy, 2021; Serag, 2017; Hussein and Pollock, 2019; Ghalib et al., 2021); however, understanding the geographic implications of this change is a requirement to prepare for a more sustainable future. Labor mobility must be considered in all socioeconomic avenues within the tourism sector. As mentioned, in an absence of economically-diverse housing in the NAC, many people within the tourism sector—particularly temporary or low-wage employees will not be able to relocate near this new economic ‘growth pole’ (Higgins, 2017). For those who are able to obtain work in the NAC, this will subsequently exert strain on transportation systems and increase the likelihood of commuting, resulting in increased greenhouse gas emissions, and thereby contributing to climate change and a deterioration of local air quality. Additionally, the impact on Cairo’s current economic and tourism climate must be accounted for. Departing labor and industry can incite a ‘vacuum’ where blight and joblessness ensue, creating a significant detriment to the existing tourism sector of Cairo as well as harming local social systems. To best understand these phenomena, understanding is best accounted for through citizen participation rather than government conjecture (Kaye-Essien and Bhuiyan, 2021). As mentioned by Bolleter and Cameron (2021), a lack of appropriate attention to key elements within environment and transportation systems can undermine the NAC. Understanding the potential population distribution changes in the region are of utmost importance to create continued long-term viability within the tourism industry.

Creation of a tourism climatology serves more than disseminating weather information to tourists. Understanding the reactionary relationships tourists and recreationalists have with the ambient environment should strongly shape decisions regarding architecture, design, and policy since it can significantly impact the well-being of both tourists and locals in a particular area. Utilizing a more appropriate display of data for those originating outside of the area is important concerning both health-safety and ‘truth in advertising’ for local tourism authorities and businesses. Visitors and guests will hence have a greater propensity to have repeat visits and engage in increasingly lengthy and expensive stays within the NAC. This is particularly true in climates that can be interpreted as ‘extreme’ as with the high-thermal stress conditions around the NAC, since inadequate preparation can have severe outcomes. Positive stays within Egypt, in general, will facilitate a propensity for repeat visitors to explore the potential of NAC meeting and convention services for business travel. Such types of convention-level agreements are often the result of repeat visitation.

Cultural differences must be known and communicated as Elnabawi et al. (2016) have noted in research of thermal perceptions in Cairo: locals are likely to have more heat tolerance than visitors. Beyond tourists, the planning of the NAC must consider the weather for its urban environment. Khalil et al. (2018) look specifically at Cairo, identifying it as an urban heat island and highlighting how the general climate of the area can create significant health hazards, particularly as the world continues to warm.

This paper also reiterates Khalil and colleagues’ (2018) argument that urban climate analysis—both in design and public marketing phases—should be requirements for ‘upgrading’ future global cities. These authors continue to emphasize that urban thermal comfort is subsequently classified as a key component of a healthy environment and an appropriate environmental justice concern as heat stress has significant impacts on human health. Utilizing public awareness campaigns to assist with interpretation and adaptation to the weather, in addition to longer-term urban planning to account for mitigation factors can transform the NAC into a comfortable, sustainable and healthy city. Planning weather factors as key goals enhances the ability for the NAC to become viable as a ‘livable city’ (CUBE Consultants) in the long-term.
Climate change must also be noted as it will have significant impacts on Cairo and the NAC in the future. Agrawala et al., (2004) provide a comprehensive review of development and Climate Change in Egypt. As noted, synoptic weather types presented in the context of tourism climatology do show significant changes in the weather and conditions in Cairo over the past several decades. Under most scenarios of climate change, the climate is primed to change even more in the future and with potentially disastrous consequences. It is estimated that loss of tourism revenues due to a changing climate would decrease tourism in Egypt up to 20% by 2060: an equivalent loss of 13 to 17 billion EGP per year (Smith et al., 2013). These losses are assumed to be a result of higher temperatures, and other locations becoming relatively ‘more attractive’ to tourists. Additionally, utilizing climate change models, it has been estimated that the neighboring Hurghada City’s ‘tourism climate’ will deteriorate in coming decades, putting strain on its long-term economic viability (Mahmoud et al., 2019). That said, when appropriately utilizing an understanding of tourism climatology and the interfaces between humans and the environment, appropriate design elements can be implemented to mitigate future issues. As infrastructure is a long-term investment, understanding long-term climatic change is the primary and most appropriate temporal scale for comparison. In Cairo, Mahmoud (2011) found that appropriate street design should include: shade structure and water bodies to enhance solar relief and provide evaporative cooling; use of deciduous landscaping to shade in summer and facilitate warming in winter; an understanding of how trees and buildings can both enhance and decrease wind conditions (a key element in thermal comfort); appropriately sourced building materials to control albedo and the urban heat island. With that, it should be noted that the creation of a non-native ‘oasis’ can facilitate a lack of sustainability. Keleg et al. (2020) emphasize the dissonance between marketing for the NAC regarding the proposed environmental implementations and what is currently existing.

The creation of a humid subtropical biome with lakes and lush vegetation within a Koeppen B (desert) climate is inherently unsustainable as it will require significant water and power needs beyond what is ‘normal’ for the region. This is particularly true in light of future climate change. CUBE consultants, however, have emphasized the need for appropriate use of ‘native’ flora in landscape design. Other ‘green’ implementations are also important for enhancing (cooling) the urban bio-climate and sustainability landscape such as the innovative ‘vertical forests’ seen in places such as Milan, Italy, the Egyptian GASCOOL company specializing in power generation and green energy (Khalil et al., 2020), and integrative planning of a ‘biophillic’ city with respect to the NAC (Nasreldin and Abdelfattah, 2020).

With these elements mentioned, further research is needed to establish a comprehensive idea for specific implementations within the NAC regarding tourism climate research. Despite this, concise policy recommendations at a high level can be noted. Using both environmental and social data to better understand the local climate and tourist/resident interfaces yields the following:
Climate change models must be used to better understand the realm of possibilities regarding extreme conditions. In the NAC, particular attention must be paid to healthcare response in extreme health-related issues, water availability, and facility cooling.

Positioning and design of indoor-to-outdoor space must utilize microclimate analysis to preserve its utility for end-users. To engage tourists and provide for environmental aesthetics, venues should focus on both indoor and outdoor space utilization. In urban environments with extreme heat such as in the NAC, understanding microclimates in anthropogenic landscapes is important for resident and tourist comfort, amenity usage, and energy budgets.

Resident and tourist surveys must be conducted for a more complete understanding of temperature preferences and spatial utilization. Sociocultural acclimatization and environmental interpretation are of utmost importance when assessing ambient conditions. Residents of the NAC will have different results than tourists, and this difference should be verifiable with data for optimal planning.

Green planning must be central to preserve the uniqueness of place and assure long term sustainability through decreased maintenance costs. Utilizing local low-energy ecology and dry-climate xeriscaping while preserving the cultural landscape of Egyptian tradition within the NAC is of utmost importance to ensuring sociocultural sustainability. Such elements often serve as tourist pull factors when marketing a location.

