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The Integrated Model of Governance and Management of Urban Development to Host and Rehabilitate of Forcibly Displaced Individuals

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Abstract The impact of natural and human disasters on the displacement of citizens and their transformation from civilians with rights to refugees looking for the most basic rights and the extent of the link between the disaster and the size of the geographical/social/urban transformation and its impact on the urban development in the host country

The absence of an optimal method for planning environmentally friendly ecological settlements to achieve sustainable development goals in countries hosting refugees from natural and human pandemics, for them to be an effective model for dealing with disasters and those affected around the world in containing crises.

In case of no decision is made regarding the response to these disasters and crises, we will be heading to negative Adaptation strategies which is Living with the lowest available supplies for long periods and accepting them despite the needs and the lack of food, medicine and clothes, what is being addressed here is Displacement and its difference from Migration and Planned Relocations and How Hosting Countries governments should act toward this.

This Research Aims to Present the integrated Model for Hosting Countries to deal with Refugees and forced displaced individuals and their Urban Impacts through 7 main stages

Keywords: Migration, Forced Displacement, Planned Relocation, Refugees, Forcibly Displaced Individuals, Mathematical Model, Urban Development, Humanitarian Rehabilitation.

1 Introduction

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We live in an era of unprecedented mobility: movement of ideas, goods, money and, increasingly, of people.

Two hundred and fifty million people live and work outside the country of their birth. Another 750 million migrate within their own countries. The scale and tempo of human mobility coupled with global population that is expected to exceed the 9 billion by the middle of this current century represents our new demographic reality. Migration is a highly important factor of development and progress, giving opportunities to people and their families, in addition to spreading cultures and connecting countries around the world but on the other hand it demonstrates a political conflict. [49] At current time, we witness an extraordinary environmental change. Human actions have reshaped our planet so profoundly that scientists endorse that we've started a new geological era they label "The Anthropocene" which means the age of human [28]. Environmental change and environmental degradation, desertification, deforestation, land degradation, climate change, and water scarcity, are essentially redrawing the map of our world. Environmental degradation determines where and how people are able to live in. It drives human displacement and forced migration by threatening lives and making their livelihoods untenable, especially the poorest and most vulnerable ones. [3]

Meanwhile, armed conflicts result in additional flows of people fleeing violence inside their countries (internal displacement) or throughout international borders (refugees). Analysis of civil wars over the last 70 years implies that at the least 40% are related to the contested control or use of natural resources including land, water, minerals, or oil. By the end of 2016, over 65 million humans became refugees or internally displaced, it's more than any time since the end of the Second World War in 1945, and 128 million people required humanitarian assistance. [17] [23]. Environmental issues were

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considered as factor of population movements ever since humans first left Africa. Those factors have constantly been various and complex, even though it's essential to understand that, historically at least, environmental degradation has tended to 'set the stage' for displacement however other factors of vulnerability including poverty and lack of opportunities are regularly key drivers of displacement. Where the difference now is that the degree of environmental degradation and the ability of individuals to move are combining to create a push and pull impact this is on a new scale for us to understand. [17] [24]

Population growth is going into more people living in marginal and environmentally vulnerable areas. Already an average of 26.4 million human beings are displaced from their houses due to natural disasters every year. This is equal to at least one person per each second. But we cannot be inhibited by these figures. Every statistic is a personal story about loss, as world is getting upside down. [25] The interfering trends of climate change, population growth, growing consumption, massive infrastructure projects, and environmental degradation might lead to extra numbers of people displaced in the future. there can be as many as 200 million human beings displaced for environmental reasons by 2050. [13] That could mean that, in a world of 9 billion human beings, one in 45 could be forced by environmental reasons [3]

Settlement planning must take into account long-term displacement and recovery. Displacement puts pressure on existing - often limited - resources and exacerbates tensions with surrounding host communities. Quality planning involves understanding, preventing and mitigating negative environmental impacts. Ultimately, housing and resettlement programs can be inefficient if environmental considerations are not taken into account, as short-term results can create new problems that require further investment. Helping people in urban areas can be complicated due to high population density, infrastructure needs, government regulations, and social diversity within communities. Communicating and caring for highly mobile people is difficult during and after a crisis, especially when it comes to finding adequate housing. When it comes to technically complex infrastructure, such as high-rise buildings, humanitarian organizations must also deal with complex leases involving multiple owners, tenants or informal settlers. Decision makers should be prepared to engage with civil society and the private sector. The private sector can play a role in providing sustainable market-based solutions. Actions should be based on local norms and services and avoid creating parallel structures. Developing comprehensive responses at the settlement, neighborhood or district level is more likely to make a sustainable contribution to the well-being of affected populations in urban areas [39]

