



Food and Agriculture  
Organization of the  
United Nations

# **GENDER, WATER AND AGRICULTURE** *ASSESSING THE NEXUS IN EGYPT*



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AGRICULTURE**  
ASSESSING THE NEXUS IN EGYPT

Food and Agriculture Organization of the United Nations  
Cairo, 2023

**Required citation:**

FAO. 2023. *Gender, water and agriculture – Assessing the nexus in Egypt*. Cairo. <https://doi.org/10.4060/cc3019en>

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ISBN 978-92-5-137227-2

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## ACKNOWLEDGEMENTS

This gender-responsive water assessment was commissioned by the Food and Agriculture Organization of the United Nations (FAO) under project efforts by the Swedish International Development Cooperation Agency (SIDA) to implement the 2030 Agenda Sustainable Development Goal target 6.4 for water efficiency and productivity. This programme aims to support transformational change in managing strategic water resources and to encourage countries' efforts to strategically plan water management and allocation, review their policies on water, food security and energy, formulate effective investment plans, modernize governance and institutions, and account for transboundary surface water and groundwater.

The assessment was conducted by gender and programme specialist Omnia Rizk under the overall supervision of Domitille Vallee, chief technical adviser for the SIDA project. The field data were collected through the much valued support of FAO employees Moamen Gelany and Waleed Abouelhassan, and Life Vision team, including Maged Ramzy, Salwa Abdou, Marolla Youssef, Marian Wahba, Christina Nabil, and Mariam Youssef.



## ABBREVIATIONS AND ACRONYMS

BCM	billion cubic metres
BMI	body mass index
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
ERF	Economic Research Forum
FAO	Food and Agriculture Organization of the United Nations
FFS	farmer field school
FGD	Focus Group Discussion
FGM/C	female genital mutilation/cutting
GDP	gross domestic product
GBV	gender-based violence
GDI	Gender Development Index
HDI	human development index
ICARDA	International Center for Agricultural Research in the Dry Areas
ILO	International Labour Organization
IFAD	International Fund for Agricultural Development
IPV	Intimate Partner Violence
IWRM	Integrated Water Resources Management
MALR	Ministry of Agriculture and Land Reclamation
MWRI	Ministry of Water Resources and Irrigation
NENA	Near East and North Africa
NEET	not in education, employment or training
NCW	National Council for Women
PLWG	pregnant and lactating women and girls
SDD	Sex-Disaggregated Data
SDGs	Sustainable Development Goals
SIDA	Swedish International Development Cooperation Agency
STC	Save the Children
USAID	United States Agency for International Development
UN	United Nations
VAWG	violence against women and girls
WASH	clean water, sanitation and hygiene
WFP	World Food Programme
WUA	water user association



## EXECUTIVE SUMMARY

Access to clean and safe water is a prerequisite to meeting basic human rights. Water is essential for all productive activities in Egypt in the agricultural sector and related sectors, including industry, trade and energy generation. Agriculture is a key sector in the Egyptian economy, contributing 11.3 percent to the country's gross domestic product (GDP) and providing livelihoods for 57.2 percent of the population. The engagement of Egyptian women in agricultural and related activities, including irrigation and water management, is significant, accounting for almost 45 percent of the official workforce, while more than 50 percent are engaged informally in fertilization, irrigation, weeding, harvesting, post-harvesting, animal care, sacking, marketing and storage of agricultural products. The economic contribution of women to agricultural and irrigation activities and to the livelihoods, well-being and food security of families and communities is often unrecognized, invisible and mostly undervalued. Moreover, the role of women in fetching, preserving and managing productive and non-productive water often goes unrecognized and understudied.

This assessment aims to shed light on the different contributions and benefits of women and men in relation to agricultural roles, responsibilities and resources, focusing mainly on productive agricultural resources, including water, to inform more efficient, equitable and gender-responsive programmes in the future in the context of the Swedish International Development Cooperation Agency (SIDA) project.

The assessment concluded that culture and prevailing gender and social norms played a major role in shaping gender identities, roles and responsibilities, and influencing access to and control over agricultural and water resources. In Egypt, women are mostly assigned housekeeping responsibilities, unpaid jobs and care work, and this in turn hinders their ability to engage in paid work or education, or to be seen as main contributors to rural development rather than "helpers" of their male relatives. The findings showed that both agricultural and irrigation activities have a significant female face. Due to economic hardship and the need for women's help and contribution, men and women are forced to make trade-offs between economic and social costs, negotiating gender roles and making compromises with social norms, which allows for more space for women in male-dominated spheres.

As previous studies confirm, this assessment also concludes that women's ability to enjoy land and water rights is affected by various factors, including their own level of economic empowerment, employment, their income and financial savings, access to credit and extension services, and participation in decision-making inside and outside the household. The findings suggest that women's meaningful participation in agriculture, irrigation and domestic water can be enhanced through adopting various strategies to empower women on an economic, social, legal and policy level. Below is a summary of recommendations for improving future programmes, project implementation and policy formulation, for the Egyptian Government, staff from the Food and Agriculture Organization of the United Nations (FAO), and project and partner staff.

### **Recommendations for the government and governmental institutions**

- Enhance, lead and coordinate efforts to enhance the role of women in land and water management.
- Direct efforts towards addressing the problems faced by tenants in accessing agricultural resources and markets.

### **Recommendations for the country team**

- Ensure that gender equality and women's empowerment are considered on a strategic level in the country office and included in the country's strategic plans and documents.
- Enhance the gender capacities of the country office team.
- Support gender-related, evidence-based assessments, knowledge management and communications, particularly on rural development, food security and climate adaptation.

### **Recommendations for the SIDA project team in Egypt**

- Ensure that gender equality and women's empowerment are considered on a strategic level, including by government and field partners during project implementation.
- Enhance and expand the projects that aim to empower farmers economically and increase their self-reliance and resilience against economic hardship, climate-related shocks and global pandemics.
- Invest in more farmer field schools (FFSs) and advocacy programmes, targeting different levels.
- Consider the linkages between productive water and non-productive water issues.
- Regularly support project design and implementation with updated Sex-Disaggregated Data (SDD), and gender information and statistics.
- Ensure that gender is appropriately addressed in project-related assessments and communication materials.
- Take gender and protection considerations into account when designing and implementing field projects.
- Conduct regular stakeholder analysis to demonstrate the different levels of involvement and participation of both men and women and then design a strategy to promote equal participation.

### **Recommendations for field partners**

- Ensure that partner staff in Minya have appropriate gender competencies and resources for integrating gender in project implementation.

# INTRODUCTION

## Background, objective and rationale for the assessment

Water resources and the way they are managed are central to sustainable development and improving livelihoods. The challenge of meeting increased human needs for water from finite fresh water resources is a growing concern, along with the threats of climate change, such as uncertain rainfall and water availability, which affect both rain-fed and irrigated agriculture (FAO, 2020a). The Near East and North Africa (NENA) region is already naturally exposed to a chronic shortage of water, which is expected to become much more serious in the coming decades. The drivers of water scarcity include demographic growth, the tendency towards increased food self-sufficiency and domestic agricultural production to reduce reliance on imports and vulnerability to price volatility, urban expansion, rising energy demand and overall socioeconomic development. Furthermore, an alarming trend has been observed over the last few decades, with more frequent, intense and prolonged droughts as a consequence of climate change. The fast-widening divide between availability and demand for fresh water, the accelerated depletion and contamination of groundwater resources, coupled with the effects of climate change, are acting as threat multipliers. The agricultural sector, which already uses more than 85 percent of available fresh water resources, will face strong competition from other water users and will need to enhance its performance in terms of resource efficiency, while contributing to food security and the rural economy (SIDA, 2016).

The 2030 Agenda for Sustainable Development requires a *transformational* change in the way we manage strategic resources such as water, land and energy. The countries of the region need to strategically plan for the management and allocation of water resources, review their water, food security and energy policies, formulate effective investment plans, modernize governance and institutions, while accounting for transboundary surface and groundwater. To address these needs, a four-year project funded by the Swedish International Development Cooperation Agency (SIDA) was undertaken in eight countries in the region.<sup>1</sup> This project aims to support transformational change and set the right conditions for implementing Sustainable Development Goal (SDG) target 6.4 on water-use efficiency and determining safe limits for effective water sustainability under the 2030 Agenda for Sustainable Development.

Gender equality and women's empowerment is one of the 17 SDGs, but is also integral to all dimensions of inclusive and sustainable development. In other words, all the SDGs may depend on the achievement of SDG 5 on gender equality. Gender equality is at the heart of the vision of projects under the *Implementing the 2030 Agenda for water efficiency/productivity and water sustainability in NENA countries – GCP/RNE/009/SWE* programme, which aims to enhance equitable access to water resources, and hence achieve food security and rural development, and eventually end hunger. As part of the programme's water productivity output, country offices are required to undertake gender-responsive water assessments to assess the relative situation of women and men in different communities regarding water access, governance and use. This will help ensure that water resources are governed in a way that is sustainable and inclusive in the projects areas and that women and men are benefiting equitably from these resources.

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<sup>1</sup> Project countries include Algeria, Egypt, the Islamic Republic of Iran, Jordan, Lebanon, Morocco, Palestine and Tunisia.

