**Theory of Change for Exploring the Potential Role of Rural Women’s Social Inclusion for Temporary Economic Recovery after COVID-19: Evidence from Awni Village in Egypt**

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Abstract

Theory of change approach is a comprehensive illustration of how activities, undertaken by an intervention, are intended to function and empirically evaluate whether and how they achieve their ultimate intended outcomes. Theory of Change (ToC) has, to date, been widely used as an evaluation tool for Comprehensive Community Initiatives, and this study aims at exploring its application to research on female empowerment-based Comprehensive Community initiatives. The study presents a theory of change, based on a model proposed by the authors, to evaluate the role of rural women's social inclusion as one of the key factors contributing to the success of a single Comprehensive Community initiative in Egypt. The lessons learned from this success story can be put forward as a possible solution to curb the economic challenges caused by COVID-19. A case study was conducted in a small village in Egypt through the use of observation, interviews, and secondary data. Findings indicated four key interventions facilitated the inclusion of rural women, contributed to the success of the development plan, and helped the village overcome the challenges caused by COVID-19. Those interventions being; over-coming gender stereotyping, focusing on up-skilling, re-skilling; through mass on-the-job training programs, and self-sufficiency.

**Keywords:** Theory of Change (ToC), Women’s Social inclusion, Rural women, COVID-19; Comprehensive Community initiatives (CCIs), Maslow's Hierarchy of Needs.

1. Introduction

Social inclusion has been defined by the United Nations as “the process of improving the terms of participation in society for the people who are disadvantaged, through enhancing opportunities, access to resources, voice, and respect of rights” [1]. It is a multidimensional process, which requires more than facilitating access to economic resources [1]. Given the unprecedented economic crisis caused by COVID-19, driving the global economy into a deep recession [2], there is an urgent need for finding solutions for a fast economic recovery. From a social science perspective, drastic socio-economic changes can lead to significant changes in paradigms, language, and notions that result in new worldviews [3].

Social inclusion of all members of society has been proven as a successful strategy for economic recovery after great recessions; an example being that social inclusion has greatly contributed to Australia’s economic growth despite the global financial crisis and ongoing natural disasters. The diversity resulting from social inclusion created more jobs, improved both mental and physical health, reduced the cost of social services, and increased creativity, productivity, and innovation [4]. With the imminent economic recession caused by COVID-19 and subsequent required economic reforms, there is an even greater need for encouraging such activities. A fully inclusive society is fundamental to the process of economic recovery after COVID-19.

In addition to being one of the pillars in the development of any society, women's social inclusion is also an invaluable driver of economic growth. The value of women's social inclusion is beyond workplace diversity or gender equality; it plays a great role in lifting the economy and has an undeniably positive impact on society as a whole [5]. According to a study released by McKinsey and Company in 2020 [6], Gross domestic product (GDP) is estimated to increase by 47% over the next decade in the Middle East and North Africa (MENA) regions, if gender equality in the labor market can be attained. Encouraging women to engage in the workforce can lead to various

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Received: June 11, 2021
Accepted: December 2, 2021
economic benefits, such as diversified markets, better job opportunities, enhancing women’s empowerment, faster economic growth, and greater international competitiveness [7].

In the context of Egypt, according to the Global Gender Gap Index [8], Egypt ranked 140 in terms of economic participation, owing to women’s poor participation in the workforce (24%) and low literacy rate (65%). In particular, women from rural areas, who represent about 50% of the total female population [9, 10], have historically been excluded from the labor market, and related social dialogue and studies [10, 11]. Most are engaged in informal home-based work, characterized by long hours and poor returns, with limited skills and training opportunities [10, 11].

Figure 1 shows the poor participation of women, in general, in the workforce (22%), and of rural women in particular (20%) compared to urban women (24%). Comparing the data in figure (1) to the data retrieved from the Global Gender Gap Index, what becomes evident is that the vast majority of research usually focus on urban-centric information.

![Figure 1. Labor force participation rate (percentage) by sex and location, aged 15-64, 2018. Source: (Keo et al 2019) [10]](image)

Figure 2 and figure 3 show that rural areas experience a high growth rate in the working-age population, aged 15 to 64, which is of great potential for economic development. However, this asset of human resources is not wisely utilized. Rural women are essential for realizing the economic, social, and environmental changes required for achieving sustainable development. Given their large presence [9], their empowerment can lead to the increased well-being of rural communities and their overall economic development. According to McKinsey and Company’s report [6], the Egyptian GDP might increase by as much as 34% if the number of women and men in the labor market were to be equated.