In the beginning, many conferences and publications calling for adequate living conditions for refugees came out and many determinants and decisions were issued that guarantee the rights of refugees around the world, but the reality is that most refugees are destitute and do not have anything to help them stand up again and restore their previous lives, and this forces them to enter and interact within society of the host country without flexibility or governance over the construction sector, and thus the weakness of the host countries in dealing with refugees appears in front of refugee rights organizations (for example: the presence of refugees from Syria after the Arab Spring revolutions since 2012, with a large and clear increase within the Egyptian state, and their strong interaction within the state without Pre-planning for a proposal to host them, and as a result, the urban pattern overlapped in the 6th of October City, where a planned and already existing urbanization appears and has plans that can be referred to, and another urbanization appeared only to meet the need for housing or the proximity of the distance between housing and areas of employment opportunities, and this negatively affects the ability of the state to govern Urbanization within it in the event that the numbers continue to increase without clear and deterrent control of the form of Egyptian urbanization in the coming years and in light of the emergence of Due to global pandemics such as the Corona pandemic (Covid-19), the Egyptian state will find itself facing a global challenge by presenting an integrated model for dealing with the crisis of refugees and forced migrants that helps achieve environmental governance over urbanization). The direct interaction with the refugees came through the application of the UNHCR, and it was limited only to the stage (the short-term plan) for receiving refugees, providing camps, water taps, mobile toilets, and some heavy clothes for the cold of winter. It did not go beyond that.

Sustainable urban revitalization for refugees is a vital topic that needs to be addressed in today's world. The rapid urbanization of our planet has led to the displacement of many people, including refugees, who are forced to leave their homes and seek shelter in overcrowded cities. These cities often lack the infrastructure and resources to support the influx of new residents, leading to poor living conditions and environmental degradation.

One way to address this issue is through Sustainable urban revitalization. This approach focuses on improving the living conditions of refugees by incorporating green spaces and sustainable infrastructure into urban areas. By creating parks, gardens, and other green spaces, refugees can have access to fresh air, clean water, and a sense of community. Additionally, sustainable infrastructure such as rainwater harvesting systems, solar panels, and green roofs can help reduce the environmental impact of urbanization and improve the overall quality of life for refugees.

Furthermore, community engagement and participation in the planning and implementation of these projects can help to build a sense of ownership and belonging among refugees.

However, it is important to note that the implementation of Sustainable urban revitalization projects for refugees is not without challenges. One major challenge is the lack of funding and resources to support these projects. Additionally, there may be resistance from local

residents and policymakers who may view refugees as a burden on their communities. Therefore, it is crucial to engage in inclusive and collaborative planning processes that involve all stakeholders, including refugees, local residents, and policymakers. And for the implementation of this approach, we are applying the researcher mathematical model that will be discussed in the paper.

1.1 Research Objective

The objective of the research is to understand the severity and impacts of crises in Egypt over time, while transforming moral and conceptual aspects into physical and urban existence through Urban and Environmental Planning to support refugee rehabilitation. It advocates for action in forgotten or unrecognized crises, preparing for future impacts. It also strives for a function-based allocation of refugees in line with Egypt's 2030 Urban Development Vision, achieving a win-win situation, and establishes an analytical framework to assess crisis effects through some sub-objectives:

- Shared and objective understanding of crisis severity over time and their relation and impacts on Egypt
- transforming Moral and conceptual aspects into physical and urban existence through Urban and Environmental Planning that serve
- the needs of refugees during their rehabilitation in Egypt
- Justify and advocate for action, especially in the case of forgotten or unrecognized crises and their possible impacts in the future and how to prepare ourselves for them as government, specialists and local community
- Function-based allocation of refugees in the host

- country That matches with Egypt 2030 Urban Development Vision achieving the (Win-Win) Situation between all parties [30]
- Analytical Framework and Methodology that covers the impact of the crisis itself in terms of the scope of its geographical, human and physical effects

1.2 Research Aim

This Research Aims to Reach the ideal methodology for Governments of Hosting Countries to deal with Refugees issues and forced Migrated ones and their Urban Impact by activating new methods and updating data to Achieve the perfect match between Sustainable Urban development and the needed rehabilitation of refugees and their Immersion in Local Community [1] [7] [14]

2 The problem of research

"Lack of an integrated mathematical model: The international organizations concerned with forced displacement have not developed a comprehensive mathematical model that assists host countries, such as Egypt, in effectively managing and planning settlements for forcibly displaced individuals. Existing models primarily focus on short-term aid, neglecting the need for a long-term approach".