Residents and tourists must be informed with educational materials that enhance their knowledge of the local climate, including their potential activity interactions. Providing tourism climatology materials to visitors about weather and climate in the NAC helps manage expectations and provide a better appreciation and understanding for the unique location. This public educational engagement encourages environmental awareness and provides mutualistic outcomes for host and visitor.
CONCLUSION

It was the goal of this paper to outline key frameworks linking how geography, tourism, and climatology can be effectively utilized in a framework for increased understanding of future sustainable development of a region. The recommendations are by no means comprehensive and are open to alteration based on the needs of the host region and its communities. That considered, establishing tourism as a development tool and accompanying it with effective economic geography and tourism climatology frameworks can be a very effective methodology to help assist appropriate sustainable tourism development policy decisions both in present and in the future, and in light of a changing climate.
BIBLIOGRAPHY


SOLAR ENERGY APPLICATIONS IN THE NEW ADMINISTRATIVE CAPITAL CITY

United Nations Development Programme - UNDP
ABSTRACT

There are several sustainable energy and renewable energy technologies available that shape the New Administrative Capital City (NACC) as a model for sustainable cities at the national and international level. This article focuses on the solar energy applications that can be implemented in NACC on the short and long terms, to contribute to lowering its energy intensity and reduce carbon footprint. The content of this article is based on the outputs of the technical assistance offered by Egypt Photovoltaic (PV) Project to NACC, to develop a solar energy strategy and action plan for the implementation of small-scale applications that fit the city and provide part of its electricity consumption. It includes review of solar energy technologies at different levels of maturity and commercialization and highlights the enabling environment existing in Egypt.
The Intergovernmental Panel on Climate Change (IPCC), UN body for assessing the science related to climate, has released an alarming report in August 2021. The report was released as part of the IPCC Sixth Assessment Report, that was endorsed by the member countries in UN Framework Convention on Climate Change (UNFCC). The report shows that the emissions of greenhouse gases from human activities are responsible for approximately 1.1°C of global warming since 1850 to 1900, and the increase in global temperature is expected to reach 1.5°C over the next 20 years. The report confirms that climate change is already affecting every region in Earth and its impacts will further increase in the coming decade. At 2°C of global warming, heat extremes would more often reach critical tolerance thresholds for agriculture and health. The impacts will include changes to wetness, dryness, to winds, snow, ice, coastal areas, and oceans.

The International Community is committed to fight climate change, and reducing emissions is a key element in this fight. The parties of the Paris Agreement on climate change issued in 2015 have reached 191 countries out of 196 parties, who are members in the UNFCCC that commits to keep the rise in the mean global temperature to well below 2°C. Under the agreement, each country must determine plan and regularly report its contributions to reducing emissions, although there is no mechanism forces a country to set specific emissions targets. World leaders are meeting annually in the Conference of Party (COP) to review progress and establish mechanisms to catalyze and accelerate global energy transition from dependency on fossil fuel that is the main contributor to greenhouse gas emissions to alternative energy resources and cleaner technologies. The 26th COP convened in November 2021 in Glasgow, UK, while Egypt will host the COP27 in 2022.

UNDP supports countries all over the world to achieve the Sustainable Development Goals, including Goal 7, 11 and 13 on sustainable energy, sustainable cities and communities, and climate action respectively. SDG 7 aims to achieve universal access to clean energy and double efforts of energy efficiency and renewable energy. In this respect, it is now realized that universal access to clean energy cannot be achieved by fossil fuel only. Consequently, achieving universal access is dependent on achieving the other two targets for energy efficiency and renewable energy to make available sustainable energy for all. SDG 11 aims to make cities and human settlements inclusive, safe, resilient, and sustainable. Meanwhile, advancement of energy efficiency and renewable energy measures is the main climate action contributing to achieving SDG 13 target, for reducing GHG emissions globally. In this context, UNDP has been promoting energy efficiency solutions and small-scale renewable energy technologies which comes with socio-economic benefits such as job creation and livelihood improvements for local communities.
1. MAJOR TECHNOLOGICAL CHANGES HAVE TRANSFORMED THE COST STRUCTURES OF ENERGY

Egypt as a party to the UNFCCC and signatory of Paris Agreement has committed to global efforts to reduce emissions. Egypt’s Green House Gas (GHG) emissions are estimated at approx. 0.6% of global emissions. In contribution to the global effort, Egypt has started the long way for energy transition guided by the national energy policy reform while capitalizing on the large solar and wind energy potential and benefiting from the advancement in sustainable energy technology. The ambitious energy policy reform programme, which started in 2015, has stimulated energy efficiency measures at the national level and significantly reduced annual increase in demand for electricity by more than half of the average recorded rates between 2000 and 2010. UNDP worked with the Ministry of Electricity during the period (2012-2018) on the market transformation to energy efficient lighting systems, funded by the Global Environment Facility (GEF). The UNDP-GEF Energy Efficiency Project has yielded highly satisfactory outcomes with conservative estimates reflecting sales of over 84 million LED lamps between 2014-2018 that saved approximately 2 GW of electricity generation capacity 9,244 GWh and avoided emissions of 4.4 mt CO2/year. Furthermore, the government has set a target to achieve 37.5% of the consumed electricity from renewable energy by 2035 that was later on raised to 42%2. In this context, Egypt has established the largest solar park in the world in Benban, Aswan with 1,465 MWp.

All trends considered, since 1992, the mobilization of the International Community has resulted in huge investment in research and development of sustainable energy solutions and applications, leading to an unprecedented advancement in energy related technologies. Energy efficient lighting systems using LED technology have swept the world, replacing traditional light bulbs and reducing electricity consumed for lighting by 80-90%. Cost of Photovoltaic (PV) systems for generation of electricity has dropped by 85% since 2010, thus making it is the cheapest source for electricity globally. Energy efficient home appliances are leapfrogging to achieve higher energy performance standards, in particular with the introduction of inverter compressor for cooling systems. Electric vehicles are very close to reach commercialization and the electricity storage technology is advancing at a pace similar to photovoltaic. All these technologies and others have encouraged countries to set ambitious targets for GHG emissions reductions, including the UK led initiative to stop using coal for power stations. Several European countries committed to offer licenses for electric cars only by 2030 and several countries committed to achieve net zero carbon emissions by 20503.

2. NEW CITIES: UNIQUE OPPORTUNITIES FOR ENERGY TRANSITION

According to UNHABITAT, cities are major contributors to climate change and produce more than 60% of GHG emissions4. Cities’ engagement in climate change action is instrumental for achieving global GHG emission reduction targets. The New Administrative Capital City (NACC) in Egypt is an opportunity to advance sustainable energy solutions in Egypt, and can be a main driver for energy transition on the national level. The design of the city has considered sustainability elements including natural resource efficiency and the implementation of up-to-date Information Communication Technology (ICT) systems such as fiber optics cabling. The NACC design includes green areas covering 16% of the total area of NACC such as green belts, gardens and public green areas, all to be irrigated by tertiary treated wastewater. Furthermore, an integrated modern waste management system is designed including collection, transport, reuse, and recycling facilities and safe disposal of waste.

1. UNDP-GEF/Ministry of Electricity Energy Efficiency Project Report
The city design includes wide roads to ensure continuous unobstructed flow of traffic while public transportation will be limited to electric vehicles or those using natural gas to reduce GHG emissions. A district cooling central air conditioning system using natural gas has been established in the government district which improves overall cooling energy efficiency. The NACC has a set objective to maximize dependency on renewable energy for satisfying its energy demand. It is obvious that installing modern smart energy solutions in a new city is more cost effective than to change existing systems in older cities. Hence, the city can capitalize on the astonishing advancement in energy solutions and technologies to be a model for sustainable cities on the national and international levels. Given that the bulk of investment in construction works will be from private investors, the solar energy applications will offer an opportunity for real estate developers to market facilities with low energy demand and electricity bills against insignificant increases in investment capital.