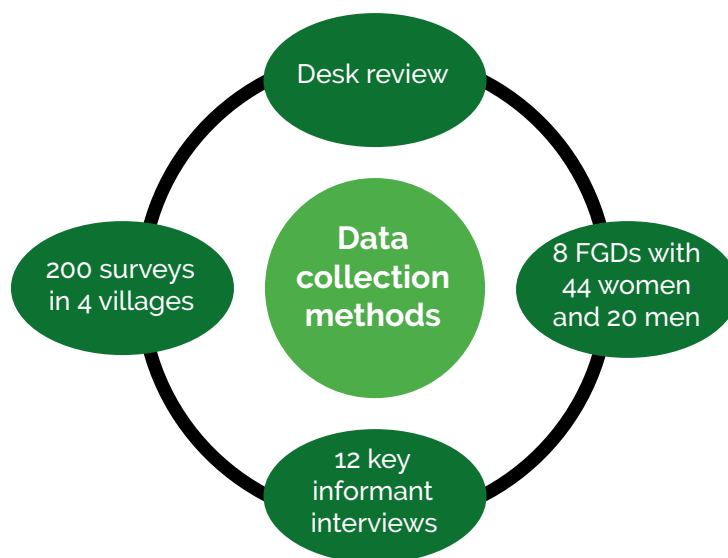
**In light of the regional methodological note on gender-responsive water assessments in the context of the SIDA project, an assessment was piloted in Egypt with the following objectives:**

- Understand the lives and experiences of women and men, and girls and boys on field sites in Egypt, together with their circumstances, needs, roles, opportunities, barriers, and the gender and power relations in which they operate.
- Understand the similarities and differences between rural women and men from different age groups and with other social determinants in relation to agriculture and water resources.
- Understand why these similarities and differences exist.
- Conduct gender-sensitive mapping of stakeholders at field level to help future coordination, partnership and programme design.
- Consult the beneficiaries on their expectations, and practical and strategic needs to inform future equitable, sustainable water and agricultural interventions.
- Understand how to effectively integrate gender in future work under the SIDA project through a list of evidence-based recommendations and a gender action plan.

## Methodology

This study, carried out in August–November 2020 was conducted using a mixed approach integrating quantitative and qualitative, as well as secondary and primary data and information. This involved a) a desk review and analysis of a wide range of national strategies, reports, project documents, gender and water statistics and studies; b) individual and group interviews and Focus Group Discussions (FGDs); and c) a field survey of farmers

**Figure 1:** Summary of methods



The interviews were conducted in the field over two weeks in August and October 2020 in Minya and Cairo and included 12 key informant interviews with technical staff from the Food and Agriculture Organization of the United Nations (FAO), project coordinators, field coordinators, officials and experts from the Ministry of Water Resources and Irrigation (MWRI), the Ministry of Agriculture and Land Reclamation (MALR) and other national authorities and mechanisms such as the National Council for Women (NCW), as well as relevant local, national and international organizations, including Life Vision, CARE International and Save the Children. The FGDs and farmer interviews targeted a total number of 64 farmers (44 women and 20 men) from Abou Oraas, Taha and Amoudein villages in Minya.

**Table 1:** *Distribution of Focus Group Discussions and farmers' in-depth interviews across Minya villages*

Village	Women	Men
Abou Oraas	8	3
Taha	18	7
Amoudein	18	10
<b>Total</b>	<b>44</b>	<b>20</b>

In addition, a farmer survey on water and agriculture in Minya was conducted on a sample of 200 participants (106 women and 94 men) from four villages: Barya Kobra, Baddeiny, Bany Mahdy and Koom Matay. The individuals sampled for the FGDs and survey were randomly selected among FAO SIDA project participants and non-participants residing in different villages in the old lands in Minya, to provide a balanced representation of regions, age groups, educational backgrounds, men and women, and heads and non-heads of household.

**Table 2:** *Distribution of the survey sample across Minya villages*

Village	Women	Men
Barya Kobra	24	26
Baddeiny	24	26
Bany Mahdy	27	24
Koom Matay	31	18
<b>Total</b>	<b>106</b>	<b>94</b>

Given the nature of the topic of gender and water, and the limitations on time and access because of the COVID-19 situation and the complexity of the context, the research also used snowball sampling – a common approach in which the researcher starts with a limited number of relevant sources of information such as documents, institutions and persons, through which more sources are then identified. The survey was hampered by several limitations that affected the timeline and the field data collection under the COVID-19 measures, with fewer participants targeted in the interviews and FGDs due to social distancing and the prevention advice of the World Health Organization (WHO) and national guidance.

A data merging approach was used for analysing and combining the findings. Quantitative data and figures were compiled and thematically integrated with qualitative data from texts and interviews into coherent findings. Finally, the data were triangulated and combined with the findings from the desk review, the FGDs and the field survey of farmers in Minya, and the interviews with key officials and staff to ensure accuracy and provide a comprehensive narrative.

In its approach and design, the present analysis draws on FAO's regional methodological note on gender-responsive water assessments and FAO's Guide to prepare a country gender assessment. It considers specific practical and strategic needs of different individuals and stakeholders, aligning with the principles of do-no-harm, and following the internationally recognized ethical principles, including the protection of participating beneficiaries in terms of privacy, anonymity, confidentiality and data protection, child protection and respect of gender-sensitive considerations.

To avoid overgeneralization, the following analysis must be viewed on the basis of its scope and objectives (listed above). This is not a comprehensive assessment of the lives of women and men in Egypt with regards to agriculture and rural development, but rather a field assessment of women and men in the context of the SIDA project focus areas and objectives. The assessment examines the water and agricultural sectors considering the overall socioeconomic situation, and taking Minya as a field case study to reach deeper understanding and allow the project staff to integrate gender more efficiently in future field projects.

## **Report structure**

The remainder of this assessment is structured as follows: the first section on the country context sets out key socioeconomic characteristics of the country and provides insights into the context that conditions efforts towards gender equality. It then presents an overview of agriculture and the rural and water sectors in Egypt. The next section focuses on a field gender assessment of agriculture, rural livelihoods and the water sector, using Minya as a case study to assess the existing gender-differentiated roles, responsibilities, barriers, capacities and opportunities with regards to agriculture and water. This section also describes the main gender differences in the management, governance and use of resources, especially land and water. Finally, based on the information collected and analysed, the last section presents the main findings and conclusion, highlighting the areas that should be prioritized for future actions. It also includes recommendations for FAO, the SIDA project, the Government of Egypt, and other key partners and stakeholders.

# I. COUNTRY CONTEXT

## 1. Country context and socioeconomic characteristics

Egypt has a population of 100 million, 48.5 million of which are women. More than half of Egyptians (58 percent) live in rural areas (CAPMAS, 2020a). The rural population of Egypt is even younger than the urban population, making economic and social challenges in rural areas particularly relevant for the future of Egypt. Young rural women are triply disadvantaged, due to their age, gender and location (Keo, Krafft and Fedi, 2019).

The human development index (HDI) value for Egypt as of 2018 was 0.700 – which puts the country in the high human development category – positioning it at 116 out of 189 countries and territories. However, the inequality-adjusted HDI is 0.492, a loss of 29.7 percent due to different forms of inequality. As the inequality in a country increases, the loss in human development also increases.<sup>2</sup> As for the Gender Development Index (GDI),<sup>3</sup> Egypt has a score of 0.878, which reflects the contrast between the female HDI value of 0.643 and the male HDI value of 0.732 (UNDP, 2020b).

Rural areas in Egypt are characterized by stricter patriarchal familial and societal structures and norms than urban areas. However, rural Upper Egypt (where 44 percent of the rural population of Egypt live) and rural Lower Egypt (with 56 percent of the rural population) differ significantly in terms of their sociocultural norms and the associated economic and political contexts.

Disparities exist with regards to the roles, responsibilities and social status of women, and this is reflected in agricultural roles and landownership rates. In general, rural Upper Egypt shows higher gender gaps than rural Lower Egypt in significant areas, including economic opportunities, access to resources, health and literacy (UN Women, 2018).

Generally, there is lack of resources allocated to rural areas in Egypt and a lack of regular, Sex-Disaggregated Data (SDD) and gender-related information collected that would help understand the issues of women and men precisely so as to inform policy in the most targeted way. However, the Government of Egypt has repeatedly shown its commitment to tackling gender inequality and encouraging the empowerment of rural and urban women. It reaffirms that building a stable, prosperous and inclusive society requires the full equality of diverse women, men, girls and boys.

Internationally, Egypt has committed to advancing women's empowerment – the country ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) with some reservations (ESCWA *et al.*, 2018). Moreover, Egypt is committed to achieving the SDGs and has launched its own Egypt Vision 2030 to support this agenda (UN, 2016). As part of this vision to achieve the SDGs, a *National Strategy for the Empowerment of Egyptian Women 2030* was developed and is being led by the NCW as the national mechanism for the advancement of women and gender equality in Egypt. This strategy seeks to fulfil the commitment of Egypt to women's rights, as set out in the 2014 Egyptian Constitution, as well as in binding international conventions, covenants and declarations to which Egypt is a party.

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<sup>2</sup> The HDI is an average measure of basic human development achievements in a country. Like all averages, the HDI masks inequality in the distribution of human development across the population at the country level. The inequality adjusted HDI takes into account inequality in all dimensions of the HDI by “discounting” each dimension's average value according to its level of inequality. As the inequality in a country increases, the loss in human development also increases (UNDP, 2020a).

<sup>3</sup> The GDI measures gender inequalities in achievement in three basic dimensions of human development: health, education and command over economic resources (UNDP, 2020a).

The strategy aims to respond to the needs of Egyptian women – particularly those living in rural areas in Upper Egypt, the economically disadvantaged, women-headed households, the elderly and women living with a disability. While the strategy does not explicitly refer to access to agricultural and water resources, it emphasizes the importance of promoting women's access to resources and opportunities, as one of the five elements defining women's empowerment.<sup>4</sup> The strategy also refers to the restrictions set on rural women and girls in terms of taking advantage of any social and economic opportunities, highlighting the fact that they are more vulnerable to poverty and marginalization, and emphasizing the need for a greater focus on women and girls (NCW, 2017).