Towards addressing the gap between forced displacement due to several reasons and displacement mobility tracking matrices the data showed this - Global Data (2016- 2020) [12]

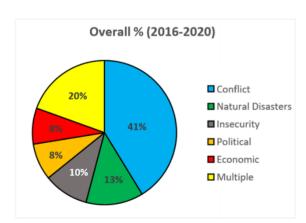


Fig. 1: The global recorded Data about drivers of Forced Displacement

Source: GlobalDTM-2020

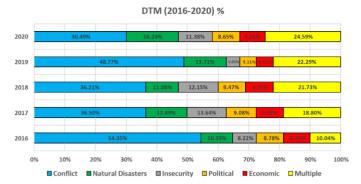


Fig. 2: The annual change in global recorded Data percentage about drivers of Forced Displacement (2016-2020)

Source: GlobalDTM-2020

- 1. **Conflict** that might happen due to the failure in Education System or the Healthcare System or the Criminal Justice System or the Lack of Democracy and so on.
- 2. **Natural Disasters** that include Earthquakes, Volcanic Eruptions, Storms, Wildfire, Floods, Landslide and so for other disasters
- 3. **Insecurity issues** that threaten citizens because of Governmental Restrictions, Social Violence by individuals and Civil Issues
- 4. **Political issues** as Political Disagreement, Human Rights ignorance and Elections Beside Disagreements
- 5. **Economic issues** that appear in Labor Rights Ignorance, Low Wages for individuals, Weakness of Citizens' Aid by the Government and High Taxes
- 6. **Multiple Issues** that result from the interference between previous Aspects of Displacement.

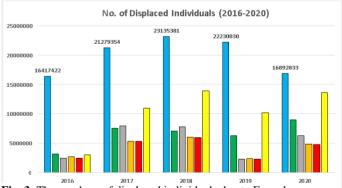


Fig. 3: The numbers of displaced individuals due to Forced Displacement drivers (2016-2020) **Source**: GlobalDTM-2020

So, after addressing the gap, these numbers are no longer a burden on governments of host countries in case of the ideal and planned relocation of refugees and displaced people in ecological settlements [35] that grants the suitable circumstances to Determine the aspects of cooperation and linking between those affected by the different aspects mentioned above and the general normal life of individuals within the host country (humanitarian rehabilitation for life again) and the extent of their integration in it in most aspects [25] [33]

- **Economic**: The ability to manage an economic development project within the host country
- Social: The ability to enter and participate in the social customs of the host country
- **Urbanism:** The possibility of leaving the settlement later and urban expansion within the borders of the host country under governmental supervision from the state
- Political: The possibility of enacting some laws related to refugees within the host country that guarantee their rights and define their duties within the country.

Looking for transforming their needs in humanitarian rehabilitation phase in physical / urban settlements that serve their needs of Housing, Services, Activities, Healthcare, Commercials, Social interactions, and regaining their previous careers That matches with Egypt 2030 Urban Development Vision achieving the (Win-Win) Situation between all parties [19]

2.1 The Syrian Refugees

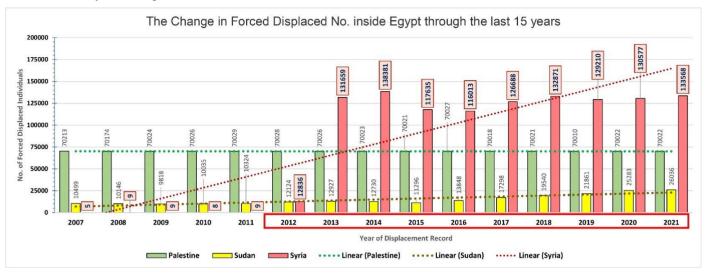


Fig. 4: The Change in Forced Displaced' numbers inside Egypt (2007-2021) - illustrated by Time Trendlines **Source**: UNHCR's Forcibly Displaced Population Database (2007-2021)

Through the last 15 years Egyptian Authorities Submitted their data about refugees inside the country and it was supposed to be noticed an annual increase in Palestinians numbers due the political conflict in the region but the numbers started to take another curve due to the Arabian spring revolutions since 2011 and their effects on citizens inside the countries, and one of those examples is the Syrian case as their numbers jumped from 9 refugees in 2011 to 12836 in 2012 only and kept rising up until now as they reached 133568 in 2021 [21] [45]

2.2 The choose of research case study

Based on valid records and database of the General Authority for Urban Planning Affiliated with the Ministry of Housing and the opinion of planning experts in Egypt who work in urban agencies, it was found that the forcibly displaced people from Syria are concentrated in a large percentage in the cities of 6th of October and 10th of Ramadan City. The process of choosing 6th of October city was based on the long history of the presence of Syrians there since the Arab Spring revolutions in 2011, as well as the increase in economic activities managed by Syrians since that time and their strong presence in the civil society of the residents of 6th of October City