3. SOLAR ENERGY PLAN FOR NACC

UNDP is working with the Industrial Modernization Center (IMC) of the Ministry of Industry on the promotion of grid-connected, small scale, roof top PV systems through the Egypt PV Project with funding from the GEF. The UNDP-GEF project has offered technical assistance to the Administrative Capital for Urban Development (AUCD) Company to develop a strategy for small scale solar energy applications in the NACC. The strategy includes a review of solar energy applications market aiming to differentiate between technologies that are mature and ready for implementation and the technologies that are under development but expected to reach commercialization in few years. It is prudent to take into consideration the developing technologies in the design of the infrastructure and buildings in the new city that can facilitate its integration once it reaches maturity. The strategy includes business models for the different solar energy applications. Furthermore, it identifies the elements of enabling environment to catalyze expanding use of solar energy applications in the city including policies, human capacities, regulatory and institutional frameworks, awareness, and financial mechanisms.

The review of the solar energy applications and technologies in the strategy included the following:

**Solar Efficient LED Based Street Lighting:** Sustainable energy solutions start with reducing demand. LED technology offers enormous reductions in electricity consumption, and the lighting market in Egypt has already transformed to LED with the support of a completed UNDP-GEF Energy Efficiency project, implemented by Ministry of Electricity and Renewable Energy (2012-2018). The NACC should prohibit the use of non-energy efficient lighting systems within its boundaries. The NACC should also ensure that the municipality and investors are fully informed about the international standards of lighting intensity for different purposes, given that street lighting systems in Cairo and lighting systems in some private sector institutions, such as banks and shopping centers, were known to operate with light intensity that unnecessarily exceeds international standard. Solar efficient LED street lighting can be used in the form of grid-connected PV or distributed standalone solar PV fixtures and battery storage with lifetime that exceeds 5 years for the battery. In this respect, grid-connected PV street lighting systems in public streets and private compounds can cover its electricity consumption via a net metering scheme with a very short payback period that should be less than two years. Meanwhile, standalone systems can eliminate the need for street lighting cables, which can significantly reduce costs of unneeded infrastructure.

**Grid-Connected Small Scale Roof Top Systems:** Egypt PV Project has supported the implementation of more than 100 small scale roof top PV solar power stations in different types of buildings including hotels, factories, schools, universities, government buildings, universities, hypermarkets, residential compounds, cultural heritage buildings, etc.

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5 UNDP/GEF/IMC Egypt PV Project Smart Solar Roadmap for the New Capital City, 2021.
6 https://egypt-pv.org/?lang=en
Egypt PV has disseminated the results generated from the demonstration projects, confirming the techno-economic feasibility of the technology with a payback period of 4-5 years that is getting shorter with time. Dissemination of results has normalized the technology prices in the Egyptian markets and increased demand for the technology from various sectors is observed, in particular from factories and hotels. Roof top PV systems is suitable for various types of building in the NACC if a space in the roof of the building is available including houses, administrative and government buildings, places of worship, educational and sports facilities, banks and shopping centers. The PV power stations can be used without or with electricity storage devices (batteries). Electricity storage technology is advancing at very high pace and prices are decreasing significantly. Batteries may last up to 20 years depending on the technology and use pattern. Batteries can be introduced at a later stage of operation to the NACC electricity grid to satisfy demand for electricity in the evening, provide a designated amount of available capacity per MW to be used at peak hours with reduced need for fossil fuel peak- ing plants, absorb electricity generated from renewable energy in cases of too much available energy in a transmission constrained area, and improve efficiency of thermal power station by supplying a constant output.

**Distributed Solar PV Generation and Energy Storage Systems:** Solar car ports and canopies including battery storage or charging stations for electric vehicles and distributed storage providers are technically simple applications and financially rewarding investment. The concept of solar parking lots aims at coupling the development of clean solar electricity and electric mobility. Solar panels provide shade and generate electricity to charge parked electric vehicles. In the vehicle-to-grid approach, the vehicles may also feed the grid and support it with ancillary services (e.g. storage). Solar car parks' canopies provide a flexible energy system designed to fulfill multifunctional functions that can be distributed in all parking areas in the city including hotels, religious centers, residential compounds, governmental district, education facilities, gas stations, buses and cars garages, commercial, shopping, sports, entrainment, exhibition areas, etc. The design of the system can currently include the PV systems, install necessary cables and reserve locations for batteries and electric vehicles’ chargers to be installed when demand grows.

**Solar Water Heating:** Using solar thermal collectors for heating water is an old proven technology that has advanced significantly over the last couple of decades. Solar Water Heaters (SWH) are used to support heating water for various purposes including residential and commercial uses. SWHs are a cost-effective technology, with only few years payback period, that can eliminate or significantly reduce consumption of electricity and/or natural gas used for heating water. SWHs are ideal for heating water for domestic, educational and commercial facilities including heating water for swimming pools. It has also been used successfully for increasing input water temperature for boilers in hotels and industrial facilities that need hot water. SWHs can compete with PV panels for available roof top space in buildings but balance can be achieved between the two technologies depending on the nature of energy demand in the building.

**Ground Mounted Solar PV Plant:** Large-scale commercial PV systems mounted on leveled ground. Azimuth and tilt of PV modules are homogeneous, usually facing towards the Equator and inclined at the optimum tilt to maximize yearly energy yield. This type of PV system is connected to a medium - or high- voltage grid through an inverter and distribution transformer. These systems can operate, with no electricity storage, to provide a low-cost source of electricity for the city through net metering scheme and reduce overall carbon footprint for the city. Given that the high value of the land in the NACC, such systems can be established in areas which are expected to be empty for city extensions over the next 10-15 years.
Building Integrated Photovoltaics: Building Integrated PV (BIPV) offers opportunity for generating electricity from buildings facades facing the sun. BIPV systems come in the form of PV modules (transparent and semi-transparent) that replace the glass or in the form of thin film installed over the glass which can save energy and CO$_2$ emissions in buildings. However, there are still limitations for the use of BIPV systems due to their vertical tilt that reduces electricity generation efficiency. BIPV cost for end-user is still relatively high which reduces its financial feasibility vis-a-vis roof top PV system. BIPV systems would be suitable for government buildings, administrative buildings, universities, embassies, banks, etc. The financial feasibility of BIPV system needs to be investigated under the NACC operation conditions but it will certainly increase percent of electricity from renewable resources. Nevertheless, it is wise to consider that the design of the buildings in the NACC can accommodate BIPV systems once the technology become commercialized over the next few years.

Solar Hybrid Air Conditioning Equipment: Air conditioners are large consumers of electricity in cities located in hot zones such as the case with the NACC. There are several cooling systems technologies that are currently under development that uses solar energy either the heat from solar energy or electricity generated from PV panels aiming to reduce electricity consumption for cooling. The systems under development include central A/C systems that can be fit for administrative buildings as well as smaller units that can be fit for homes and some of it is commercially in use but at a high price. The techno-financial feasibility assessment of using the different technologies under desert conditions will be the decisive factor to mark the maturity of the technology. Monitoring advancement of these technologies is essential to enable the NACC to implement and expand utilization for commercialized technologies.

Thermal Solar Power and Storage Systems: Buildings, concrete structures, tar roofs, asphalt roads pavements in urban areas absorb heat and act as a thermal battery storing heat during daylight. The absorbed heat is released at night enabling cities to retain heat for longer periods of time. Technologies are under development to capture and store the heat to be used for thermal electricity production and cooling purposes.