Although Egypt is yet to witness and measure the progress done as a result of adopting the National Strategy for the Empowerment of Egyptian Women 2030, the below sections provide a brief analysis of women's and men's current statuses with regards to economic opportunities, unpaid work, education and access to information, harmful practices and gender-based violence (GBV), and health and nutrition, with a specific focus on rural populations. The section is then followed by a gender analysis and overview of the agricultural and water sectors in Egypt, highlighting key gender differences and gaps.

## 1.1 Economic opportunities

People living in rural areas experience higher levels of multidimensional poverty and deprivation intensity than those residing in lower urban governorates. Poverty rates are particularly high in rural Upper Egypt, reaching almost 60 percent. Child poverty is also much higher in rural areas, where 40 percent of children under five are poor, compared to 25 percent in urban areas. In rural Upper Egypt, almost half of children under the age of five experience multidimensional poverty (UN Women, 2018).

As for economic life, according to the 2020 Global Gender Gap Report of the World Economic Forum (2020), Egypt has closed only 62.9 percent of its gender gap, ranking 134 out of 153 countries in the Global Gender Gap Index.<sup>5</sup> The country ranked relatively high in relation to educational attainment (102), political empowerment (103), and health and survival (85). However, limited progress is seen in the areas of economic participation and opportunity (140). This is evident in the gap for participation in the labour force and economic gains, where men's rates for participation (77 percent) are much higher than women's, with only 22 percent of economically active women (of which about 20 percent are on a part-time contract). This is less than half the global rate, at 47 percent (ILO, 2019).

While rural men participate slightly more (78 percent) than urban men (75 percent), the opposite is true for women, with 20 percent of rural women participating in the labour force compared to 24 percent of urban women (Keo, Krafft and Fedi, 2019). Among those in the labour force, the female unemployment rate is high at 22 percent, compared to 7 percent for men. Unemployment for young women is a significant problem, 51.6 percent of them being out of work (World Bank, 2020).

Low labour-force participation is coupled with higher poverty rates for women than for men. Differences in income (which include wage and non-wage revenues) between men and women in Egypt are estimated to be significant. According to the World Economic Forum, the income

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<sup>4</sup> The National Strategy for the Empowerment of Egyptian Women 2030 defines women's empowerment based on the following five elements: 1. Women have self-appreciation and confidence in their capabilities; 2. Women have the right to choose among options that are availed to them; 3. Women have the right of access to resources and opportunities; 4. Women have the right and ability to control their lives; and 5. Women are able to influence and direct towards positive social change.

<sup>5</sup> The Global Gender Gap Index was first introduced by the World Economic Forum in 2006 as a framework for capturing the magnitude of gender-based disparities and tracking their progress over time. The index measures gender gaps across four thematic dimensions: economic participation and opportunity, educational attainment, health and survival, and political empowerment.



of an average man is about 3.8 times that of an average woman (UN, 2020). The wage gap is primarily due to women predominantly being employed in lower-paid sectors or in lower-paying jobs or both (World Bank, 2018). A significant portion of women (almost half) are employed in the informal sector, so are low-paid workers with little or no access to social protection schemes, as they are unrecognized by legislators and policymakers (ERF, 2015). The African Development Bank estimated that 48–70 percent of non-agricultural private-sector workers in Egypt depend on informal arrangements (African Development Bank, 2016). The same study estimates that 94 percent of agricultural workers in Egypt are in informal employment, the sector in Egypt that employs the most women (CAPMAS, 2020b).

Because of both limited job opportunities in public sectors, and the difficulty for the private sector to absorb the growing female labour force, many women turn to entrepreneurship to increase their families' incomes. According to a recent report by the International Labour Organization (ILO, 2016), the number of female entrepreneurs accounted for around 9 percent of the total number of entrepreneurs in Egypt. Women business owners are concentrated in rural Egypt, 82 percent of them operating in rural areas (9 percent of them are in the Minya governorate), and 18 percent in urban areas. In contrast, the distribution of men business owners is more balanced between rural and urban areas, with 62 percent in rural and 38 percent in urban centres. The majority of women entrepreneurs in Egypt are referred to as "necessity entrepreneurs" who are forced into entrepreneurship due to the lack of satisfactory and formal job opportunities (UN Women, 2018). Rural women entrepreneurs face several challenges in expanding and building their businesses as they experience high levels of illiteracy and have less time due to unpaid domestic responsibilities, while suffering from limited access to business development services, restricted networks and freedom, limited decision-making capacity within their households and communities, and limited access to information and communication technologies (Women's World Banking, 2014).

## 1.2 Unpaid work

Culture and prevailing gender and social norms play a major role in shaping gender identities, roles and responsibilities, and influencing differences in access to and control over resources in Egypt. An ILO report studied the perceptions and attitudes of Egyptian women and men towards women and their responsibilities by asking them if they would rather women worked in a paid job or stayed at home to take care of their families and housework, or both. The report revealed that one in every two Egyptian women preferred to work in a paid job and one in five preferred to work in a paid job while also fulfilling caring duties at home. The majority of men on the other hand stated their preference for women staying at home, with only 31 percent saying that women should rather be working in a paid job, and 13 percent wanting them to work in a paid job while also carrying out caring responsibilities at home (ILO and Gallup, 2017).

Unpaid household work is significantly more prevalent among women and girls in Egypt. Results from a time-use survey in 2015 showed that 91 percent of Egyptian women reported performing unpaid household duties. On average, women spend more time than men in direct and indirect care activities in the home.<sup>6</sup> According to an Egypt labour market panel survey, women in Egypt spend an average of 27 hours carrying out unpaid care work and domestic responsibilities a week, while men spend an average of only one hour doing the same work (UN, 2020). The gender gap in the time spent in household activities does not differ between urban and rural areas. Social norms and traditional masculine values play a role in assigning the responsibility for child-rearing, housekeeping and care work primarily to women, which in return hinders women's ability to be engaged in paid work or education (World Bank, 2018).

### 1.3 Education and access to information

According to the 2017 census, 71.17 percent of the Egyptian population aged 15 and above is literate, with the literacy rate reaching 76.5 percent for men and 65.5 percent for women (UNESCO, 2021). About 30.8 percent of Egyptian females over 10 years of age are illiterate compared to 21.1 percent of men of the same age. Illiteracy rates are higher in rural areas, reaching 32.2 percent compared to 17.7 percent in urban areas (CAPMAS, 2020c). Research indicates that girls living with disabilities are more likely to be denied access to education, resulting in high illiteracy rates among people with disabilities in Egypt, with 61 percent for males and 70 percent for females (World Bank, 2018).

According to ILO, the rate of young people not in education, employment or training (NEET) was approximately 27.1 percent in 2018. This phenomenon disproportionately affects women, particularly in rural areas where the NEET rate is 40 percent for women compared to 19 percent for men. Limited access to education is a major issue for women in rural areas, which negatively affects their economic and social opportunities, as well as their health status (World Bank, 2020).

Strict prescriptions of gender roles and social norms are key reasons for the gender gap in education, specifically in rural Upper Egypt, where boys' education is generally prioritized over girls', especially in households that fall below the poverty line. This is reflected in the existing gap between girls and boys in terms of the likelihood of ever attending school, which is much higher in rural Upper Egypt (16 percent higher in favour of boys) than in urban Lower Egypt (6 percent). Overall, 16 percent of women have never attended school in rural Upper Egypt. This percentage is four times higher than for men from the same region. These trends have an impact on literacy rates, with 39 percent of illiterate women in rural Egypt and even more in Rural Upper Egypt (45 percent in Minya for example). The total head count of illiterate females aged 15 to 29 is 2 million, 75 percent of whom live in rural areas (World Bank, 2018). Illiterate women are likely to be employed in the informal sector, adding an additional layer to their economic vulnerabilities (ERF, 2015).

As for access to information, the updated SDD on internet usage is not available. The 2014 data indicated that 84 percent of rural women did not use the internet, compared to 76 percent for rural men (UN Women, 2018). Digital literacy was higher among males in urban and rural areas. In urban areas, 34 percent of females used computers compared to 45 percent of males, whereas in rural areas, 37 percent of females had access to computers compared to 45 percent of males.

In Egypt, access to a phone is high among both men and women. Phone ownership is similar for both genders: 53 percent of women and 54 percent of men own a phone. Egyptian men and women also access mobile internet at similar rates (UNIDO, 2018). However, women tend to have more basic phones (GSMA, 2015), which could negatively impact their ability to reach training opportunities online needing more advanced phones, and in return impacting their access to information and job opportunities.

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<sup>6</sup> Domestic care work can be subdivided into two additional categories, direct care work, which is time spent on directly engaging with the recipient of the care (i.e. feeding a child) and indirect care work, which is time spent in a more indirect way, but the recipient still benefits from it (i.e. ironing clothes for partner and cooking for the family).

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## 1.4 Gender-based violence and harmful practices

Different forms of violence against women and girls (VAWG) and harmful practices continue to persist in Egypt, especially in rural areas where stricter social norms prevail and there are fewer opportunities to access support services and essential health care due to reduced availability of legal, social and policing structures. Rates of domestic violence, street harassment and sexual harassment are very high. An estimated 2,5 million women and girls face sexual harassment in public spaces on a yearly basis (UNFPA, CAPMAS and NCW, 2015). Moreover, women living with disabilities are exposed to a greater risk of violence, including sexual violence. Forms of VAWG in Egypt include high rates of female genital mutilation/cutting (FGM/C), where 92 percent of women and girls had undergone FGM/C as of 2015. The prevalence of FGM/C is higher in rural areas (95 percent) than in urban areas (86 percent).