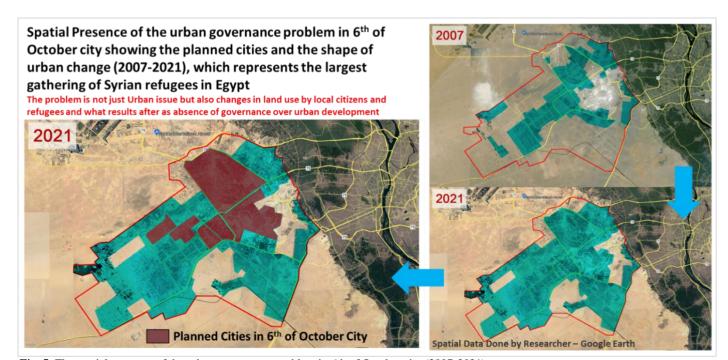


Fig. 5: The spatial presence of the urban governance problem in 6th of October city (2007-2021)

3 Materials and Methods

3.1 The Applied Model Methodology

Through 2 main stages divided between official Pilot Registration of forced displaced Individuals and Ecological Settlement Design Requirements this model can help governments to govern and control urban development upon the spreading and Practices by forced migrated individuals and local community to present an efficient model to deal with global crises and pandemics

First stage is about Official procedures from the government of the host country immediately upon the arrival of the forcibly displaced persons, While the

Second Stage is the actual planning procedures taken by the government of the host country immediately upon the arrival of the forcibly displaced persons to reach the Reconciliation of their conditions within the country in preparation for full rehabilitation and return to practicing the previous life normally and overcoming previous crises.

1 Official Pilot Registration

- Data Collection about the forced displaced individuals during the first days of their stay in Egypt
- . The Questions are about personal information (name, age, country, family members, etc..)
- Damage Assessment to run a simple risk assessment of the main disaster happened to the current forced displaced individuals to identify what they have lost and focus on what is left for them
- Personal Background Assessment as to collect further information about each one in settlements and also run personal interviews with them to study their psychological state and profile
- Egypt Vision 2030 : Due to forced displaced individuals background in several sectors, Officials in Egypt will make their list of needs in all sectors that forced displaced individuals have a chance to practice their former job again on behalf of rehabilitation plan achieving the (win-win) situation
- Governmental Decisions: Government to appoint forced displaced individuals, also Decisions to allocate appropriate lands for the implementation of settlements using GIS-Model Builder to filter the suitable land and get all the approves and be documented

2.1 - Assess the situation in the temporary camps, including the number of forced displaced individuals , their needs, and any urgent medical or humanitarian needs. 2.2 - The Ecological settlement design requirements includes (numbers - areas), which are (residential -medical commercial - educational - cultural - recreational - managemental religion - transport) beside the ecological infrastructure like: Solar Energy - Water Supply - Green Sewage - Eco-waste management. 2.3 - the Landuse table should be followed by host countries or stake holders to be able to fill the needs of current situation of forced displaced individuals to present settlement layout for them 2.4 - the worldwide known methods to assess master plan of settlement can present some terms and requirements to help assess and authorize the plans of settlements 2.5 - the need to identify available lands for the resettling project of forced displaced individuals and also the geographical distribution of available job vacancies 2.6 - It also presents the documentation process of Ministerial Decision for the master plan of settlement and some illustrative sketches and sections, also being signed by all stake holders and government 2.7 - the process of hiring forced displaced individuals in effective jobs inside host country to be get benefits from their capabilities in order to achieve the Vision of Egypt and be rehabilitated well to be able to return to their former life 2.5 GIS Dashboard Available Lands Allocator 2.1 Short-Term Plan GIS Model Builder to create a dashboard for identifying available lands for urban Where the Host Country Applies an immediate survey to identify the suitable development to ensure that new development is both sustainable and socially responsible mechanism of housing and other services for forced displaced individuals and also is supported with strong database about forced displaced individuals and their personal activities and professions to help in more understanding of their needs and how 2.2 Ecological Settlement Design Elements host country can benefit form them Concerned with all design sectors like (Housing – Economy – Education – Healthcare – Recreational - Religion - Transport - Management) and also the additional sector of 2.6 Master Plan Layout Ministerial Decision being Ecological and Environmental Based Design by focusing on making the city Eco-Friendly with zero waste and 50% or high of Renewable Energy with safe Infrastructure Ministerial Decision of Designing a Land for Settlement Master Plan Layout to be and fresh water sources authorized by the government of host country to make sure the process of urban development will continue and not be affected the impacts of forced displaced 2.3 Long-term Plan individuals existence on its land Where the Land use table and chart appear in response to the full ecological settlement 2.7 Adjusting work fields Needs and Availability of Jobs 2.4 Ecological Settlement Design Assessment the top 20 effective work fields that will help Egypt Government to achieve the vision As related to the most used Rating System for Cities (LEED) we took some of its terms and 2030 including forced displaced individuals who will be hired in the top 50 job vacancies design requirements to fulfill the Assessment we designed with 75 points and 4 different in a mutual match to get benefits from their capabilities in order to achieve the Vision of grades to improve the Egyptian system of dealing with forced displaced individuals and Egypt and also be healed form the impacts of the displacement crisis and be rehabilitated controlling the urbanization in whole Egyptian cities after being certified by Egyptian well to be able to return to their former life government