4. FROM PLAN TO ACTION: ENABLING ENVIRONMENT, CAPACITY AND FINANCING

The implementation of the plan requires an enabling environment to enable expanding the use of the mature technologies on a large scale including regulatory, policy and institutional frameworks, technical specifications, human capacities and financial mechanisms. The strategy includes a recommendation that the power grid in the NACC should enable accommodating new business forms of supply and consumption of electricity services. In this context, the grid has to include internet avenue for controlling, monitoring measurement, surveillance, and operation and maintenance while using the grid itself as a platform for electricity exchange.

The technical specifications for the renewable energy equipment and its components must be designed to fit the desert’s harsh conditions, including high temperature, dust, stand storm, high wind speed, flying stones, and high UV exposure. Equipment should be certified from reputable accredited testing labs to ensure adherence with set standards.

The regulatory framework provides sufficient legal support for implementation of solar energy applications in the NACC. The Renewable Energy Law No 203/2014 provides different schemes for developing renewable energy-based projects, aiming to achieve national target for electricity generated from renewable energy resources. This includes state owned projects with competitive bidding, competitive bidding for build-own-operate contracts, and Feed-in-Tariff Scheme that is now replaced by Net Metering Scheme, which is still financially rewarding for large electricity consumers.
The law also allows private sector off takers to enter into agreements with private power generation companies, to secure the purchase of electricity from renewable resources. Facilitating license and permits procedures for connecting to the grid is key to accelerate upscaling renewable energy installations in the NACC. The last eight years have demonstrated that the regulatory and licensing frameworks have to be solidly in place to facilitate.

Human capacities and knowledge on the technical and administrative aspects related to be implementation of renewable energy is critical for expanding use of the renewable energy technologies in the NACC. Engineers should be updated on the developments of sustainable energy solutions, as well as the technical specifications and optimal operation conditions for renewable energy technologies and applications. Administrative staff involved in the management decisions related to installation of renewable energy technologies should always be well-informed on the economics and financial models for different technologies, including investment opportunities, capital cost, Internal Rate of Return (IRR), as well as available financing mechanisms. There are good sources of such Technical Assistance and Capacity Development in Egypt.

There are several financing options in Egypt in addition to owner/user self-financing the renewable energy project. Recently, the banking sector in Egypt established green credit lines that include financing of renewable energy projects. This includes some financing mechanisms supported by development banks that offer soft loans. Leasing is another financing option, where leasing company can fund and own the system and transfer the ownership at the end of the contract term. Power Purchase Agreement is available as another financing mechanism, where the owner enters into an agreement with an independent power producer to install the renewable power stations and sell the generated electricity to the owner of the facility based on an agreed upon competitive price.

5. CURRENT SOLAR ENERGY INNOVATION AT NACC

The NACC has started implementation of solar energy plan, with a tender for the installation of 16 MW of roof top PV solar power stations for 52 government buildings in the new city through technical assistance offered by Egypt PV. This is considered a large first step towards promoting installation of PV systems in the city, and a model for real estate developers to replicate towards generalization of PV roof top systems in the NACC. Roof top PV power stations will cover part of the electricity consumption in the buildings. However, when coupled with other sustainable energy management including energy efficiency, significant reductions in electricity consumption will be achieved thus increasing share of renewable energy in total consumed electricity. Egypt PV also advocated the installation of solar standalone streetlights that AUCD implemented for demonstration purposes.

Finally, UNDP, in collaboration with GIZ have organized a webinar with Fraunhofer Institute, one of the world leading PV research centers based in Germany, for commercial real estate developers, contractors and engineers in AUCD on the perspectives of BIPV. Building-integrated photovoltaics, among other technologies are within reach and suitable for greenfield development like the NACC.
CONCLUSION

The world is striving to cut down GHG emissions to avoid very palpable detrimental impacts on the planet. Energy transition is crucial to curtail global warming and all countries are exerting utmost effort to increase their GHG reductions targets, while while some countries are targeting to reach net zero emissions by the middle of this century. Over the last few years, Egypt has shown significant progress in promoting renewable energy and energy efficiency actions and is setting an ambitious target to achieve for 2035.

Taking advantage that the NACC is being designed at the propitious time of the current renewable energy revolution, the new city can be the model for sustainable energy solutions that lead energy transition on national and regional levels. Solar energy applications and technologies offers the NACC several technically and financially attractive options for sustainable energy solution that make it a main driver for upscaling small scale renewable energy technologies in Egypt, while taking advantage of a mature market that has been tested and proven in many similar applications all over Egypt. The different sectors that are gradually being built in the new capital (residential, hotels, distribution and retail, industries, transportation) will each find examples of pioneers from peers in their sector that have already successfully transitioned to energy efficiency and renewable energy, with great savings.

Based on observed trends and the conducive enabling environment, it is likely that AUCD will first mainstream implementation of technically and financially viable technologies and applications such as street lighting systems with PV panels, roof top PV systems, canopies, and SWHs.

Meanwhile, the infrastructure of the city should also be designed to accommodate technologies that are currently under development and expected to reach maturity in few years including electric vehicles and their charging systems, battery systems, BIPV, hybrid A/C systems, etc. Gradual penetration of the technologies can go hand in hand with the city’s expansion to increase energy savings and transition to cleaner technologies.

Most importantly, upscaling of solar energy technologies in the NACC can build on an enabling environment including supportive regulatory, policy and institutional frameworks, financial mechanisms and incentives and technical capacities and specifications that are highlighted in the article. The governmental buildings have set the example for energy efficiency and solar energy in the NACC. As more and more private sector developments, diplomatic compounds and others are bringing the NACC to full operation, the landmark "Conceptual Master Plan of Solar Energy Applications" is showing the way.
A. NEWS

1. INDONESIA PASSES LAW TO RELOCATE CAPITAL TO BORNEO JUNGLE

Indonesia’s capital is planned to be relocated from Jakarta to a site within the jungle of Kalimantan on Borneo island after Parliament approved the bill of an ambitious plan of $32 billion. The old capital suffers from chronic congestion, floods, and air pollution; therefore, the development of the new city will strengthen supply chains and place Indonesia in a more strategic position in world trade routes, investment flows, and technological innovation. The initial relocation will start between 2022 and 2024, with roads and ports prioritized to enable access, with some projects operating as public-private partnerships, the finance ministry said. Plans to move the government away from Jakarta, a megacity of 10 million people that suffers from chronic congestion, floods and air pollution, have been floated by multiple presidents, but none have made it this far.

Source: World Economic Forum

2. FIVE URGENT NEEDS FOR GLOBAL GOVERNANCE: UN SECRETARY-GENERAL SETS PRIORITIES FOR 2022

Based on the UN annual Report on the Work of the Organization, The UN Secretary-General has called for prioritizing action in 2022 to address five interlinked crises, and the “outdated” multilateral frameworks that are failing to protect critical global goods or deliver on aspirations for sustainable development, peace, and human rights. Guterres outlined three crises in need of better global governance to make progress and “rescue” the 2030 Agenda and the SDGs: the climate emergency, the COVID-19 pandemic, and the “morally bankrupt” financial system. He added that safe, affordable, and secure internet services for all will be a focus of the Transforming Education Summit in 2022. Guterres said ‘Our Common Agenda’ is a roadmap to addressing these governance challenges.