![Figure 2. Population structure of Egypt (percentage in age group), by location and sex, 2018. Source: (Krafft et al 2019) [9]](image)

![Figure 3. Population structure of Egypt (percentage in age group), by sex, 2021. Data Source: (Statista GmbH (2021) [12]](image)

Although Egypt is ranked low in terms of gender equality, during the past few years, Egyptian women have been playing a significant role in positively influencing the country’s political and economic realities [13]. Furthermore, not only did Egyptian women report a higher degree of innovation compared to men, but they were also 60% more confident than men in indicating that their ideas are innovative in the field of entrepreneurship [14]. The economic benefits resulting from enhancing women’s opportunities to engage in the workforce had the effect of encouraging various individual and group attempts in supporting and facilitating their inclusion process.

1.1. Research Gap

Although considerable social science research has focused on the impact COVID-19 has had on
different sectors and areas, only a very limited number of studies have addressed its impact on, and its implications for rural economies. Mueller et al. (2021) [15] assessed the health-related and economic impacts of COVID-19 on rural citizens in the North American West. Phillipson et al. (2020) [16] assessed the current and the likely future impact of COVID-19 on rural areas of the UK. However, no study has yet provided solutions, nor indeed the positive role played by rural women in such areas in surviving the crisis which makes the evidence-based understanding of the COVID-19 pandemic incomplete.

1.2. Significance of Study
This study is an attempt to complete the missing data by understanding the impact COVID-19 pandemic on rural areas in Egypt. It aims at exploring the potential role of the social inclusion of rural women as one of the key drivers of a fast economic recovery after COVID-19. The study draws its evidence from one of the CCIs implemented by individual philanthropists in the village of Naga’a Awni outside Alexandria, Egypt: a village that has managed to cross the poverty line through self-efforts. While the world is struggling due to COVID-19, the village still enjoys self-sufficiency, sustainability, and a low unemployment rate. The study explores the key interventions that facilitated the social inclusion of women and how this contributed to the success of the village development process, as well as the ultimate impact of that development on overcoming the economic challenges caused by COVID-19.

1.3. Theoretical Framework
In this study, the researchers employed Maslow’s hierarchy of needs theory and Theory of Change (ToC). On the one hand, Maslow’s framework explained how the development plan took place through understanding human needs. On the other hand, the study considers ToC as an evaluation tool that provides analytical viewpoints to understand how and why changes can happen and to examine the factors that enhanced the outcomes.

1.3.1. Maslow’s Hierarchy of Needs
Maslow’s hierarchy of needs forms a framework for identifying individual subjective needs and what motivates human beings [17]. Abraham Maslow theorized that human needs are organized in a hierarchy of prepotency, where the existence of one need depends on the satisfaction of a prior and more pre-potent need [18]. Maslow’s hierarchy of needs is illustrated in the shape of a pyramid with the basic needs, including biological and physiological needs at the bottom, followed by safety needs, then psychological needs, including love and belonging, followed by esteem, and finally the self-actualization need at the top of the pyramid [19].

1.3.2. Theory of Change
ToC approach is a comprehensive illustration of how activities undertaken by an intervention are intended to function and to empirically evaluate whether, why, and how they achieve their ultimate outcomes [20]. It describes the change process by identifying the causal links in an initiative, including its short-term, intermediate, and long-term outcomes. The identified changes are illustrated in the logical relationship and the chronological flow among the different outcomes. The links among the outcomes are the statements or the rationales of why one outcome is considered as a prerequisite of another [21]. ToC has been widely used as an evaluation tool for Comprehensive Community initiatives (CCIs) [22] because of its ability in guiding the evaluation when examining what is feasible, what is functional, and what is testable [23]. Moreover, the ToC approach has also been integrated into research related to women's issues. Daruwalla et al (2019) [24]; Daruwalla and Machchhar et al (2019) [25]; Eisenbruch (2018) [26]; Jewkes et al (2015) [27]; and Brown (1997) [28] provided in their research work useful interventions that could help prevent violence against women utilizing ToC. Pereznieto and Taylor (2014) [29] and Sleigh et al (2013) [30] provided insights into useful interventions that had impacts on the economic empowerment of women and girls. Care insights (2016) [31] employed a ToC in their strategy on women's economic empowerment: aiming for 30 million women having greater access to and control over economic resources by 2020. Practical action (2015) [32] provided a Theory of Change on gender equality and women empowerment, explaining the relationship between gender equality, achieving empowerment, and securing women’s and girls’ rights.