Child marriage is also prevalent in Egypt. While the legal age of marriage registration is set at 18 years, girls are still getting married without registering or reporting their marriages, or registering their children born out of these marriages. It is estimated that 1 in 5 girls are married before the age of 18 (UN Women, 2019a). Due to traditional social norms and poverty, rural women generally tend to get married earlier in life compared to their peers in urban areas, with an early marriage rate in rural areas three times higher than in urban centres (UNICEF, 2019). This is even a bigger issue in rural Upper Egypt, where more than 20 percent of women have experienced early forced marriages (Japan International Cooperation Agency, 2018).

Moreover, in rural areas where girls are frequently married under the age of 18, unregistered marriage leaves girls unprotected if their husbands die or leave them before they reach the legal age of marriage. Early marriage has negative consequences for women's health and educational attainment, and is positively associated with low labour participation, poverty and high levels of illiteracy and malnutrition among women, especially in rural areas (Malé and Wodon, 2016).



## 1.5 Health, food security and nutrition

In general, rural areas in Egypt are characterized by high maternal, infant and child mortality rates, poor health, high disability and birth rates, leading to high population growth, rural–urban migration, and fewer specialist doctors, nurses, health experts and health facilities. The health data in rural areas are also inadequate for monitoring infectious diseases and major health risks (Shalaby and Baig, 2015).

Access to health care is more limited in rural Egypt. According to the last census, the majority of Egyptian women have not subscribed or are not covered by any health insurance scheme. The share of rural women with no insurance amounts to 53.4 percent, which is slightly higher than the share of urban women who do not have health insurance (52.8 percent). By contrast, 46.3 percent of men in rural areas are not insured, compared to 43.7 percent of men in urban areas (UN Women, 2018).

Access to sexual and reproductive health care in Egypt has improved in recent years. The maternal mortality ratio has decreased significantly from 174/100 000 in 1990 to 52/100 000 in 2013 (UNFPA, 2021). Teenage fertility is a major health concern because teenage mothers and their children are at high risk of illness and death. Childbearing during teenage years also frequently has other adverse social consequences, particularly for female educational attainment, as women who become mothers in their teens are more likely to give up education. There are significant residential differences in the level of teenage childbearing. In rural areas, the level of teenage fertility (14 percent) is almost three times the level in urban areas at 5 percent (Ministry of Health and Population, El-Zanaty and Associates, and ICF International, 2015).

Life expectancy at birth among Egyptian females has improved during the last decade, and it was estimated at 73.6 years of age in 2015, which is 4.4 years higher than the life expectancy of males (Ministry of Health and Population, El-Zanaty and Associates, and ICF International, 2015). In traditional communities, typically in rural areas, the competition between the reproductive and productive roles of women is usually in favour of the former. Early marriage and early motherhood limit the chances and options available to women and hinder their health status. The vicious circle results in higher fertility levels among women with low-paid jobs and a lack of career prospects. Rural Egypt (and especially rural Upper Egypt) is characterized by high fertility rates, especially among women aged 20–24 and 25–29. In rural Upper Egypt, the region with the highest poverty rates, the total fertility rate is 4.1 births per woman (World Bank, 2018). Modest female educational attainment ratios, especially in Upper Egypt are leading to a decline in health awareness among women in Egypt, which adversely affects the nutrition and health of children (Japan International Cooperation Agency, 2018).

As for nutrition and food security, Egypt is ranked 55 out of 113 countries for the 2019 Global Food Security Index (The Economist Group, 2019). Chronic food insecurity is concentrated in rural Upper Egypt, where 74.3 percent of all households are in chronic food insecurity (long-term or persistent inability to meet minimum food requirements). Lack of education, economic opportunities and access to health services are the key reasons that women, and especially female-headed households, are more affected by food insecurity than men.

The gap between women and men in Egypt continues to be evident in nutrition and health matters. Approximately 50 percent of Egyptian women aged 20–49 have iron deficiency and 25 percent have iron-deficiency anaemia (with higher rates among rural women, at 31 percent) (Tawfik, Hanna and Abdel-Maksoud, 2015). Meanwhile, 41 percent of women and 22 percent of men are obese (Global Nutrition Report, 2020). The mean body mass index (BMI) (in kg/m<sup>2</sup>) of Egyptian women is among the highest in the world (30.6). Urban women are more likely to be obese, that is 54 percent of urban women, compared to 48 percent of rural women (Brouzes *et al.*, 2020).

This coexistence of undernutrition with overweight and obesity is known as the double burden of malnutrition. The high prevalence of overweight and obesity in Egypt is thought to be related to high-energy intake combined with low levels of physical activity, especially for women due to socialcultural factors and safety concerns about moving freely in public spaces. Issues of discrimination between women and men in health- and nutrition-related matters affect the physical well-being, productivity and ability of women and girls to contribute to the development of society.

## 2. Overview of the agricultural sector

Historically Egypt has always seen itself as a farming nation. Agriculture and the Nile River have been associated with Egypt since ancient times, and this connection remains strong. Agricultural development is considered a duty of the state, as reaffirmed in the country's 2014 Constitution (FAO, 2020). Agriculture is a key sector in the Egyptian economy, contributing 11.3 percent of the country's gross domestic product (GDP) (USAID, 2020). The Egyptian economy has also traditionally relied heavily on agriculture as a source of growth and support for the non-agricultural sectors, and it is considered to be a vital source of exports and foreign exchange. Related industries such as processing, marketing and inputs account for a further 20 percent of GDP (IFAD, 2021). Even after the current COVID-19 crisis, the Egyptian agricultural sector was found to be the most reliant sector in the face of the pandemic (Breisinger *et al.*, 2020). Currently, agriculture is the largest source of employment in rural areas, though non-farm activities are becoming increasingly important. These comprise a wide range of activities from manufacturing to trading, to service provision.

The sector provides livelihoods for 57.2 percent of the population and directly employs around 30 percent of the labour force, and over 55 percent of employment in rural Upper Egypt is agriculture related (Breisinger *et al.*, 2020). The agricultural sector in Egypt is dominated by small farms using traditional practices that do not meet international standards (USAID, 2020). The agricultural sector provides formal employment for about 28 percent of the labour force (of which 80 percent are men and about 20 percent women). However, most rural workers are self-employed on their own farms or in very small enterprises in rural non-farm activities (FAO, undated). The agricultural sector is the largest employer of women in Egypt, hiring almost 45 percent of women in the workforce (CAPMAS, 2020b), although these figures might not capture the right involvement and contributions of women in agriculture-related activities inside and outside the household, as statistics often exclude women's informal support, and unpaid domestic and family work.

Egypt has a total area of about 1 million square kilometres. The majority of the country area is desert land. Most of the cultivated land is located close to the banks of the Nile River, its main branches and canals, and in the Nile River delta (FAO, 2020b). Plentiful year-round sunlight and fertile soil around the Nile River valley and delta favour crops such as rice, sugar, wheat, corn and onions. Since 1992, farmers can select the crops they grow, whereas previously cropping patterns were selected by the government. Smallholdings characterize Egyptian agriculture, with about 50 percent of holdings extending over less than 0.42 ha (1 feddan).

The significant economic contribution of unpaid family workers to the well-being of households is well known. However, studies show that it tends to be undervalued and invisible in employment statistics, as well as national accounts of work and policymaking in Egypt. Informality is a particularly common occurrence within the agricultural sector, where 94 percent of Egyptian agricultural workers are in informal employment, which is also predominantly female. Research at global level has shown that gender inequalities in the labour market are more common in the informal economy, and women informal workers usually carry out the least protected and most precarious types of work where decent jobs are rare. This trend is particularly visible in Egypt.



The Egyptian Agricultural Development Strategy indicates that rural women's roles in farming are more varied and prevalent than before because of the absence of spouses who are engaged in non-agricultural income-generating activities. Thus, rural women are expected to take on varied and prevalent roles in agriculture in addition to household chores and childcare. Women are said to be basically engaged in all farming activities. However, there remain regional differences based on traditional social norms, such as in some areas of Upper Egypt where women are not engaged in farming activities outside (Japan International Cooperation Agency, 2018).

More than 50 percent of rural women are said to be actively involved in informal tasks such as fertilization, weeding, harvesting (harvesting fruit and vegetables in particular is considered to be suitable for women), post-harvesting, animal care, sacking, marketing and storage of agricultural products. Some also undertake ploughing and irrigation. Women also carry out all domestic tasks, including water and fuel collection, and food processing and preparation (FAO Country Gender Assessment of the Agriculture and Rural Sector – Egypt, forthcoming).

Land is one of the most important assets for supporting agricultural production and providing food security and nutrition. Land tenure in Egypt takes three forms: i) ownership where holder and owner are the same person; ii) rent, cash or in-kind, where the holder is not the same person as the owner; and iii) mixed holding, where the owner holds one part of the land and the tenant controls the other part, meaning that both of them hold and have use rights to a part of that land, but only use rights to the other part (FAO, 2015).

### Landownership rules and reported rates of women ownership

The Egyptian Civil and Commercial Code gives women equal rights to owning and accessing land. However, in rural areas, where landownership is not only an asset, but also reflects power, prestige and social class, families might tend to put pressure on women to sell or leave their land to their male relatives, a situation which over time, places women at a disadvantage both socially and economically.

The 1952 Agrarian Reform laws led by Gamal Abdel Nasser ended feudalism and granted peasants the right to inherit land. The Land Reform Law distributed holdings to individuals and families and gave each peasant a minimum of four feddans (a little more than four acres). According to that law, landowners could either farm the lands themselves or rent them to other farmers. The biggest impact of the reform was felt by the largest and the smallest landholders. Although no laws restrict women's ownership and inheritance of land and livestock or access to credit, women almost never own the land they work on. According to 2014 data, only 2 percent of Egyptian women own land (UN Women, 2018) and only 5.2 percent of the total agricultural land area is owned by women (FAO, 2015). This is even lower than the average percentage of landownership by women in the Arab world, which is 7 percent (Arab Women Organization, 2020).