Source: International Institute for Sustainable Development
B. REPORTS

1. CORRUPTION PERCEPTION INDEX 2021

In 2021, more than two-thirds of countries (68 per cent) score below 50 and the average global score remains static at 43. Since 2012, 25 countries significantly improved their scores, but in the same period 23 countries significantly declined. Meanwhile, the scores of several democracies that used to top the index and champion anti-corruption efforts around the world are deteriorating. Many of these high-scoring countries remain safe havens for corrupt individuals from abroad. This year, the top countries are Denmark, Finland and New Zealand each with a score of 88. Norway, Singapore, Sweden, Switzerland, the Netherlands, Luxembourg and Germany complete the top 10. South Sudan, Syria and Somalia remain at the bottom of the index. Overall, the CPI shows that control of corruption has stagnated or worsened in 86 per cent of countries over the last decade.

Source: (Transparency International, Corruption Perception Index 2021)
(CPI2021_Report_EN-web.pdf (transparencycdn.org)

2. SECOND CONTINENTAL REPORT ON THE IMPLEMENTATION OF AGENDA 2063

Agenda 2063 is Africa’s development blueprint to achieve inclusive and sustainable socio-economic development over a 50-year period. The continent aims at achieving this objective through the realization of five ten-year implementation plans. The First Ten Year Implementation Plan of Agenda 2063, spanning 2014 to 2023, outlines a set of goals, priority areas, and targets that the continent aims to achieve at national, regional, and continental levels. Against this background, the African Union Commission (AUC) and the African Union Development Agency (AUDE-NEPAD) were tasked by policy organs of the African Union to coordinate and prepare continental-level biennial performance reports to track progress made towards the goals and targets of Agenda 2063. This second continental-level report consolidates progress reports from 38 of the 55 AU Member States. The report analyses progress made on the implementation of Agenda 2063 against 2021 targets.


3. DRIVERS OF ECONOMIC GOVERNANCE PERFORMANCE IN AFRICA: A CROSS-COUNTRY ANALYSIS

This Report highlights the objectives, methodology, findings, conclusions and policy recommendations of the study on the drivers of economic governance in selected African countries. The policy implications were also presented in the report which suggests that countries that were classified as having ‘GOOD’ economic governance showed relative good performance in their macroeconomic stability variables, namely, Low and stable inflation rates, relatively low investment permissible real interest rates and average growth rate of about 5 percent in the period under review (2013-2017). On the other hand, there was high government expenditure, but relatively low debt service ratio to their GDP and manageable budget deficits as reflected in moderate gaps in their budget balance.
Whereas, countries that were classified as ‘FAIR’ performers in their economic governance were found to perform poorly in their macroeconomic stability indicators with high inflation rates, low external reserves, high interest rates and less than 2 percent annual growth rates during the period under review. Their public finance management was also not encouraging with low government expenditure, high debt to GDP ratio and high Budget deficits among others.

(DRIVERS OF ECONOMIC GOVERNANCE PERFORMANCE IN AFRICA: A CROSS-COUNTRY ANALYSIS - APRM (aprm-au.org))

4. GOVERNMENT AI READINESS INDEX 2021

The Government AI Readiness Index ranks governments around the world according to their readiness to implement AI in the delivery of public services to their citizens. The Index rates countries based on 42 indicators—including software spending and industry investment in emerging technologies—across three pillars: government, technology sector, and data and infrastructure. The 2021 AI Readiness Index, ranks 160 countries by how prepared their governments are to use AI in public services. The report indicates that the USA tops the rankings followed by Singapore in second place and the UK in third. Nearly 40% of countries included in the index have published or are drafting national AI strategies; and East Asian countries showed particular strength, making up one quarter of the top 20 ranked countries. Almost 40% of the 160 countries ranked in the 2021 AI Readiness Index have published or are drafting national AI strategies, demonstrating that AI is quickly becoming a top concern for world leaders. 30% of ranked countries have already published a national AI strategy while 9% are drafting one. The global interest in AI comes in the midst of a wider turn to digital government, spurred in large part by social distancing measures implemented in response to the coronavirus pandemic. National AI strategies, however, remain concentrated in countries in the global north, demonstrating a deepening divide in global AI readiness.

Source: (Oxford Insights, Government AI Readiness Index 2021)
(Government_AI_Readiness_21.pdf (squarespace.com))

5. WORLD ECONOMIC OUTLOOK UPDATE: RISING CASELOADS, A DISRUPTED RECOVERY, AND HIGHER INFLATION

Global growth is expected to moderate from 5.9 in 2021 to 4.4 percent in 2022—half a percentage point lower for 2022 than in the October World Economic Outlook (WEO), largely reflecting forecast markdowns in the two largest economies. A revised assumption removing the Build Back Better fiscal policy package from the baseline, earlier withdrawal of monetary accommodation, and continued supply shortages produced a downward 1.2 percentage-points revision for the United States. In China, pandemic-induced disruptions related to the zero-tolerance COVID-19 policy and protracted financial stress among property developers have induced a 0.8 percentage-point downgrade. Global growth is expected to slow to 3.8 percent in 2023.

Source: (International Monetary Fund, World Economic Outlook Update: Rising Caseloads, A Disrupted Recovery, And Higher Inflation)
(World Economic Outlook Update, January 2022: Rising Caseloads, A Disrupted Recovery, and Higher Inflation (imf.org))
6. SUSTAINABLE DEVELOPMENT REPORT 2022

The Sustainable Development Report 2022 is issued and highlighted that for the second year in a row, the world is no longer making progress on the SDGs. The average SDG Index score slightly declined in 2021, partly due to slow or nonexistent recovery in poor and vulnerable countries. Multiple and overlapping health and security crises have led to a reversal in SDG progress. The report highlighted that ahead of the heads of state SDG Summit in 2023, restoring and accelerating SDGs progress in all countries, including the poorest and most vulnerable, should be a major priority of recovery plans and reforms to the international development finance system.

Source: (Cambridge University Press, Sustainable Development Report 2022)

7. WORLD DEVELOPMENT REPORT 2022

The World Bank published the World Development Report 2022 with the theme of Finance for an Equitable Recovery. The report examines the central role of finance in the economic recovery from COVID-19. Based on an in-depth look at the consequences of the crisis most likely to affect low- and middle-income economies, it advocates a set of policies and measures to mitigate the interconnected economic risks stemming from the pandemic—risks that may become more acute as stimulus measures are withdrawn at both the domestic and global levels.

Source: (World Bank, World Development Report 2022)
(World Development Report 2022)
C. CONFERENCES

1. ARAB SUSTAINABLE DEVELOPMENT WEEK

The 4th Arab Sustainable Development Week, was held on 13 – 15 February 2022, in Cairo, under the theme “Together for Sustainable Recovery”. This regional forum brought prominent figures from the region including ministers, senior officials, and government key decision makers as well as representatives of the private sector to discuss the best ways to implement and accelerate the achievement of the 2030 sustainability goals, in accordance with the Arab political and economic realities and in line with the current and future opportunities and challenges. The Forum focused on (i) identifying the efforts of the Arab countries towards achieving the sustainable development goals 2030; (ii) raising Arab citizens’ awareness of the importance of sustainable development; (iii) strengthening the common visions of Arab countries and partners on programs, actions and plans that have been or are being prepared to achieve sustainable development goals in the region; (iv) building an Arab vision with specific objectives and roles for the League of Arab States and partners to manage the file of sustainable development in coordination and cooperation with the “Arab Committee for Sustainable Development”; and (v) accelerating the implementation of sustainable development programs in the Arab region by creating sustainable business and investment models and opportunities.