Theory of change development and implementation can be done through holding a common goal of improving population-level outcomes. Because CCIs are locally owned and driven, the structure and goals of a CCI will inevitably vary depending on the community it is serving [22].

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1 Comprehensive Community Initiatives (CCIs) are locally organized, multi-sector collaborations that build local capacity and coordinate resources towards a
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interviews with exerts and holding workshops with leading players [19], Surveys [20, 25], drawing on ethnographic studies that used surveys, interviews, and observation [21, 22, 26, 27], Interviews with leading players [24], review of previous research and evaluation documents [24], as well as through the behavior observation [30].

1.4. Research Questions:

The study aims at answering the following research questions:
1. What are the key areas of intervention that facilitate rural women’s social inclusion?
2. What are the positive direct outcomes and final impact resulting from rural women’s social inclusion?
3. To what extent has the village development initiative been successful, and the extent to which the villagers have overcome the economic challenges caused by COVID-19 through the ToC model?

1.5. Rural Settlements in Egypt

About 60% of Egypt’s population lives in rural areas (Figure 2) [9]. Egyptian rural areas are composed of villages, while a subunit of a village is called Naga’a or Ezbah [33, 34]. The typical population of a village ranges between 500 and 10,000 capita, while the typical population of a Naga’a or Ezbah would range between 100 And 500 capita [35, 36]. The houses in a typical rural settlement, village, Naga’a or Ezbah, are of one or two stories and surrounded by farmland. They are usually serviced by unpaved roads, while the internal roads of the settlement are mainly narrow winding footpaths [36].

The majority of rural men are usually engaged in agricultural activities, while others are professional or semiprofessional workers, industrial workers, technicians, craftsmen, or skilled workers. Rural women are primarily engaged in tending livestock, in household non-farm jobs, and domestic work and have distinguished patterns of family formation, with higher rates of early marriage and less education than urban women [10].

2. Methodology

The multidimensional nature and lack of standard data sources when measuring social exclusion can be challenging [1]. Indicators used in its measurement can be objective and associated with predominant societal perspectives, rather than the viewpoints of individuals within less advantaged groups [37]. To acquire accurate data that have the capacity to provide insights into the socio-cultural issues addressed in this study, the qualitative interpretive research approach has been utilized. The interpretive research method is based on the assumption that social reality is not singular or objective; it is, however, formed by human experiences and social contexts. Accordingly, it is best studied, within its socio-historical context, by considering and reconciling the subjective perceptions of its participants [38]. Various studies on social inclusion have adopted the interpretive qualitative approach, such as those of Abdel-Shehid & Kalman-Lamb (2017) [39], and Maxwell et al., (2013) [40].

The case study approach, adopted in this study, aims at documenting and disseminating good social inclusion practices. The use of case studies as means of analysis has been widely adopted by practitioners in social inclusion and gender equality research [39, 40]. It offers a multi-perspective analysis of various sources, facilitating the inclusion of the opinions of relevant groups who might otherwise be underrepresented [40] such as women from rural areas, together with the interaction between these groups.

2.1. Case Study Selection

To select the case study that addresses the aim of the research, various pilot interviews were conducted with experts from different organizations supporting women, including NGOs, incubators, social activists, and university professors. The case study needed to involve a rural area that witnessed the economic challenges caused by COVID-19 and managed to survive. The selection criteria ensured that in the case selected, women played a significant role both in their households and their communities.

Naga’a Awni was selected because it strongly represents the aim of the study and, further, the availability of information and data which facilitated the tracking down of both the past and current status of the village, i.e., before and after COVID 19. Also, the village presents a successful and complete case study, with all stages not only well documented, but solutions implemented and validated. Thus, it can be said that the selection of the case study adopted in this research was inspirational rather than challenging.

2.2. Data Collection and Analysis

Data collection took place, between July-October 2020, through conducting interviews with Mrs. Kohinor Ahmed Osman, the key person leading this Comprehensive Community initiative, and with the representative of the villagers, Mr. Ragab Rabiaa. Together with observations of the social media account of Mrs. Osman.
Interviews are an effective way of exploring and understanding participants' opinions, behavior, and experiences concerning the subject matter [41]. Due to COVID-19 situation and the difficulty of travel to Egypt, interviews were conducted online through communication platforms based on the availability of participants and the stability of the internet. The illustrative sampling tool was employed to select a representative sample of interviewees and explore the range and variety of behavior [42] related to the main issues raised in this research. Secondary data were shared by participants through email or via communication platforms.