Evidence suggests that owning or bearing rights to land reduces women's reliance on male partners and relatives, and increases their bargaining power in the community and within households (FAO, 2020c). Full access to resources is a strong indicator of women's empowerment, and it is included among the SDG targets that aim to give women equal rights to economic resources, as well as access to ownership and control of land and properties, financial services, inheritance and natural resources, in accordance with the local laws.

The Islamic Sharia law perceives male family members as the primary breadwinners and obligates them to support female members. This means that a wife is entitled to maintenance from her husband, in terms of shelter, food, clothing and medical care, as provided for by the Qur'an (Sait and Lim, 2006). Sometimes, these Islamic laws are mistakenly taken as an opportunity to influence gender-differentiated landownership as some women are denied their lawful inheritance because they are not expected to support their family financially. Hence, they are seen as not entitled to land rights. The Qur'an, however, notes that women "shall be legally entitled to their share," which accounts to half of her brother's, and that "men are allotted what they earn, and women what they earn," as women possess independent legal, economic and spiritual identity and independence (FAO, 2015).

Despite amendments to the inheritance law imposing increased penalties for denying a woman her lawful inheritance,<sup>7</sup> women, especially in rural areas, are more likely to be deprived of their land rights according to the cultural customs. Widowed women are also culturally expected to marry the brother of the late husband to keep property and children in the husband's name. Egyptian women's access to information concerning their rights to land is also significantly hampered by the high rate of illiteracy and their nine economic disadvantages, and reduced power to negotiate for and control their rightful inheritance (FAO, 2020b).

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<sup>7</sup> Egyptian Muslim women inherit half of what their men relatives inherit, as laid down by the Islamic Sharia and Egyptian law.

The legally approved landownership and inheritance rights for women are still in need of a legal framework for ensuring enforcement and changing social norms in this respect. Since 2001, the NCW has established and operated an Ombudsperson's Office to assist with counselling and legal aid, and provide referral systems to victims of gender-based discrimination in different areas, including inheritance.

The fact that women's access to landownership is impeded for cultural reasons also reflects the barriers that still prevent women from accessing finance and credit. As land and assets are considered a collateral in bank loans, Egyptian women also experience challenges in accessing finance and financial resources, which limits the financing available for business growth, whether in agriculture or another sector. Globally, according to the International Finance Corporation, women access approximately 10 percent of commercial bank finance, leaving them with tight financial opportunities to invest and grow their businesses (IFC, undated). As a result, most of women business owners in Egypt tend to own microenterprises and operate informally with no licence or employment insurance. Women farmers' access to agricultural resources and equipment is also relatively limited compared to their male counterparts, which leads to low productivity (Japan International Cooperation Agency, 2018).

While both Egyptian women and men cultivate land, women are primarily responsible for tending to livestock, cooking food and harvesting crops (FAO, 2020b). In rural Egypt, 29 percent of households own livestock compared to only 5 percent of urban households. There is a small differential when it comes to livestock ownership with regard to the sex of the household head. According to a recent report (Keo, Krafft and Fedi, 2019), while 30 percent of rural male-headed households own livestock, this is the case for only 26 percent of rural female-headed households in rural settings.

### **3. Overview of the water and irrigation sector**

The MWRI is the main governmental organization in the water sector. In order to address water scarcity and other increasingly complex technical, political, social and economic water-related issues, the MWRI has established various specialized units and departments over the years and has issued policies on drainage, groundwater, water quality and irrigation improvement (Fanack, 2018). In 2005, the MWRI launched the National Water Resources Plan, which focuses on irrigation through improving overall water-use efficiency in agriculture, improving water allocation and distribution of Nile water, preventing or reducing emissions and wastewater treatment. Another plan was launched in 2010, which runs to 2030 and aims to safeguard water resources available in Egypt. These include the country's share of Nile water, as well as groundwater and non-conventional resources (FAO, undated).

The agricultural sector in Egypt uses the most water, accounting for more than 85 percent of the country's share of Nile River water (Fanack, 2019). Rainfall is mainly limited to the northern coast with an average of 150 mm per year. The Nile River water amounts to 55.5 billion cubic metres (BCM) and represents about 97.7 percent of total water resources (Agriculture Research Centre, 2020). Water use in Egypt is growing due to a rising population and improved standard of living, as well as the government's policy of encouraging industrialization and expansion of the agricultural sector.



Water resources currently available for use are 55.5 BCM/year from the Nile River, 1.3 BCM/year of effective rainfall in the northern part of the Nile delta and 2 BCM/year of non-renewable groundwater from the Western Desert and Sinai – a total of 58.8 BCM/year – while water needs from various sectors amount to about 79.5 BCM/year (Fanack, 2019). The country is water stressed, with only 500 m<sup>3</sup> of renewable water resources per capita per year. To address this issue, since 1993, Egypt has been implementing a national strategy for multiple reuse of agricultural drainage water, relying on a complex subsurface drainage system and since 1993, on an ambitious programme of irrigation improvements to increase water productivity and save water. Moreover, seawater desalination is accounting for a growing share of the urban water supply.

**Table 3:** Quantity of irrigation water in m<sup>3</sup> used by governorates in 2013–2017

Governorates	2017	2016	2015	2014	2013
Cairo	5 473	2 477	5 526	6 840	7 216
Alexandria	359 697	358 473	338 424	354 634	383 051
Dakhliya	4 138 284	3 927 747	3 645 379	4 383 697	4 262 065
Sharkia	4 424 593	4 421 063	3 856 656	4 043 607	4 084 967
Kalyoubia	949 138	1 021 669	924 272	808 194	854 964
Kafr-El-Sheikh	3 632 409	3 685 406	3 137 037	3 628 153	3 641 993
Gharbia	2 539 738	2 364 835	2 109 037	2 404 931	2 227 923
Menoufia	1 934 509	1 953 398	1 724 957	1 672 390	1 669 664
Behera	5 280 190	5 648 743	4 404 421	4 434 087	4 459 350
Ismailia	742 049	825 211	733 753	673 795	749 281
Giza	1 095 246	1 227 479	1 007 027	1 036 579	1 031 127
Beni-Suef	1 725 605	1 874 084	1 281 540	1 345 813	1 337 780
Fayoum	2 632 974	2 805 071	2 088 754	2 197 549	2 121 987
Minya	3 183 379	3 370 907	2 785 817	2 515 760	2 445 530
Asyout	2 253 278	2 617 281	2 130 107	2 113 864	2 050 524
Suhag	2 167 701	2 540 664	2 020 261	1 981 467	1 952 014
Qena	1 882 522	2 145 999	2 918 381	1 959 991	2 886 227
Aswan	966 869	981 238	908 985	899 936	826 851
Luxor	892 170	1 104 888	-	946 740	-

Source: CAPMAS, 2020d. Agriculture section. In: *Statistical Yearbook*. Issue No. 111. Cairo, Egypt. (also available at [https://www.capmas.gov.eg/Pages/StaticPages.aspx?page\\_id=5034](https://www.capmas.gov.eg/Pages/StaticPages.aspx?page_id=5034))

The largest users of irrigation water are the governorates of Beheira, Dakahlia, Sharkia, Kafr Elsheikh and Minya, where the two main national crops, rice and sugar cane, which rely on large volumes of irrigation water, are mainly grown (Chaaban *et al.*, 2018).

**Table 4:** Total cultivated area in Egypt (in feddans) in 2010–2017

Year	Total cultivated area		
	New land	Old land	Total
2010	2 623 399	6 117 723	8 741 122
2011	2 548 208	6 071 219	8 619 427
2012	2 780 044	6 019 395	8 799 439
2013	2 771 816	6 182 507	8 954 323
2014	2 834 289	6 082 176	8 916 465
2015	2 939 949	6 155 756	9 095 705
2016	2 953 558	6 147 646	9 101 204
2017	3 148 203	5 985 056	9 133 259

Source: CAPMAS, 2020d. Agriculture section. In: *Statistical Yearbook*. Issue No. 111. Cairo, Egypt. (also available at [https://www.capmas.gov.eg/Pages/StaticPages.aspx?page\\_id=5034](https://www.capmas.gov.eg/Pages/StaticPages.aspx?page_id=5034))

The national agricultural land base consists of old lands in the Nile valley and delta, rain-fed areas, several oases and new lands reclaimed from the desert since 1952. Although the country has lost some of its fertile land to urbanization,<sup>8</sup> this has been balanced by the expansion of agricultural areas into the desert. Nearly all agricultural activities in Egypt depend on irrigation water. In 2020, the total irrigated area covered around 96 percent of the total cultivated area (9.4 million feddans), rising by 8.7 million feddans in ten years as a result of successive governmental policies to promote domestic production (Al-Wattan, 2020). Most of the cultivated area is located near the Nile banks, its main branches and canals. Even the small, more humid areas along the Mediterranean coast require water harvesting or supplementary irrigation to produce reasonable yields (FAO, undated).

Flood irrigation continues to be a common irrigation method in the old lands although certain villages in Egypt have an irrigation system called *tatweer*, which distributes water to farmlands through a network of lined canals, reducing water loss and ensuring more equitable distribution of the resource to farmers. The irrigation system on the old lands of the Nile valley (where most of Minya is situated) is a combined gravity and water lifting system. There are seven barrages to facilitate water flow from the High Aswan Dam. The main canal system (first level) conveys water from head regulators and distributes it along branches (second level) before reaching the third level, where distributaries receive water according to a rotation schedule for field irrigation (FAO, 2016).