Source: Arab League

2. GOOD GOVERNANCE SYMPOSIUM

The Organization for Responsible Governance (ORG) held the first Good Governance Symposium in The Bahamas on February 25, 2022. The event included members of the government, civil society, private sector and students in a day of panels and discussions under the theme “The Culture of Governance in The Bahamas”. The Good Governance Symposium is designed to bring together all sectors of the Bahamas to discuss and promote practices and a culture of “good governance” for positive and sustainable national development. The panel discussions reinforce the eight principles of good governance, including accountability, transparency, rule of law, responsiveness, equity and inclusiveness, effectiveness and efficiency, participation and being consensus-oriented.

Source: Organization for Responsible Governance

3. AFRICA REGIONAL FORUM ON SUSTAINABLE DEVELOPMENT

2022 THEME: BUILDING FORWARD BETTER: A GREEN, INCLUSIVE AND RESILIENT AFRICA POISED TO ACHIEVE THE 2030 AGENDA AND AGENDA 2063

The 2022 Africa Regional Forum on Sustainable Development took place on 3-5 March in Kigali in Rwanda under the theme of “Building forward better: A green, inclusive and resilient Africa poised to achieve the 2030 Agenda and Agenda 2063. The Forum was convened by the UN Economic Commission for Africa (ECA) ahead of the High-Level Political Forum (HLPF) 2022. With the other regional forums, the Eighth Session of the Africa Regional Forum on Sustainable Development assesses the progress and exchange knowledge, good practices and policy solutions to support the implementation of the 2030 Agenda and the Sustainable Development Goals, in line with regional priorities and specificities. The Forum mainly focused on (i) conducting a regional follow-up and review of the implementation of the selected SDGs and Agenda 2063 goals with a special in-depth review of Goals 4, 5, 14, 15 and 17; (ii) identifying ambitions strategies and policy actions to build back better from COVID-19 and to dramatically scale up implementation in 2021-2030; (iii) facilitating learning, including sharing approaches, experiences and lessons learned from Voluntary National Reviews (VNR),
The 2022 Arab Regional Forum on Sustainable Development took place on 15-17 March in Beirut in Lebanon, ahead of the High-Level Political Forum (HLPF) 2022. The Forum was convened by the UN Economic and Social Commission for Western Asia (ESCWA). With the other regional forums, the Arab Regional Forum assesses the progress and exchange knowledge, good practices and policy solutions to support the implementation of the 2030 Agenda and the Sustainable Development Goals, in line with regional priorities and specificities.

Source: International Institute for Sustainable Development

4. ARAB REGIONAL FORUM ON SUSTAINABLE DEVELOPMENT 2022

The 2022 Arab Regional Forum on Sustainable Development took place on 15-17 March in Beirut in Lebanon, ahead of the High-Level Political Forum (HLPF) 2022. The Forum was convened by the UN Economic and Social Commission for Western Asia (ESCWA). With the other regional forums, the Arab Regional Forum assesses the progress and exchange knowledge, good practices and policy solutions to support the implementation of the 2030 Agenda and the Sustainable Development Goals, in line with regional priorities and specificities.

Source: International Institute for Sustainable Development
A. NEWS

1. PROTOCOL BETWEEN "JUSTICE" AND "COMMUNICATIONS" TO USE "ARTIFICIAL INTELLIGENCE" IN WEATHER FORECASTING

Dr. Mustafa Madbouly, Prime Minister, witnessed the signing ceremony of a cooperation protocol between the Ministry of Communications and Information Technology and the Egyptian Meteorological Authority of the Ministry of Civil Aviation on the implementation of joint projects for technological solutions based on "artificial intelligence" technologies. Dr. Amr Talaat, Minister of Communications and Information Technology, stated that the main objective of the protocol is to activate the role of IT tools and artificial intelligence technologies as a key driver in the development of services. These services will be directed towards those interested in meteorology and weather forecasting. The protocol will also focus on the use of information, data management, and analysis systems to provide services to customers with the aim of making services available electronically while overcoming technological obstacles.

(Egyptian Prime Minister's Office, Wednesday, January 5, 2022).

2. NIGSD CONCLUDES THE THIRD PHASE OF THE “INNOVATIVE IDEAS” TRAINING CAMP

The National Institute for Governance and Sustainable Development, the training arm of the Ministry of Planning and Economic Development in collaboration with the Business Incubator of the Faculty of Economics and Political Science at Cairo University, concluded the third phase of the "Innovative Ideas" training camp for a group of participants in the "Be an Ambassador" initiative, under the umbrella of the Sustainable Innovation Lab project. Dr. Sherifa Sherif, Executive Director of the Institute, stated that the Sustainable Innovation Lab Project contributes to the linkage between the outcomes of the "Be An Ambassador" initiative which was launched by the Ministry of Planning and Economic Development in collaboration the institute. The "Be An Ambassador" initiative prepares youth to understand and adopt the concepts and objectives of sustainable development, and then transform these ideas into innovative projects aimed at achieving these objectives.

3. INTERNATIONAL COOPERATION HOLDS PARTNERSHIP CONSULTATION MEETING WITH THE UNITED NATIONS FOR SUSTAINABLE DEVELOPMENT

Dr. Rania Al-Mashat, Minister of International Cooperation, launched the high-level national consultative meeting on the preparation of the strategic framework for partnership with the United Nations for sustainable development for the period 2023-2027. This comes as part of the completion of ongoing coordination and consultation between the Ministry of International Cooperation, ministries and stakeholders involved in implementing the strategic framework between Egypt and the United Nations. Al-Mashat said that since mid-2021 the ministry has started participating with the United Nations’ working group to develop a matrix of strategic and sectoral priorities and to develop standards that include the main and sub components of the Government’s "Egypt Takes Off" program. The priorities will be identified taking into account the integration of bilateral cooperation strategies and programs with various development partners, and the national strategies such as the National Human Rights Strategy and family planning strategies, as well as the State’s Sustainable Development Strategy: Egypt Vision 2030 and presidential initiatives, most prominently the "Decent Life" initiative.

(Egyptian Prime Minister’s Office, Tuesday, February 8, 2022).

4. MINISTRY OF PLANNING ANNOUNCES THE OPENING OF A NEW BATCH OF THE "BE AN AMBASSADOR" INITIATIVE FOR ARAB YOUTH

The Ministry of Planning and Economic Development announced the opening for application for a new batch of the "Be An Ambassador" initiative for sustainable development for all Arab youth in Egypt, and member states of the Arab League "Arab Youth Batch", from February 16 until February 28. ElSaid stated that the initiative aims at raising young people’s awareness of spreading a culture of sustainable development, noting the importance of adopting a way of learning through peers, i.e. communicating information from young people to young people. Dr. Sherifa Sherif, Executive Director of the National Institute for Governance and Sustainable Development, highlighted that the "Be an Ambassador" initiative is one of the most important initiatives launched by the Ministry of Planning in collaboration with the Institute, noting that some 1,100 young people have been trained so far since the initiative was launched at the end of 2020.

(National Institute for Governance and Sustainable Development, Wednesday, February 16, 2022).

5. NIGSD LAUNCHES 3RD EDITION OF "GOVERNANCE AND SUSTAINABLE DEVELOPMENT" TRAINING PROGRAM

The National Institute for Governance and Sustainable Development, the training arm of the Ministry of Planning and Economic Development, in collaboration with the Hanns Seidel Foundation of Germany, launched the third edition of the "Governance and Sustainable Development and their impact on the performance and objectives of the institution" training program for municipal employees in Egypt and African countries, and a number of people with a hearing disability, which took place until March 5th. Dr. Sherifa Sherif, Executive Director of the National Institute for Governance and Sustainable Development, said the training program is part of the Egyptian government's keenness to contribute effectively to the sustainable development efforts of the African continent, and in support of Egyptian efforts to build African cadres to have the capabilities necessary to achieve the aspirations of Agenda 2063: The Africa We Want.