Fig. 6: The methodology of the researcher's applied model **Source**: The Researcher's integrated model methodology

3.2 Model Objective

The model mainly helps decision maker in quantifying the needs to Activate governance over urbanization and checking whether it's accepted to be implemented or not and in case of acceptance it presents a full land use for the project with numbers and percentages and areas [13] [15]

3.3 Model Main Stages

1. Short-term Plan

Where the Host Country Applies an immediate survey to identify the suitable mechanism of housing and other services for refugees [5] [20] [43]

2. Ecological Settlement Design Elements

Concerned with all design sectors like (Housing – Economy – Education – Healthcare – Recreational – Religion – Transport – Management) [46] and also the additional sector of being Ecological and Environmental Based Design by focusing on making the city Eco-Friendly with zero waste and 50% or high of Renewable Energy with safe Infrastructure and fresh water sources [18]

3. Long-term Plan

Where the Land use table and chart appear in response to the full ecological settlement design elements Ecological

4. Settlement Design Assessment

As related to the most used Rating System for Cities (LEED) we took some of its terms and design requirements to fulfill the Assessment [31] [32] we designed with 75 points and 4 different grades to improve the Egyptian system of dealing with refugees and controlling the urbanization in whole Egyptian cities after being certified by Egyptian government

5. GIS Dashboard Available Lands Allocator

GIS Model Builder to create a dashboard for identifying available lands for urban development to ensure that new development is both sustainable and socially responsible and also is supported with strong database about forced displaced individuals and their personal activities and professions to help in more understanding of their needs and how host country can benefit from them

6. Master Plan Layout Ministerial Decision

Ministerial Decision of Designing a Land for Settlement Master Plan Layout to be authorized by the government of host country to make sure the process of urban development will continue and not be affected the impacts of forced displaced individuals' existence on its land

Adjusting work fields Needs and Availability of Jobs

The top 20 effective work fields that will help Egypt Government to achieve the vision 2030 including forced displaced individuals who will be hired in the top 50 job vacancies in a mutual match to get benefits from their capabilities in order to achieve the Vision of Egypt and also be healed form the impacts of the displacement crisis and be rehabilitated well to be able to return to their former life

3.4 Model Numbers and Rates

Main rates are from UNHCR Application in identifying Design Requirements including the rates used in short-term plan as it helps to overcome the temporary phase by providing adequate housing for refugees and providing the necessary services and the rest is due the Egyptian code for Design [45]

3.5 Calculations

All calculations are mainly depending on the number of Displaced People that is being used in calculations with all rates and design codes mentioned before.

Calculations are carried out within the mathematical model automatically to estimate the needs of each sector and the areas required to be provided in the settlement

4 Results and Discussion

Assuming that the number of refugees is 40,000 and assuming that the average size of one family is equal to 4 members, the numbers change according to the person in charge of the study.

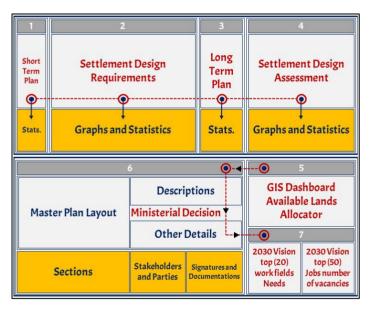


Fig. 7 The main Stages of the Applied Model **Source**: The Researcher's Integrated Model

1. The Short-Term Plan Requirements

Due to the need to start an immediate survey by host country representatives to identify the suitable mechanism of housing and other services for refugees [27] [38] [40], they are using the standard rates and calculations used by UNHCR since 2015 [45] the rates represent the minimum needs for serving refugees and controlling the Situation [5] [20] The process is carried out through a set of determinants and guiding steps to be properly planned for the refugee camps as soon as

possible, taking into account the provision of all the needs indicated by the Mathematical model by researcher [4] [6] [10].