The irrigation system in the new lands (reclaimed areas since the Revolution of 1952 and High Aswan Dam built in 1970) relies on a cascade of pumping stations from the main canals to the fields, with a total lift of up to 50 m. Surface irrigation is banned by law in the new reclaimed areas, which are located at the end of the system, and are more at risk of water shortages.

<sup>8</sup> Urbanization represents a serious threat to agriculture in Egypt. It is prohibited by law to construct any buildings on farmland without a license from the Ministry of Agriculture and Land Reclamation, and violators are prosecuted and face serious penalties.

The most significant feature of the irrigation system in Egypt is its free accessibility. The government refuses to treat water as a "commodity," considering it a "national resource," and does not charge a fee or require compensation for using water for irrigation purposes. This, however, has led farmers to flood the fields with water, thus wasting scarce water resources (Kheir-El-Din and El-Laithy, 2008). However, farmers residing at the end of the mesqa (third level) are required to pay money for the power and oil needed to lift the water up to their fields.<sup>9</sup>

Women play a central part in the provision, management and safeguarding of water, although gender and social norms have always shaped women's inclusion and exclusion in society as well as their access to and control over resources, including water resources. It is important to emphasize that gender norms are never static. They are continuously changed, reproduced, adapted, bargained with, challenged and negotiated as part of everyday social interactions. New political, economic and social dynamics may cause gender norms to change, and with them, our access to and management of resources.

Although interest in the gendered nature of water has been on international institutional agendas and policies for the past two to three decades, gender issues continue to remain overlooked in most of the literature on water (Laurie, 2011). When women's roles in agriculture and irrigation were investigated as part of a national survey on the attitudes of Egyptian farmers towards water resources in 2001, 70 percent of women farmers interviewed were found to be widowed and had generally a smaller area of land to cultivate (1.4 feddan versus 3.5 for men). Women farmers were found to mainly farm for household consumption, and almost no women visited their irrigation engineer, while 10 percent of men tended to go once per year. In general, the women farmers interviewed tended to be less aware of ways to reduce water use, and were less keen to increase their role in managing irrigation water, as half of them saw no benefit in joining an irrigation management body (USAID, 2011).

Recognizing the need to mainstream women's concerns and needs in agricultural and water policies, the 2005 National Water Resources Plan *Water for the Future* used a multi-stakeholder approach led by the MWRI, including a section on gender issues and identifying some policy principles to be incorporated in all plans, including: a) equal opportunities for men and women with regard to involvement in discussion and decision-making on water-use and resource issues, dissemination of information and communication, and active participation in decision-making bodies dealing with water resources and irrigation management; and b) equal benefits for men and women deriving from effective and efficient water resource management (Ibrahim, 2006).

Ten years later, researchers stated that there was a notable increase in the participation of women in farming activities (due to migration of their male relatives outside the country or to urban areas). Yet, women's participation in irrigation and water management continues to decline, even though more women take up farming out of choice or necessity (Gouda, 2013; Barnes, 2014). According to the latest studies, gendered social norms – which refer to gender dimensions of social norms, or the societal expectations of acceptable ways, roles, behaviours and lifestyles of women and men in a particular society at a particular time – are the major reason why women's engagement with and contribution to irrigation are ignored or undervalued (Najjar, Baruah and Garhi, 2019a).

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<sup>9</sup> Interview with MWRI staff.

Landownership is a very important precondition for optimizing women's participation in water and irrigation management. Since women do not own their lands, they are rarely seen as irrigators. In addition, women are almost never presented with opportunities to serve on WUAs and other irrigation management institutions. Social norms and restrictions on women's roles and mobility are additional reasons why women are not perceived as irrigators. According to a 2019 study by the International Center for Agricultural Research in the Dry Areas (ICARDA) on women and irrigation in Egypt, when farmers were asked about women's participation in irrigation activities, they replied:

**Women cannot irrigate because irrigation comes according to a certain schedule. If the water comes at 2 a.m., how would a woman go? How can a woman possibly irrigate? It would require her to roll up her clothes.**

Despite these assumptions of farmers, the irrigation officials in the same area estimated that 30 percent of farmers and irrigators in the area were women. Further, 87 percent of respondents in the same area reported that women participated in irrigation activities on family land (Najjar, Baruah and Garhi, 2019a). This further proves the "invisible" nature of women's work, since while their roles in agriculture are expanding and taking many shapes, society is not keeping up and accepting such changes, but rather denying them.

According to data from the third Arab Water Regional Conference on the current situation on gender and water management in Egypt, perpetuating stereotypes is acknowledged to drastically affect the mainstreaming of gender at various levels and reiterate women's invisibility and lack of recognition of their important role in agriculture and irrigation. The role of women in irrigation is mainly seen to be confined to the preparation and transport of food to their husbands or male family members in the field. However, data also suggest that there is a general lack of visibility of the role of female farmers in general (Ibrahim, 2006).

The findings of the above-mentioned studies suggest that women are far more actively engaged in irrigation in Egypt than is generally assumed. The perceived low level of women's access to and control over irrigation water may stem from their lower status and association with the domestic sphere, while also being a consequence of traditional thinking, which associates irrigation with masculinity (Najjar, Baruah and Garhi, 2019a).



## II. FINDINGS FROM SPECIFIC SITES – MINYA

The Minya governorate is an important agricultural and industrial region. It is called the “bride” of Upper Egypt due to its richness in natural resources. The governorate includes more than 177 660 ha of agricultural land, which account for 6.5 percent of the country’s total arable land. It is ranked as the top wheat producer and a major producer of sugar cane, corn, cotton and onions.<sup>10</sup> Most of the land in Minya is cultivated by small farmers operating as owners, registered tenants and sharecroppers or as a mixture of all three (Mahmoud, 2014). Despite the governorate’s agricultural wealth, almost 54 percent of Minya’s population live below the poverty line (CAPMAS, 2018). Many of the impoverished are farmers who suffer from a shortage of subsidized fertilizers and who live in an environment in which farmers lack social security and protection.

*Within the Implementing the 2030 agenda for water efficiency/productivity and water sustainability in the NENA countries project, Minya was chosen by the Government of Egypt as a priority governorate for piloting the project, along with Kafr Elsheikh and Shrakia, due to its role in producing strategic crops, and because of the fact that the governorate includes both old irrigated lands and newly reclaimed lands where water productivity and crop productivity/value chain projects could be tested. For the purpose of the gender-responsive water assessment, the Minya governorate was also chosen for the field assessment because of its role as an agricultural region, the richness of data it could help provide and the variety of crops irrigated in both old and new lands.*

Findings from this study are organized in the following pages along two main dimensions, gender and agriculture, and gender and water. Under these two dimensions, subdimensions are presented on roles and responsibilities, access to and control over land, agricultural resources, information and services, and gender issues across water governance, and productive and non-productive water. Survey data are presented as percentages and figures. Qualitative data are summarized, and insightful quotes are reproduced verbatim.



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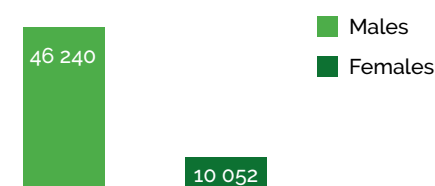
<sup>10</sup> Please see Annex III for Minya crop maps.

## 1. Gender and agriculture

### 1.1 Roles and responsibilities

Gender and social norms shape gender roles, identities and responsibilities in Egypt. There are regional differences in the distribution of roles in farming activities between women and men based on traditional social norms. Women play key roles in agricultural production and food security in Minya and rural Egypt, although their contributions are undervalued and they face difficulties earning decent wages and owning assets (Najjar, Baruah and Garhi, 2019b). They represent almost 21.7 percent of the overall number of people employed in the agricultural sector (see Figure 2). However, as these figures only include employees officially registered in the agricultural sector, they tend to discount the large numbers of women and men who work informally on their own farms and family farms, or as seasonal, daily and informal workers in agriculture. The assessment survey results showed that 70.7 percent of the women sample worked in agriculture, compared to 94.6 percent of the men sample.

**Figure 2:** Estimated number of people (aged 15 and above) employed in agriculture in Minya by sex



**Source:** CAPMAS. 2020d. Labour section. In: *Statistical Yearbook*. Issue No. 111. Cairo, Egypt. (also available at [https://www.capmas.gov.eg/Pages/StaticPages.aspx?page\\_id=5034](https://www.capmas.gov.eg/Pages/StaticPages.aspx?page_id=5034))

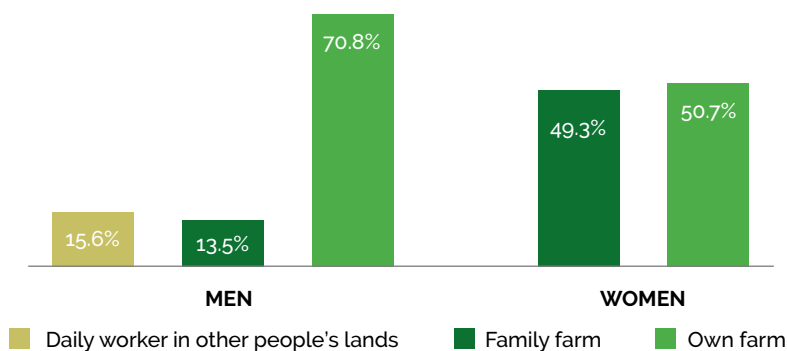
In rural areas in particular, women were usually framed as *helpers* to their families and husbands instead of as workers in their own right, while they were mostly assumed not to contribute to agriculture or participate in irrigation as stated in most interviews with men farmers in Minya. However, when asked about the specific tasks of each family member, women and men articulated different stories on the level and amount of women's contribution to the farming and irrigation of their family land.