7. ON INTERNATIONAL WOMEN'S DAY: MINISTRY OF PLANNING REVIEWS "GUIDE TO A GENDER RESPONSIVE SUSTAINABLE DEVELOPMENT PLAN"

The Ministry of Planning and Economic Development reviews the "Guide to a Gender Responsive Sustainable Development Plan", which has already been made available by the Ministry through its website and was prepared in collaboration with the USAID-funded Macroeconomic Reform and Stabilisation Project. Dr. Hala Al Saeed, Minister of Planning and Economic Development, said that the "Guide to a Gender Responsive Sustainable Development Plan" aims to integrate the social dimension into development plans so that the programs, projects and activities developed by government agencies under the investment plan ensure equality and equal opportunities among social groups, serve priority issues for women, children and people with special needs. The guide also aims to increase women’s participation in economic activity to 35% by 2030 compared to a current rate of 14.3%.

(Egyptian Prime Minister's Office, Tuesday, March 8, 2022).

8. MINISTRY OF PLANNING AND ECONOMIC DEVELOPMENT ANNOUNCES SERVICES PROVIDED BY MOBILE TECHNOLOGY CENTERS TO CITIZENS

The Ministry of Planning and Economic Development announced the services provided by mobile technology centers to citizens, which were made available as part of the ministry's signing of a number of cooperation protocols with the Ministry of Interior (Civil Status Sector - Traffic and Civil Protection Sector) and the Ministry of Justice (Real Estates Notary Office) to equip a number of mobile technological vehicles. These services include obtaining vehicle licenses, driver’s licenses (damaged or lost licenses), electronic car stickers automated technical examination, car traffic supplies, and the services are provided fully electronically. Dr. Hala Al Saeed, Minister of Planning and Economic Development, said that mobile technology centers come within the framework of the state’s belief in the importance of information technology and its role in achieving sustainable development, and to accelerate the transformation of the government sector into an entity based on science, knowledge and technology to enable it to provide its services through new and sophisticated channels, reduce administrative burdens and simplify procedures to achieve effective management and deliver services as soon as possible.

(Ministry of Planning and Economic Development, Wednesday, March 9, 2022).
9. EGYPT’S PLANNING MINISTRY PARTICIPATES IN THE SECOND MEETING OF THE TECHNICAL COMMITTEE OF THE PROJECT "STRATEGY FOR FINANCING SUSTAINABLE DEVELOPMENT GOALS IN EGYPT" AT UNDP HEADQUARTERS

The Ministry of Planning and Economic Development, represented by the Sustainable Development Unit, participated in the second meeting of the technical committee of the project “Sustainable Development Goals Financing Strategy in Egypt”. The project is carried out in cooperation between the Egyptian government and the United Nations, with funding from the Joint Sustainable Development Goals Fund, at the headquarters of the United Nations Development Program (UNDP). The meeting aimed at presenting the progress in the project and discussing any challenges facing the implementation as well as the next steps for better results.

(Ministry of Planning and Economic Development, June 28, 2022).

10. EGYPT’S MINISTRY OF PLANNING ORGANIZES FOR UNIVERSITY STUDENTS 11 WORKSHOPS AND FIELD VISITS TO THE NEW ADMINISTRATIVE CAPITAL

The Ministry of Planning and Economic Development held the fifth session of the summer training for university students in 2022. The training program included workshops and field visits to the Ministry’s premises, the Government District and the Demographic Center at the New Administrative Capital.

(Ministry of Planning and Economic Development, August 16, 2022).
B. REPORTS

1. EGYPT HUMAN DEVELOPMENT REPORT 2021

Egypt Human Development Report 2021, "Development, a Right for All: Egypt's Pathways and Prospects" gains a particular significance, as it comes 10 years after the publication of the last human development report in 2010. The report covers an unprecedented decade in Egyptian history, from 2011 to 2020, during which Egypt experienced two popular revolutions, which changed the course of its development process. Egypt's 2021 Human Development Report monitors and analyzes the Egyptian state's progress over the past decade in the areas of sustainable development, economic and social reforms, governance issues and women, all from the perspective of the 1986 UN General Assembly's "Right to Development" Declaration. The report presents an in-depth analysis of those issues that have a significant impact on the achievement of the UN Sustainable Development Agenda. It provides an analytical review of the policies adopted and implemented during this period, and their impact on the lives of the Egyptian citizen, and provides a set of future policies for the government in light of the outcomes of the report, which contributes to improving the current situation and completing the human development process initiated by Egypt.


2. SUSTAINABLE DEVELOPMENT GOALS LOCALIZATION REPORTS

The Ministry of Planning and Economic Development, in partnership with the United Nations Population Fund (UNFPA) launched 27 reports on the localization of the Sustainable Development Goals (SDGs) in 27 governorates on November 21, 2021. The reports aim at accelerating the implementation of the SDGs at the governorate level by setting quantitative targets for SDGs indicators and identifying the developmental gaps of each governorate. This will translate into setting key priority areas and target groups and allow for targeted investments. The Egyptian state is paying increasing attention to the localization process of the Sustainable Development Goals due to its supportive impact on achieving containment and sustainable growth and balanced regional development, as key pillars of the National Sustainable Development Strategy: Egypt Vision 2030”.

(Source: Ministry of Planning and Economic Development, Sustainable Development Goals Localization Reports, November, 2021). (SDGs Localization Reports (mped.gov.eg))

3. STANDARD OPERATING PROCEDURES MANUAL

The Standard Operating Procedures Manual issued by the National Institute for Governance and Sustainable Development is intended to be a guiding document for government entities, organizations and various units for adopting and supporting good governance standards. The manual also aims to simplify global governance standards and principles and includes a governance checklist or a self-diagnosis tool to provide a general examination of the entity’s compliance with good governance standards. This unified operational manual therefore provides an opportunity to develop clear standards and a special model for assessing public sector governance principles, as well as providing a tool to help government departments and institutions assess their governance practices.
This will contribute to identifying key roles and responsibilities to promote governance practices in these institutions. The manual essentially outlines the principles of good governance contained in SDG number 16 as well as UNCEPA’s principles of effective governance for sustainable development with a focus on recognizing the effective practice of SDG governance principles. A detailed checklist is attached to the document to assess the compliance with good practices and identify their governance performance gaps.


4. PUBLICATIONS OF "BE AN AMBASSADOR" INITIATIVE

The National Institute for Governance and Sustainable Development, the training arm of the Ministry of Planning and Economic Development, issued the “Governance and Sustainable Development Terminology Manual” as part of the “Be an Ambassador” initiative, to serve as a reference to governance definitions, types, principles and measurement indicators, and aims to identify sustainable development goals and terms related to their environmental, economic and social dimensions. The Institute also issued the Be an Ambassador Training Manual including learning about the training of trainers manual, specialized topics in sustainable development, as well as a number of topics related to different sectors. The Be an Ambassador initiative adopts the best training methods aimed at comprehensively developing the skills and abilities of participants.

(National Institute for Governance and Sustainable Development, Publications Of "Be an Ambassador" Initiative, Wednesday, January 5, 2022).