Social network websites, such as Facebook and Twitter, have been increasingly used as a source of information in Social studies, such as of Silver & Matthews (2017) [43], and Cooner et al., (2020) [44]. Mrs. Osman’s social media account served as a historical record of the development process, the observation of which allowed the researchers to record the progress of the development process from the first day, through the posted text and image contents.

When measuring social inclusion, to help in understanding the importance of obtaining results not just from an objective point of view but also a subjective one [37], interviews were conducted with the two main participants. The first is the key person, in charge of the initiative, Mrs. Kohinor Ahmed Osman. Interviews were held in the form of two two-hour interviews via messenger, in addition to exchanging various follow-up text messages, voice messages, and emails. The main goal of interviewing Mrs. Osman was to learn the background of the story of the village and generate a list of factors contributing to the village's success at overcoming the challenge caused by COVID-19. The second person was the representative of the villagers, Mr. Ragab Rabiaa. Due to the poor internet infrastructure in the village, direct interviews were not possible. Questions and answers were shared with Mr. Rabiaa through the Facebook messenger or the what’s app messenger in a form of text messages or voice messages. This interview's aim was the validation the factors generated from interviewing the Mrs. Osman and maximize the researchers’ understanding of the case based on Mr. Rabiaa experience as one of the villagers.

3. Finding
3.1. Overview of Naga’a Awni

Naga’a Ash-Shekh Awni (known for Naga’a Awni) is located in the Beheira governorate, 2 km from the Alexandria Governorate [45]. The village is very small, with an area of approximately 0.23km². Naga’a Awni contains 300 households, with an average of five members each: a husband, a wife, and three children.

The total population of the village is approximately 1500 individuals, comprising 21.67% male, 18.33% female, and 60% children under the age of 15 (Figure 4). Prior to the development process, the unemployment rate was over 70%. Women did not have jobs and men had irregular very low-income jobs, such as seasonal farming, casual on-call construction, and part-time fixed-term jobs. Due to lacking a proper permanent source of income, many were overwhelmed with debts, which negatively affected the trading process.

In terms of education, the illiteracy rate was over 50% among children due to the absence of education facilities. Naga’a Awni has only one primary school and the nearest high school is about seven kilometers from the village. With the unpaved roads and lack of appropriate means of transportation to facilitate students' access to the nearest high school, people contented themselves with basic primary education, learning basic reading and writing skills.

Regarding health, many suffered from poor health and anemia due to malnutrition. Not a month passed without one or two death cases reported, especially among the children. The village did not have a clinic or a nearby hospital, and therefore no reliable record of either the mortality rate or hospital admission rate could be found.

As for the general social life, Naga’a Awni suffered from a high unemployment rate, marginalization, and lack of very basic services such as schools, healthcare unit, firefighting unit, a social support office, or a municipal subsidized bread
outlet were also absent, in addition to the dilapidated roads that connect the village to the nearest places providing such services. Many houses in the village even lacked a source of clean water.

3.2. Integration of Maslow Hierarchy of Needs and Naga’a Awni Development Plan

The village development began by conducting a study of the place and its capacity to accommodate the development program, together with ensuring people’s understanding and full acceptance of the idea of joining a development program. The development plan was created by applying an incremental approach, guided by the Maslow hierarchy of needs. Understanding the system of human needs was essential in optimizing and developing the most proper strategies for developing the village.

The development plan was implemented in two phases. The first: preparing the people of Naga’a Awni for the development plan, which took about three years. The main challenge that faced in this phase of the development plan was penetrating the village i.e., motivating its people to accept the idea of developing and improving their status quo, and in doing so, helping them overcome their fear of outsiders, as well as their fear of change. From a psychological perspective, people who suffer from poverty for a long time usually demonstrate lower confidence in their ability to achieve success and are more likely to suffer from mental illnesses such as schizophrenia, paranoia, and depression. In addition, due to the lack of basic needs, they focus more on instant goals, which may lead to the continuing of the poverty cycle [46]. Securing their basic biological and security needs has helped to remove the walls the villagers built around themselves, made them feel like humans again, helped them regain trust in the world, and prepared them to build the self-confidence needed for success.

The second phase, where the actual development took place, included enhancing the villagers’ sense of belonging, building their confidence, and helping them achieve self-actualization. Before this, they had only been focused on their personal needs and short-term objectives. The main challenge faced in the development process during this stage was changing many of the ideas and beliefs of the society that they had inherited from father to grandfather, particularly that of women’s inclusion. Before this stage, the women’s role was limited to housework and raising children. Now, after implementation, women are playing a leading role in the development processes.