As for the site planning tool, numbers, standards, rates, and quick calculations are relied upon to determine the size of the needs, the total numbers, and the total areas required to plan the site of the refugee camps, to be prepared in an organized planning manner that performs its role efficiently and takes into account international standards. [8] [45]

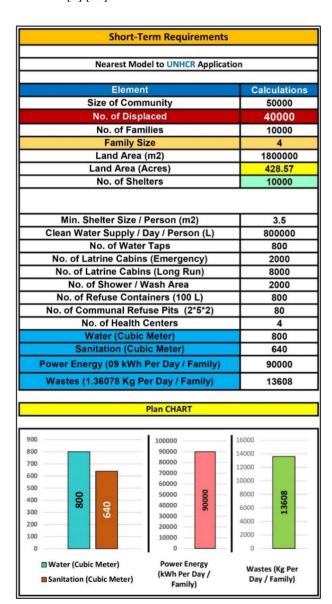


Fig. 8 The Short-Term Plan Requirements and Calculations (Part 01)

Source: The Researcher's Integrated Model

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Table 1 Equations used in the model's short term plan requirements based on international design code for shelter camps **Source**: The UNHCR's Site Planning Model

Element	How to Calculate		
No. of Families	= No. of Displaced / Family Size		
Land Area (m2)	= No. of Displaced * area rate (45 m ²)		
Land Area (Acres)	= Land area $(m^2) / 4200$		
No. of Shelters	= No. of Families		
Min. Shelter Size / Person (m2)	= International rate (3.5 m ²)		
Clean Water Supply / Day / Person (L)	= international rate (20 L / day/ person)		
No. of Water Taps	= No. of Displaced / 50		
No. of Latrine Cabins (Emergency)	= No. of Displaced / 20		
No. of Latrine Cabins (Long Run)	= No. of Displaced / 5		
No. of Shower / Wash Area	= No. of Displaced / 20		
No. of Refuse Containers (100 L)	= No. of Displaced / 50		
No. of Communal Refuse Pits (2*5*2)	= No. of Displaced / 500		
No. of Health Centers	= No. of Displaced / 10000		

2. Ecological Settlements Design Elements (Land use)

The city planning sector is responsible for the design of all aspects of the city, including housing, economy, education, healthcare, recreation, religion, transportation, and management. In addition, city planners must also focus on making the city ecofriendly with renewable energy sources and safe infrastructure. [16] [26] [44] [47]

For the elements of the ecological settlement

• Residential facilities sector

The idea of planning the settlement includes that it be divided into residential neighborhoods with the required services distributed, and the residential neighborhoods are residential towers with a maximum height of 8 floors, each floor includes 2 apartments, and each apartment has an area of no more than 120 square meters.

• Commercial establishments sector

The idea of commercial activities within the settlement includes uses for meeting the special needs of refugees

and the presence of shops necessary for daily uses such as (market - post office - bakery - pharmacy - gas stations - handicraft shops - ... etc.)

Educational facilities sector

This sector includes filling the special needs of refugee learners in all age groups to complete the educational process naturally without being left behind. It includes (nurseries - classes for people with special needs - primary - middle - secondary schools - technical institutes - private branches of universities)

Medical facilities sector

This sector includes all types of medical facilities capable of providing services to the entire settlement, including (medical units - medical centers - public hospitals - university hospitals - health care center)

• The cultural facilities sector

This sector includes the cultural aspect of refugees and completing the required rehabilitation stage by practicing cultural activities represented in (children's library - public libraries - culture houses)

• Entertainment facilities sector

This sector includes the recreational aspect for refugees and completing the required rehabilitation stage by practicing recreational activities represented in (public parks - recreational areas - youth centers - open playgrounds - clubs)

Administrative facilities sector

This sector cannot be overlooked in order to ensure the safety and protection of individuals through the presence of (police station - ambulance station - fire station - security units - ... etc.)

• Religious facilities sector

This sector takes into account the freedom of individuals to practice religious rituals and worship and helps in providing (prayer areas - mosques - churches)

• The sustainable infrastructure sector.

This sector achieves the idea of sustainable planning for the infrastructure networks in the settlement by covering half of the rooftops with solar cells to save on electricity consumption from the public network, as well as the presence of drinking water tanks above the buildings to meet the needs in times of shortage, as well as the use of environmentally friendly pipes, and reliance on waste recycling the resultant of all kinds in preparation.