(https://estedama.gov.eg/Book/aldlyl-altdryby-lmbadrh-kn-sfyra)

5. GOVERNANCE TERMINOLOGY GLOSSARY

The National Institute for Governance and Sustainable Development launched the first English-Arabic manual of key governance terms and definitions, which includes a wide range of terminologies used in many international governance-related organizations. Dr. Sherifa Sherif, Executive Director of the Institute, said that the manual aims to provide all interested parties with clear, specific and standardized definitions of terms and concepts commonly used in the field of governance, noting that there are three basic uses of this manual, including; providing a guide to any institution interested in governance concepts and improving their understanding, and ensuring a consistent approach when using relevant terminology while facilitating and standardizing the meaning when translating them in Arabic, and finally, standardizing the definitions used in government operations in Egypt, which will help improve the implementation and adherence to governance standards.


(https://estedama.gov.eg/Book/qamws-mstihat-alh-wkmh)
6. EGYPT’S PERFORMANCE IN GOVERNANCE INDICES REPORT 2022

The quality of governance in Egypt is still very much a topic of interest among scholars, practitioners, the Egyptian government and the international community. This interest is particularly heightened by the continued spread of COVID-19, which has exacerbated existing shortcomings in governance mechanisms and presented new challenges globally. Despite declining global performance, Egypt's performance in international indicators has seen some progress, as analysis shows in this report published by the National Institute for Governance and Sustainable Development. This second edition of the report brings together Egypt's performance in a range of international and national indicators released in 2020 and 2021. Each version of the report records new or updated indices, in order to ensure the maximum value added between editions and a comprehensive examination of Egypt's performance in governance areas overtime. The indicators included in this report cover a range of areas including innovation, business regulations, digital transformation, the rule of law anti-corruption and stability. The main trends identified from the indicators included in this report confirm that Egypt's performance in the areas of order, safety and security remains good, while Egypt's scores and ranking remain low in some other indicators. Trends reveal that some recent results show significant improvement. This can be seen in the Fragile States Index and the Economic Freedom Index, for example. Trends may also reveal discrepancies in scores across different indicators in the same area. To further understand these trends, the Institute’s Governance Center curated non-exhaustive lists of the most prominent and relevant efforts, challenges, and recommendations. These sections have been put together by analyzing international reports, understanding areas of strength and weakness in the results of indices, and tracking press releases and news articles.


7. INTERNATIONAL PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: ENGAGING FOR IMPACT TOWARDS OUR COMMON FUTURE

The Ministry of International Cooperation launched the Ministry’s annual report for 2021, entitled “International Partnerships for Sustainable Development: Engaging for Impact Towards Our Common Future”. This comes as part of the ministry’s interest in establishing transparency and effective communication with regards to international partnerships to achieve sustainable development, and to promote the development stories implemented by the state with development partners to support Egypt Vision 2030 and implement the government’s program “Egypt Takes Off”. The report indicates that concessional development funding agreed upon by multilateral and bilateral development partners to support infrastructure development plans amounts to about $2.95 billion in many development sectors, including $1.14 billion to implement five vital transport projects, which are among the priority sectors of development in the state’s sustainable development plan. The report also shows that the past year has seen the conclusion of $169 million in development financing agreements in the social housing, water and sanitation networks sector, from development partners (Kuwait Development Fund, African Development Bank and European Union) with the aim of implementing the sixth Sustainable Development Goals: clean water and hygiene, Ninth: industry, innovation and infrastructure, and eleventh: sustainable cities and communities.


8. FINANCING SUSTAINABLE DEVELOPMENT IN EGYPT
REPORT

The report presents an in-depth objective analysis of a range of financing for development issues that significantly affect the achievement of the UN Sustainable Development Goals. The report provides an analytical review of the various development and economic sectors and their impact on Egypt's development situation. The report consists of 13 chapters, the titles of which are: (State of Egypt's Sustainable Development Goals, Data and Systems, National Finance Framework, Budget Priorities, Social Protection, Business Sector Role, Financial Sector Role, Debt Management in Egypt, Trade as An Engine, Science, Technology, Innovation and Digitization, Sustainable Development Localization, International Development Cooperation, and Finally Future Trends). The report estimates Egypt’s funding gap at $924 billion between 2020 and 2030, if financed without synergy with the Sustainable Development Goals, and $762 billion with synergies. It presents a vision of appropriate funding, advising that sources of funding are integrated. The report also highlights the Egyptian state’s efforts to mobilize and diversify financial resources to finance sustainable development projects in recent years, such as the establishment of the Sovereign Fund of Egypt for investment and development, the introduction of green sovereign bonds, the introduction of financing alternatives and innovative solutions to finance sustainable development and analysis of ways to maximize their utilization, such as sustainable development bonds, mixed finance, climate finance and influential investment, as well as financial flows resulting from public-private partnership, as one of the most promising mechanisms for financing development in Egypt. The report was co-authored by 24 researchers from different disciplines, and 8 relevant government agencies and 14 global organizations contributed to the report.


C. CONFERENCES

1. “PLANNING” ORGANIZES A SESSION ENTITLED "GOVERNANCE FOR SUSTAINABLE DEVELOPMENT: THE EGYPTIAN EXPERIENCE"

The Ministry of Planning and Economic Development organized a session entitled "Governance for Sustainable Development: the Egyptian Experience" as part of the second day of the fourth edition of the Arab Sustainable Development Week held under the theme "Together for Sustainable Recovery", which included several presentations that included the interconnection between the concepts of governance and sustainability, digital governance, the national digital transformation project of the Egyptian government G2G in addition to the activities of the Central Agency for Organization and Administration and its role in adopting the principles of governance.

(National Institute for Governance and Sustainable Development, Tuesday, February 15, 2022).

2. “NIGSD” INAUGURATES FORUM FOR GOOD GOVERNANCE IN THE VIRTUAL WORLD "METAVERSE"

The National Institute for Governance and Sustainable Development inaugurated the Metaverse Forum for Good Governance in the Virtual World, held in collaboration with the Thunderbird School of Global Management at Arizona State University. The meeting was attended by Dr. Sherifa Sherif, Executive Director of the National Institute for Governance and Sustainable Development. Sherif said the aim of the conference is to learn more about the concept of Metaverse, explore our readiness for this cultural and physiological transformation and ensure that experimental content is well-understood and communicated in virtual worlds, thereby ensuring good governance in this world.

(National Institute for Governance and Sustainable Development, Thursday, February 24, 2022).

3. "PLANNING" AND "NATIONAL GOVERNANCE" HOLD A WORKSHOP ON EFFECTIVE LEADERSHIP

The Ministry of Planning and Economic Development, in collaboration with the National Institute for Governance and Sustainable Development, the Ministry’s training arm, held a workshop entitled "Effective Leadership" presented by Dr. Akhtar Badshah, an international development and management expert at the Evans School of Public Policy and Governance at the University of Washington. The workshop included the development of leadership skills to adapt to current changes and uphold good principles and values in decision-making, as well as how to achieve work-life balance. The workshop also addressed the intelligent and effective approaches to access target groups in order to meet their different needs through innovative solutions based on design thinking and the use of advanced technology such as artificial intelligence.


FORTHCOMING ISSUE:
ENVIRONMENTAL GOVERNANCE AND CLIMATE CHANGE
This issue has been produced with technical support from the United States Agency for International Development (USAID). Stated opinions and ideas in this edition do not necessarily express the opinions of the USAID or the U.S Government.