Men usually referred to their wives, sisters and daughters as only helpers, who supported them in the peak seasons and whose role mostly consisted of bringing food to the field and catering to the needs of the male farmers. All interviewed women, however, reported having to take part in some agricultural activities, like fertilization, gardening, harvesting fruit and vegetables, post-harvest processing and even in some tasks not considered to be women friendly, such as digging, hoeing and clearing the soil to reduce the cost of daily workers. If the family owned a large area of land, they rented daily workers to help them in agricultural and irrigation activities, but women still worked to reduce the cost of additional workers. The only crop that women never dealt with, as stated by all women and men and confirmed by the staff of local organizations was sugar cane, as it was considered very unsafe for women to work in high sugar cane fields where

While most FGD participants believed that the relationship between men and women should be based on helping each other out and cooperation inside and outside the household, the “primary” tasks of women and men were considered by all the FGD participants to be clearly divided by type of work. Women were said to take care of all domestic tasks, including day-to-day household chores, caring for and feeding livestock. Men, on the other hand, organized or took care of any “economic” and “productive” activities outside the home, including working in the fields, carrying out all farming and irrigation activities, and marketing and selling the produce. However, when asked specifically if women helped in these agriculture-related tasks, all women in Abou Oraas, Taha and Amoudein stated that “the home” was their primary responsibility, even if they were heavily engaged in farming activities.

The survey results showed that women mostly worked on farms belonging to their families, their own or their husbands' farms, while men mostly worked on their own farms, but were also likely to work outside as daily workers or by supporting their neighbours and friends (see Figure 3). This figure indicates that women's contribution to family farms is more significant than men's.

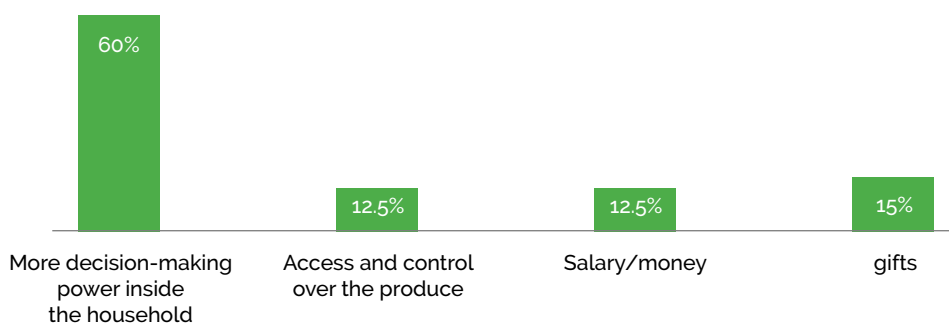
**Figure 3:** Survey results on the different types of engagement of women and men in agriculture



Men's engagement in agriculture is often remunerated in cash or produce. Interviewed farmers in Amoudein mentioned that they relied on each other for support and that they would ask their brothers or neighbours for help one day on the understanding that they would help them another time in return. This was considered to be a paid job opportunity where farmers settled on a lower price than that paid to daily workers, as a form of support to each other.

Most of the work that women do in the household and in the fields is unpaid. Men indicated that they did not pay their wives or female relatives for working with them on the family farms or give them part of the revenue from the crops, but they were likely to buy gifts for them at the end of each season, depending on the profit they made. The results of the survey showed, however, that a high percentage of women who worked in agriculture derived benefits from their work in the field (54 percent), 60 percent of them stating that these benefits would take the form of more decision-making power inside the household, and 15 percent stating that they received gifts from their husbands. An equal number of women (12.5 percent) said that they received a share of the money/revenue or got greater access and control over the produce (see Figure 4).

**Figure 4:** Survey results on the different types of benefits derived by women who stated receiving benefits from their engagement in agriculture



Sometimes, women find seasonal paid employment opportunities, but these are usually limited to gardening. For such "simple and gentle" agricultural tasks, women are preferred to men because they take 15–20 percent less money than men do. Except for gardening, there are rarely other opportunities for women to work in Minya. "If there were, they would work," said a woman during a FGD in Abou Oraas. Rural women – particularly those working in seasonal farming and temporary paid jobs or carrying out unpaid household tasks – still face obstacles in securing adequate income and social insurance despite the efforts made to expand the umbrella of social insurance to women (NCW, 2017).

Power inequalities between women and men, as well as discriminatory social norms are deeply embedded in rural Egypt and tend to result in the subjugation of women. Social and cultural norms tend to dictate that men work in wage/paid labour in the public sphere and that women carry out unpaid care and domestic work in the private sphere. Social norms also generally assume that women will take primary responsibility for domestic chores and the care of young children and other family members. In Egypt, shaping beliefs and values about the gendered division of labour starts early in a child's life, through family, society, and the religious and school systems. Women are usually expected to enter the marriage market rather than the labour market, and men are expected to take over paid and community-related tasks on behalf of their families. In some cases, however, men do care work viewed as being too hard for women, like for example, helping their children study. This is partly linked to higher illiteracy rates among women, which affect 30.8 percent of Egyptian females over 10 years of age compared to 21.1 percent of men in the same age group, with Minya having the highest illiteracy rate in Egypt at 37 percent (CAPMAS, 2020c).

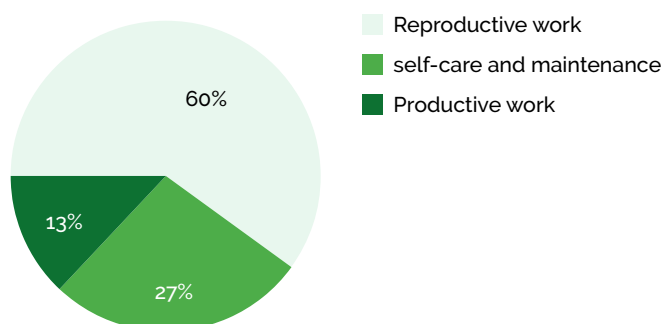


**Table 5:** Daily Harvard Analytical Framework activity profile of a woman (28 years old, married with three children, living with husband, brother-in-law and father-in-law) in Abou Oraas, Minya

Time		Activity	Remunerated/ non-remunerated	Type of work*
From	To			
04:00	05:30	Milks cows and cleans farm	Non-remunerated	Reproductive
05:30	06:30	Feeds chickens and cleans hen house	Remunerated	Productive
06:30	07:30	Sleeps		self-care/maintenance
07:30	08:00	Breastfeeds baby	Non-remunerated	Reproductive
08:00	09:00	Prepares breakfast	Non-remunerated	Reproductive
09:00	10:00	Cleans house	Non-remunerated	Reproductive
10:00	12:00	Cooks lunch	Non-remunerated	Reproductive
12:00	12:30	Breastfeeds baby	Non-remunerated	Reproductive
12:30	13:00	Feeds chickens	Remunerated	Productive
13:00	15:30	Washes dishes and clothes, and cleans kitchen	Non-remunerated	Reproductive
15:30	16:30	Rests		self-care/maintenance
16:30	17:30	Goes to field to collect animal fee	Non-remunerated	
17:30	18:00	Milks cows	Non-remunerated	Reproductive
18:00	18:30	Feeds chickens and cleans hen house	Non-remunerated	
18:30	19:00	Breastfeeds baby	Non-remunerated	Reproductive
19:00	20:30	Showers children and puts them to bed	Non-remunerated	Reproductive
20:30	21:30	Prepares dinner	Non-remunerated	Reproductive
21:30	22:00	Showers		self-care/maintenance
22:00	24:00	Watches TV with husband and folds clothes	Non-remunerated	Reproductive
24:00	04:00	Sleeps		self-care/maintenance

**Note:** To ensure that the classification is as accurate as possible in the context of women's lives, participants were asked about the type of work, whether it earned a profit or not and whether it was linked to their domestic/reproductive or productive roles, or done for self-maintenance.

**Figure 5:** Pie chart of a woman's daily activity profile by type of work as described by women Focus Group Discussions in Abou Oraas



The above-mentioned tasks were confirmed by all women participants in the Minya FGDs. There were small differences between women as responsibilities depended on their age, the age and number of their children, and the number of in-laws and animals that they needed to care for. However, in some cases, older women could ask their daughters and daughters-in-law for help, and could enjoy an hour or two of weekly community work where they were able to go to their place of worship or network with friends and neighbours.

Most of women's work appeared to be non-remunerated, as no profit was generated from these activities, and thus deemed to be of no great market value. However, evidence shows that unpaid household and agricultural work by Egyptian women accounts for 30 percent of the country's GDP (El Antari, 2015). While globally women's domestic work burden increased after the COVID-19 pandemic and the related restrictions on movement, it was found that rural women participants of the FGDs in Minya experienced no significant changes to their daily workloads, as the agricultural and related sectors were only slightly affected compared to other sectors (Breisinger *et al.*, 2020).

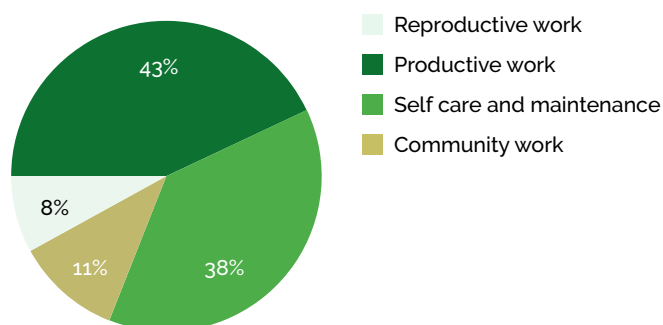
As reported during the FGDs with women and confirmed by NCW official, the biggest determinant of women's domestic workloads was the fact that they lived within extended or nuclear family structures. Several national surveys carried out since the 1990s in Egypt show higher rates of extended family living in urban and rural areas than were previously observed. This is attributed in part to rising housing costs and other requirements for marriage (Yount, 2005). Extended family structures usually reinforce patriarchal relations as they impose more restrictions on women who live within a patriarchal hierarchy structured by gender, generation and age. First, the gender hierarchy obliges women to be housekeepers and caretakers. Second, the top-down generational hierarchy means that parents, particularly mothers, are expected to do the major share of domestic and unpaid tasks. Third, within the same generation and gender, elder family members usually have more power than younger ones. In this context, the wives of the sons are mostly the weakest members of the family and are expected to obey the older men and women in the family, carrying out all the domestic tasks and caring for the children and older members of the household.