3.3. Applying Maslow Framework

3.3.1. Basic biological and physiological needs (survival needs):

In order to achieve the villagers’ basic survival needs, the first stage of the plan focused on providing a reliable source of food and clean water. Providing them with basic personal needs needed to keep them alive helped guarantee their integration into the development process.

Aiming, not only at providing them with a source of food but also at improving their general health condition, they were supplied with a source of healthy food, rich with nutrients required for improving their deteriorated health condition. Examples include breeding poultry as a source of eggs, raising goats as a source of milk and meat, beekeeping as a source of honey, growing mushrooms as a source of protein and minerals, and finally, planting Moringa trees for disease prevention and health-boosting. Moreover, clean water pipes were extended from the houses containing a source of clean water to nearby houses that did not, in addition to installing water-filtering systems in others.

Securing a proper road that links the village with the outside world was very important in this stage. Paving a road to facilitate access to and from the village has improved the movement of trade meaning the citizens can easily obtain their needs. It has also helped introduce Naga’a Awni to other neighboring villages.

Over 60 million people are enrolled in the Egyptian bread subsidy program with a total of 53.5 billion pounds from the country’s general budget, where Egyptians can buy bread, using Ration cards at a fraction of its market price. From Awadalla, N. (August, 2020). Egypt shrinks subsidized bread loaf by 20 grams, revises cost of flour. Reuters, Egypt news.

Moringa is of great value, not only for humans, but it can also be used as an alternative animal feedstock and in water treatment. From Hamza, T.A., and Azmach, NN. (2017). The miraculous Moringa trees: From nutritional and medicinal point of views in tropical regions. The Journal of Medicinal Plants Studies 2017; 5(4): 151-162.
3.3.2. Basic safety needs:
Many houses in the village were in very bad condition; some did not even have a proper roof or a source of clean water. After guaranteeing meeting their basic biological needs, the following stage was assisting the villagers in having proper roofs over their heads. From rehabilitating old houses that were in a bad condition, to building new houses for the homeless, to providing furniture and basic house needs, the plan aimed at enhancing their sense of security and peace of mind.

3.3.3. Love and belonging (social needs)
Having secured their basic needs, the villagers became ready for the next stage in the development plan: enhancing their sense of belonging to the group. Two practices helped induce their sense of belonging. One was building the community center, which included the group-training unit, the mushroom unit, as well as the carpet-making unit. The second was providing a playground for the kids equipped with seesaws, swings, and a swing net. The objective of this playground was to cultivate relationships between children at a young age. Parents also felt the peace of mind knowing their kids were safe and happy.

The two practices played a great role in stimulating a sense of belonging and sharing among the citizens of Naga’a Awni, as in addition facilitated their acceptance of the inclusion of women, as they used to visit the center to receive training. The community center unintentionally became the place where people met to discuss their daily life concerns. Women gradually participated more and more in those meetings and their opinions were taken into consideration. In addition, various group trips to visit historical places in Egypt were held for the villagers so that they could learn about their history, boost their patriotism, and induce their sense of pride in the long history of their ancestors. Those trips also improved their psychological and mental health and boosted their energy to engage more in the development program.

3.3.4. Esteem
With the basic needs met, and the sense of belonging enhanced comes self-esteem building. At this level of Maslow’s hierarchy of needs, one seeks esteem for oneself, as well as respect from others [20]. Training and education were the method of fulfilling self-esteem. In the community center, various training programs were held, including on-the-job training, health, and environmental awareness, basic developmental and professional education, as well as human development workshops. Also, with the facilitating of access to and from the village, going to school became much easier, which encouraged families to send their children to schools with higher levels of education. Moreover, before the village development process, women were not allowed to travel alone outside the village. Gradually women became more confident and were allowed to travel alone outside the village to buy their needs; materials and equipment for supporting their home-based businesses.

3.3.5. Self-actualization
This is the highest level of Maslow's hierarchy of needs. It refers to the pursuit of one’s potential and seeking personal growth [20]. Many citizens of Naga’a Awni are now running their own small businesses or own their own small farmsteads. Furthermore, with the news about Naga’a Awni’s success story spreading, people from neighboring villages began seeking support to achieve similar success. People of Naga’a Awni are now sharing their experiences and support with such people. Moreover, during the difficult time of Coronavirus, citizens of Naga’a Awni provided food and support for those who lost their jobs.