Transport and roads sector

Roads are considered the main artery of cities and their role is in achieving connectivity between the rest of the uses. The sector equations were formulated to achieve their goal, which are (main roads - secondary roads -

pedestrian paths). Also, mass transportation between individuals and the need for bus waiting stations were taken into account, as well as for private car owners. Calculating equations to provide parking areas for cars so that there is no shortage or congestion within the settlement

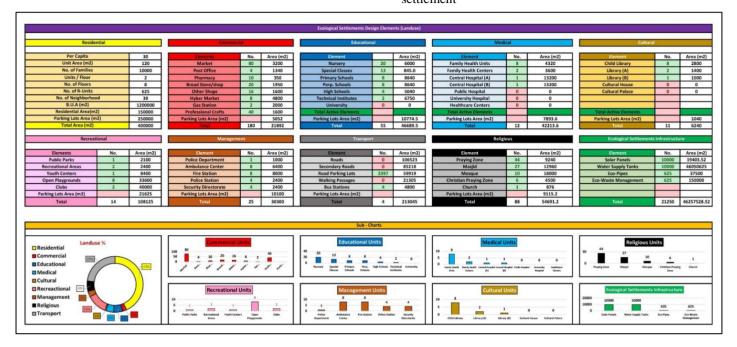


Fig. 9 The Ecological Settlements Design Elements and Their Calculations (Part 02) Source: The Researcher's Integrated Model

3. The Long-Term Plan Requirements

The requirements of the long-term plan include finalizing the final land use budget for planning the ecological settlement, including numbers, numbers, and areas for each use within the settlement, to help the construction agency in quickly issuing the necessary permits, identifying the needs and inputs of the construction process, and also assisting the land donor in determining the area required for the settlement. and officially approved [34] [37]

Long-Term Requirements						
Landuse Design Elements Stats.						
Element	Count	Area (m2)	Area (Acres)	%		
Residential	39	400000	95.24	43%		
Commercial	180	21892	5.21	2%		
Educational	55	46689.5	11.12	5%		
Medical	12	42213.6	10.05	5%		
Cultural	11	6240	1.49	1%		
Recreactional	14	108125	25.74	12%		
Management	25	30300	7.21	3%		
Religious	88	54691.2	13.02	6%		
Transport	4	213045.39	50.73	23%		
Total Calculated	428	923197	219.81	100%		
Total Required		1800000	428.57	100%		

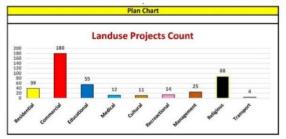


Fig. 10 The Long-Term Plan Requirements and Calculations (Part 03) Source: The Researcher's Integrated Model

4. The Ecological Settlement Design Assessment

In order to achieve sustainability in the new urban communities, new city plans should be evaluated in various sectors to assess the sustainability of the plan and its achievement of environmental sustainability standards in light of the current changes in the environment, scarcity of resources, dependence on fossil fuels in the field of energy, and the problem of air, water and soil pollution. The criteria for evaluating the ecological settlement are based on the international

standards included in the LEED Urban Communities Evaluation System, which consisted of (location and transportation - site sustainability - water efficiency - energy - materials and resources - internal environmental quality - creativity in design) and aim to give the settlement urban plan an officially approved certificate From the host country to be a role model for refugee rights organizations around the world [29] [41] [42]

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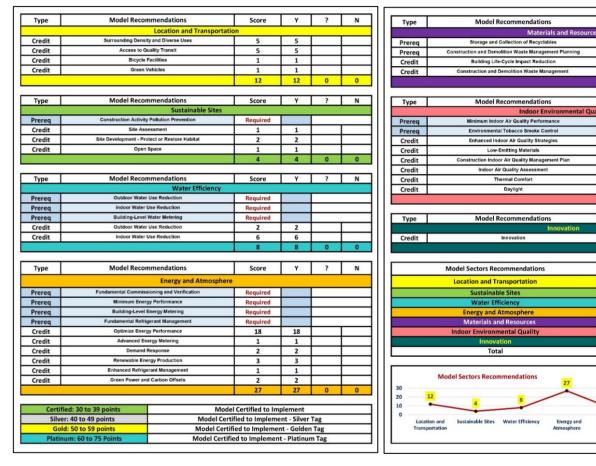


Fig. 11 The Ecological Settlement Design Assessment extracted from LEED Assessment for Urban Communities (Part 04)

Source: The Researcher's Integrated Model

5. GIS Dashboard Available Lands Allocator

Developing a GIS dashboard application to help allocate available lands for settlement design in Egypt can be a valuable tool for government agencies, urban planners, and other stakeholders involved in land-use planning and development. It can help to streamline the process of identifying suitable lands for settlement design, ensure that land-use regulations are followed, and promote sustainable urban development.

6. Master Plan Layout Ministerial Decision

Designing a land for settlement master plan layout through a ministerial decision involves a comprehensive and collaborative process that considers a range of factors and involves multiple stakeholders. A well-designed and implemented master plan layout can help to promote sustainable and equitable development, while also addressing the needs and aspirations of local communities and stakeholders.