4. Discussion
4.1. Theory of Change Model for Rural Women Social Inclusion
The ToC model (figure 5), proposed in this section, articulates a vision for the role that could be played by rural women in supporting their households and their community. The model also shows how this role could positively impact an entire economy. It is made up of a diagram followed by narration, forming the pathways to achieving the required change. The model first starts with the key barriers facing women’s social inclusion. Then, it describes four key areas of intervention that contributed to the success of the initiative. Lastly, it shows the inclusion of the women in the working force as output and a result after achieving the required change.

4.2. Barriers Facing Women’s Social Inclusion and Hindering the Village’s Development Process
The key barriers facing women’s social inclusion in the village include; gender stereotyping and socio-cultural norms supporting male dominance, low literacy rate (poor access to educational, training, and development opportunities), excluding women from financial matters, the workforce, and decision making, deteriorating health conditions, with
inadequate access to health services, engaging women in informal home-based work with long hours, poor returns, and high dependence on intermediaries, lack of control over income and assets, and restricted mobility in the public domain.

4.3. Key Areas of Intervention

Due to the COVID-19 pandemic, global working hours declined by about 4.5% [47], and markets faced shortages of various essential products, including food and medical supplies [48], even the largest economies around the world faced financial hardships. According to the data retrieved from the trading economics platform [49, 50, 51], in the first quarter of 2020, the U.S. GDP declined by 4.8%, France's GDP declined by 5.8%, while China's economy shrank by 6.8%. Egypt was no exception from the effects of the crisis: According to the Information Handling Services (IHS) Markit report [52] in April 2020, Egypt's headline Purchasing Managers' Index (PMI) dropped to 44.2 in March 2020 compared with 49.9 in March 2019, and the GDP declined by 1.1%. Due to the closing of borders by various countries and reducing flights, imports and exports have been affected. In addition, employment levels have further dropped, and sentiment hit its lowest in recent history. However, this was not the case for the citizens of Naga’a Awni. Although many of them have lost their main source of income outside the village, their situation was much better compared to the rest of the country. Four key areas of intervention contributed to the success of the initiative, facilitated women’s social inclusion, and led the citizens of Naga’a Awni to overcome the economic challenges caused by COVID-19.

4.3.1. Overcoming gender stereotyping

Prior to the development plan, men were the income earners, while the women's role was limited to housework and raising children. They were largely excluded from social and labor activities; some barely left their houses. As a result of the development process, women were not only socially included in the workforce, something that had never been done in the history of the village, but they also had their share of earning income. In addition, they became involved in doing jobs that were once believed limited to men, such as farming and providing training in the community center. On the other hand, men also showed interest in learning jobs that were once believed limited to women, such as netting and carpet weaving.

4.3.2. Focusing on up-skilling

Naga’a Naga’a Awni was an underdeveloped and below the poverty line community. Offering them solutions that did not belong to their environment would have been met by strong resistance. Additionally, due to the long years of suffering from poverty and poor education, which negatively affected their confidence, it would have been almost impossible to train them for more advanced jobs that require technical skills. Teaching them new skills to help them do traditional jobs in a better way played a great role in facilitating the development process in many ways. One was smoothing the path for women's inclusion. A community where women were excluded from any social life would not accept their women taking jobs outside the borders of the village. However, in-house/near house jobs provided these women with a flexible schedule to arrange their priorities as needed, a career that aligns with their values, satisfied their emotional needs, related to taking care of their children, and helped them achieve a life-work balance. It helped them develop their own community, and make it fit for human life, thus, they could clearly witness the results of their efforts in their daily life, which was a very strong source of motivation. Also, focusing on up-skilling led to achieving faster results, which enhanced their confidence in their own abilities and fostered their engagement. Moreover, during the COVID-19 pandemic, when many villagers lost their jobs, such in-house traditional jobs helped them survive with very limited losses.

4.3.3. Re-skilling through providing a mass on-the-job training program

In the community center, the citizens of Naga’a Awni were taught how to do various new jobs, such as producing natural silk from silkworms, planting mushrooms, and hydroponic gardening. Successfully implementing what they learned and managing to make money out of it enhanced their confidence. Moreover, providing training for everyone, men and women, side by side, strengthened the relationship between the members of the community, and created a sense of respect and understanding for women, which also paved the way to women's social inclusion.

4.3.4. Self-sufficiency of needs and resources

Self-sufficiency played a significant role in the success of the development process on several levels. On an economic level, producing their own food and other necessities, at less expense than purchasing them, in addition to saving the cost of transportation...
required for traveling outside the village proved most welcome. Self-sufficiency also helped families with lower incomes achieve economic independence. On a health level, their plants are organic and their other food products are made of natural materials and free of preservatives. On a personal level, successfully managing to satisfy their own needs enhanced their sense of independence and nurtured a deep sense of accomplishment, which positively reflected on their confidence in their own abilities. Reaching this level of confidence helped the villagers realize their personal potential and encouraged them to provide support for others.

On the crisis-management level, they were far less impacted by the economic challenges caused by COVID-19, such as job losses and reduced resources. They were prepared to survive such an economic catastrophe. Not having to frequently travel outside the village to buy their needs protected them from being infected by COVID-19. The village didn't register, even one single case of infection. Also, focusing on their daily routines distracted them from anxiety and stress caused by following the news about COVID-19, which resulted in being more energetic in providing support for neighboring villages negatively impacted by COVID-19.

Aiming at enhancing self-sufficiency, the villagers were taught some techniques for reducing waste and saving resources. This includes using hydroponic gardening and animal waste and manure as fertilizers. Hydroponic gardening, not only helped in saving water but was also very efficient due to space limitation. Since most of the villagers did not own land, they used this system to plant on the rooftops of their houses. Moreover, pesticides were not required, which resulted in healthier and organic crops.

A strong reciprocal relationship between women's social inclusion and self-sufficiency has been indicated. While Self-sufficiency created the need for including women in the workforce, the inclusion of women filled vacant jobs, created a variety of products, and reduced the need for outsourcing labor from outside the village, which facilitated the process of self-sufficiency.

4.4. Output: The Inclusion of Women in the Workforce:

By the beginning of the second phase of the development process (Figure 5), the inclusion of women had gradually increased. From training on several home-based jobs to empowering them to oversee training new members, the social inclusion of women played a great role in the development process. When men were at their jobs outside the village, women were being trained at the community center on the know-how of making various products. Due to the time spent implementing what they had learned, women even became more experienced than men in many jobs, such as carpet weaving.

During the pandemic, due to being more experienced through spending long hours learning and working, women-led the labor market of the village, contributing their share of income and working hand in hand with their men to pass the crisis without noticeable losses. Indeed, due to the development process, some villagers could even afford to buy their own small area of farmland. In order to avoid hiring outsiders to work on their land and due to the small amount of work required, women of the family participated in all farming jobs, such as planting and harvesting crops, together with livestock production.

The women of Naga’a Awni were not used to going to work or blending in with society and so aiming at facilitating women's inclusivity, the plan also focused on jobs that can be done from home: crochet, knitting, and carpet weaving among other things, not only to make money but also to stimulate self-esteem and sense of contribution. Moreover, many men in the village have seasonal jobs and in-house small businesses were considered a way to increase income during times when they did not have a job.

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4 Hydroponic is a form of gardening that grows plants in a solution of water and nutrients instead of soil. This system is more efficient than the traditional soil system in that it can grow plants faster and throughout the year. In addition, plants typically yield more, need less space, and saves soil and water. From: Gashgari, R., Alharbi, Kh. Mughrbil, Kh., Jan, A., and Glolam, A. (2018). Comparison between Growing Plants in Hydroponic System and Soil Based System. The conference of the 4th World Congress on Mechanical, Chemical, and Material Engineering (MCM’18), Madrid, Spain – August 16 – 18, 2018. Paper No. ICMIE 131. DOI: 10.11159/icmie18.131. ICMIE 131-1.

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Barrier

- Socio-cultural norms support male dominance.
- Low literacy rate (Poor access to educational, training and development opportunities)
- Financial, workforce, and decision-making exclusion
- Deteriorated health condition with inadequate access to health services
- Engaging in informal home-based work with long hours, poor returns, and high dependence on intermediaries
- Lack of control over income and assets
- Restricted mobility in the public domain

Strategies (Human motivation)

- Overcoming Gender stereotyping
- Reskilling through Mass on-the-job training programs
- Focusing on upskilling
- Self-sufficiency of needs and resources

Four key areas of interventions

- Self-Fulfillment Needs
- Psychological Needs
- Basic Needs
- Biological and physiological needs

Development Phase

Self Actualization

Preparation Phase

Esteem

Love and belonging

Security needs

Biological and physiological needs

Output

Women social inclusion

Outcomes

- All members of the society enable and respect women’s equal right
- Women’s productive/economic role is expanded and recognized
- Women equal opportunity to suitable available jobs
- Women developed higher self confidence
- Women enhanced financial independence
- Women equal access to better education and training opportunities

Impact

Success of the village development initiative and overcoming the economic challenges caused by COVID-19

Figure 5: Theory of change model for rural women social inclusion
5. Conclusion

Naga’a Awni in Beheira, Egypt is an interesting case study investigating how social practices might facilitate or hinder economic progress in rural communities. Applying Theory of Change played an important role in illustrating how the activities undertaken by the pronged strategy functioned as planned and achieved their combined ultimate goal.