7. Adjusting work fields Needs and Availability of Jobs

This can provide an opportunity for forced displaced individuals to regain their livelihoods and contribute to the local economy. By utilizing their skills and work experience, they can effectively integrate into the labor market and become self-reliant. Employing forced displaced people in priority sectors would enhance the development goals of the host country. Their contributions can help fill labor gaps, drive productivity, and stimulate economic growth. The infusion of diverse talent and expertise can lead to innovation, creativity, and an overall improvement in the business environment. Additionally, offering jobs to forcibly displaced individuals align with principles of inclusivity, social cohesion, and human rights. It promotes a sense of belonging and integration within the host community, fostering mutual understanding and respect. Moreover, the host country can benefit from the transfer of knowledge and experience brought by forced displaced individuals. They may possess unique perspectives and insights that can contribute to the host country's development plans and strategies.

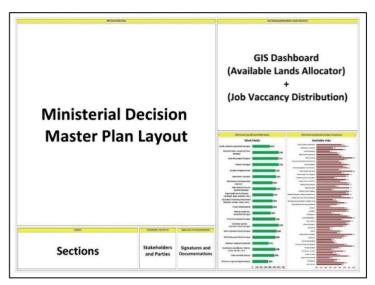


Fig. 12 The Geographic Information System for Allocation of Available Lands and Job Vacancy Distribution (Part 05) - The Ministerial Decision Layout for the Authorization and Documentation of Ecological Settlement Final Design (Part 06)

Source: The Researcher's Integrated Model

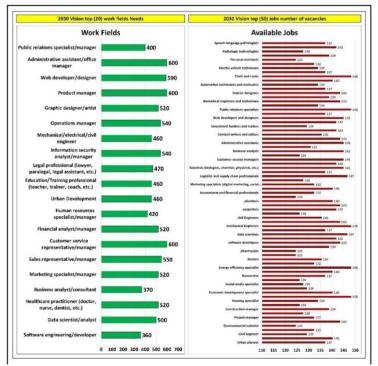


Fig. 13 The top 20 effective work fields Associated with the Egypt vision 2030 including forced displaced individuals divided into top 50 job vacancies based on their capabilities (Part 07).

Source: The Researcher's Integrated Model

5 Conclusion

The impact of natural and man-made disasters on the displacement of citizens and their transformation from civilians with rights to refugees seeking their most basic rights, and the extent to which disasters are linked to geographic/social/urban transformation and the extent of their impact on urban development in host countries impacts, lack of best practices for planning eco-friendly eco-habitats to achieve the Sustainable Development Goals in countries hosting refugees from natural and human pandemics, to be an effective model for responding to disasters and the people affected to contain crises worldwide.

If decisions are not taken on how to respond to these disasters and crises, we will revert to the passive adaptation strategy of living on the bare minimum available for a long time and accepting them in their need and scarcity of food, medicine and clothing, what we discussed here is forced displacement and how it differs from migration and planned resettlement and how host governments should deal with it.

Through 6 main stages, the model can help governments guide and control urban development in the spread and interaction of forced migrant individuals and local communities, providing an effective model for responding to global crises and epidemics. The model mainly helps decision-makers quantify the need to activate urbanization governance, and checks

6 Recommendations

- Conduct a simple risk assessment of the biggest disasters that befell current refugees to determine what they have lost and focus on what they have left [22] [36]
- Apply personal background analysis to gather more information about each person in the settlement and conduct personal interviews with them to study their psychological condition and profile [11]
- Government supports the appointment of refugees.
 Use GIS Model Builder to screen for suitable land

whether implementation is accepted, and if so, presents the project's complete land use quantity, percentage, and area

- After the integrated model is applied to the specific context of the number of forced displaced Syrians in 6th of October. This involves utilizing the principles, pillars, methodology, and stages outlined in the integrated model to guide governance and development efforts aimed at achieving reconciliation and sustainable urban development for the refugee population.
- The application of the integrated model helps to identify areas where improvements are needed in terms of social inclusion, infrastructure development, environmental sustainability, and economic opportunities for forced displaced Syrians in 6th of October.

Overall, the practical application of the integrated model in a real-world setting, namely the Egyptian city of 6th of October and its forced displaced Syrians' population. By utilizing data collection and applying the principles of the integrated model, policymakers and stakeholders can gain insights into the sustainability of the urban community and make informed decisions to improve the living conditions and well-being of the forcibly displaced individuals.

- and obtain and document all permits to implement decisions on allocating suitable land for settlements
- Addressing stakeholders concerned with Egypt's Vision 2030 Due to refugee backgrounds in multiple sectors, Egyptian officials will prepare a list of their needs in all sectors so that refugees have the opportunity to return to their previous jobs on behalf of the recovery plan [9]

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