The four key areas of intervention that facilitated rural women's inclusion include: overcoming gender stereotyping, focusing on up-skilling and re-skilling by providing mass on-the-job training programs, and self-sufficiency. Reducing the gender barriers improved the relationship between the members of society. It also brought up various productivity and growth gains with an impact on the increase in family income, education rate, and a decrease in the unemployment rate. Up-skilling has proved useful in achieving faster results, which enhanced self-confidence and fostered engagement. Focusing on training the villagers in traditional jobs provided women with a career that aligns with their values, satisfied their emotional needs, related to taking care of their families, and helped achieve a life-work balance. Moreover, during the COVID-19 pandemic, when many of the villagers lost their jobs, such in-house traditional jobs helped families survive with very limited losses. Mass-training programs provided new technical knowledge, as well as building up personality, strengthened the relationship between all members of the community and created a sense of respect and understanding for women. Maintaining self-sufficiency saved money, helped families with lower incomes achieve independence, helped maintain a healthy diet, and engendered a deep sense of accomplishment. It also helped the people safely survive the pandemic. Overall a strong reciprocal relationship between women's social inclusion and self-sufficiency has been indicated. While self-sufficiency created the need for including women in the workforce, the inclusion of women filled out vacant jobs, created a variety of products, and reduced the need for outsourcing labor from outside the village.

Due to the development process, women gained respect from all members of society, along with being granted equal rights to all possibilities. Their productive and economic role was expanded and recognized within both their households and the wider community. Women developed higher self-confidence, enhanced financial independence, and gained equal access to better education and training opportunities. During the pandemic, when men lost their jobs outside the village, women played a great role in leading the village to survive such economic challenges.

Applying the ToC approach clearly and comprehensively described the role of rural women in supporting their household and their community. The proposed model in (Figure 5) explained how and why this change has happened in this specific context. It has shown that due to the development process, most families now have a source of income, with more than 50% able to own farmland, or other assets such as poultry, farm animals, carpet looms, or an apiary. The education rate has improved from just over 50% among children to more than 60% of children joining primary and high schools, in addition to seven young people either attending or graduating from university (Figure 6), one of which, a girl, is currently attending the faculty of agriculture. The unemployment rate for men has dropped from 34.5% to 18%, while for women reduced from100% to 50% (Figure 7), 21% of whom are helping on family farmland. Theory of Change provided a descriptive evaluation of the changes which occurred due to the development.
process through identifying the pathways in achieving the required change, starting from the barriers, interventions, key strategies, and final impact. This clearly shows the significant role played by the rural women, in question, in supporting their household and their community. If the micro-lessons learned from this case study are implemented in other rural areas of Egypt, the macroeconomic gains can be beyond expectations and can help in creating well-informed long-term recovery policies that are intended to serve the entire country.

6. Policy Implications

There is no doubt that Naga’a Awni provides a unique success story, however, sustainability is another matter. There is a need for exploring possible ways to maintain the sustainability of this success. In addition, in order to implement this development process in other rural areas of Egypt, a SMART (Specific, Measurable, Achievable, Realistic, and Timely) indicator assessment system is required.

Government recognition and support for such initiatives are also required to achieve sustainability, and to ensure the dissemination of this experience in other rural areas of Egypt. Silk-production and carpet weaving are two of the most flourishing and rewarding industries in Naga’a Awni. With the government’s support, focusing on the development of those two industries in both Naga’a Awni and the surrounding villages, the area can grow into a center for both industries. Implementing the experience in other rural areas of Egypt, while focusing on different industries, might help promote the decentralization of the economic and business activities to include rural areas instead of being concentrated in large cities, and make optimum use of its various benefits such as creating jobs for the inhabitants of those areas.

7. Limitations and Future Research

Due to COVID-19, data collection took place online, through communication platforms based on the availability of participants and the stability of the internet, which led to some limitations in the sources and type of information and data collected. The researchers also intended to interview people from the village to gain further insights into their experience, however, their inability to use social media tools made this impossible. Further fieldwork conducted with face-to-face interviews with participants is recommended to collect even more reliable information.

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