While the activity profile presented in Table 5 is considered to represent a normal day spent at home, qualitative data from FGDs showed that women supported their husbands with agricultural tasks at different times of the year for a total of five months, mostly when there was a need to prepare or fertilize the soil, or harvest the produce. If women were to leave the house the next day to help their husbands or fathers in the field, they had to make sure they did all their domestic chores the day before, which means that sometimes the same tasks had to fit in a shorter time frame, causing emotional, mental, physical and psychological strain.

**Table 6:** Daily Harvard Analytical Framework activity profile of a man (30 years old, married with three children and living with wife, parents and brothers) in Abou Oraas, Minya

Time		Activity	Remunerated/ non-remunerated	Type of work*
From	To			
04:00	10:30	Eats breakfast and goes to field	Remunerated	Productive
10:30	12:30	Rests and has lunch	-	self-care/maintenance
13:00	15:00	Back to field o continue working	Remunerated	Productive
15:00	17:00	Rests	-	self-care/maintenance
17:00	18:30	Studies with children	Non-remunerated	Reproductive
18:30	19:00	Showers	-	self-care/maintenance
19:00	21:00	Goes to church to pray or to a wedding or funeral	Non-remunerated	Community
21:00	23:00	Watches TV	-	self-care/maintenance
23:00	04:00	Sleeps	-	self-care/maintenance

**Figure 6:** Pie chart of a man's daily activity profile y type of work as described by men Focus Group Discussions in Abou Oraas



As the above table and chart show, men's daily activities are mostly in the public sphere, centred on performing productive activities mostly in the fields. Traditionally, women's engagement in agricultural activities has not been considered an economic activity, as agricultural production is often defined as fieldwork, which overlooks the significant role women play in the household with animal husbandry and livestock rearing (FAO, 2020b). The key role played by rural women in livestock care in Egypt contributes significantly to their families' well-being and creates economic opportunities. Rural women are more than twice as likely to be primary caretakers of livestock than rural men (Keo, Krafft and Fedi, 2019). FAO estimates that about 70 percent of Egyptian women's working time in agriculture is devoted to animal husbandry (FAO, 2015).

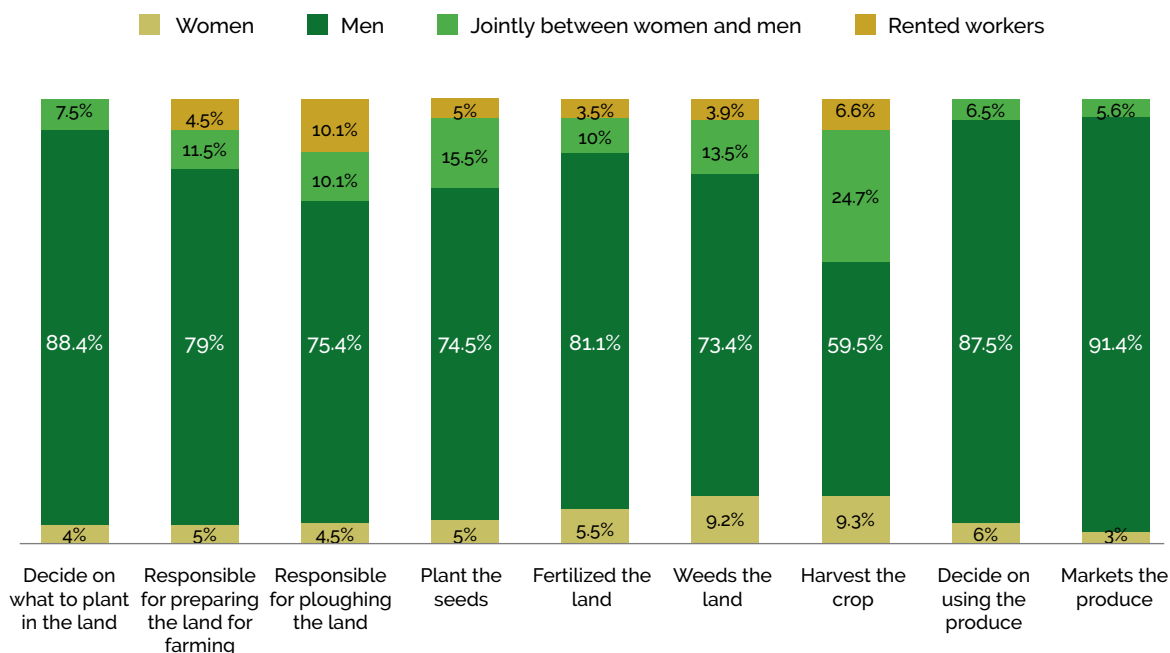
Community work is performed in the public sphere and as such is evidently mainly performed by men. The traditional gender dichotomy assigns women to the domestic sphere and care work, and men to the public sphere of political participation, decision-making and community engagement. This reduces women's opportunities to engage in economic activities, gain new information and enhance their networks and support circles.

While the feminization of livestock and harvesting work has increased significantly, the opposite is true for crop work. The ERF estimates that among Egyptian crop-growing households, 68 percent of rural men and 25 percent of rural women were listed as one of up to three primary caretakers of one or more crops. The economic reforms in the Egyptian agricultural sector were initiated in 1987. The measures taken included shifting from mandatory crop rotation to crop rotation based on the farmer's decision (FAO, 2003). In most instances, the primary worker of the crop is also the main person who makes decisions for the crop. Therefore, the primary decision makers on crops are predominately men (FAO, 2003). This was confirmed by all women and men interviewed in Minya and in the survey results, where 88.4 percent of women and men respondents said that the man was the primary decision maker when it came to crops, while 7.5 percent said that such decisions could be taken jointly (see Figure 7). The decisions on crops, however, are taken in consultation with land neighbours and the farming communities using the same irrigation canal, so as to ensure that nobody's crops are harming those of the neighbours, which would happen if water needs and irrigation times were not coordinated.

As with most patriarchal societies, the older men have full authority to decide on whether or not to allow an "invited space" for other members of the family to participate in household decisions. Sometimes, men can ask the women in the family about the domestic crop needs for household consumption, and then grow these crops in a small part of their fields.

Similar to the decisions on what to grow, the decisions on how to use or market the produce are also dominated by the older men in the home. The household is led economically by the man, and thus such important economic decisions have to be taken by the man. Of women and men respondents, 87.5 percent said that men were responsible for deciding how to use and sell the produce, while 91.4 percent said that men were responsible for marketing the produce. Women are sometimes allowed to make economic decisions, concerning whether to produce extra plant- or animal-based food (e.g. ghee, milk and cheese), or rear birds (e.g. pigeons, ducks and chicken) to sell in the village and neighbouring villages and generate extra income for their personal use.

**Figure 7:** Collective survey responses on women's and men's roles and responsibilities in agricultural activities



Interestingly, none of the male respondents to any of the survey questions analysed in Figure 7 said that the women in their households were responsible for doing any of these activities. The answers of the men were limited to “I do that myself” or “I do that jointly with my wife,” or referred to other men in the household who took care of these activities. By contrast, women sometimes indicated that they took full control of some activities, especially weeding and harvesting.

The realities of interviewed women and men in Minya did reveal aspects of cooperation and that women's roles were expanding into the public sphere, but these realities also conflicted with cultural norms opposing these new roles for women. This led to conflicting answers between women and men, and between different men.

The data collected from NCW and MALR official confirmed a contradiction between what women did, and what they said or believed they did. Women do work in all agricultural and irrigation activities. However, to confess that women are working in the fields is believed to be shameful, and they preferred to keep their efforts unrecognized. Interviewed MALR official said:

**In Minya, there is no obstacle that would stop a woman from doing anything she wants. She is responsible and she is a leader, she just lacks the opportunity and the recognition.**

And interviewed NCW officials said:

**If a woman found someone to help her inside the household or in the field she wouldn't say no. She is forced to work in both domains because there is no other choice and getting external support is expensive for farmers.**

## 1.2 Access to and control over land

Evidence suggests that owning assets reduces women's reliance on men and balances the power between women and men within households and communities (FAO, 2020c). Both Egyptian law and the Islamic Sharia grant women the right to own land. However, a major gender gap still persists, whereby only 5.2 percent of agricultural land in Egypt is owned by women (FAO, 2015). In Minya, 70 000–80 000 (around 17.5–20 percent) landowners out of a total of 400 000 are women.<sup>11</sup> The survey results also confirmed similar numbers, with 25 percent of interviewed women owning land. A large share of these women were widowed, while 76 percent of interviewed men reported owning land. However, ownership figures are reported not to be accurate or representative of women's involvement in farming and agriculture, as sometimes, women inherit land but do not work on it due to the cultural constraints in Upper Egypt. Sometimes, economically disadvantaged women work on land they do not own as daily workers, and so their work is not recognized by the government nor represented in official statistics.<sup>12</sup>

Under Islamic law, women are granted an inheritance, but half of what would be a male's inheritance in a similar position, meaning that a daughter receives half the amount of a son's share when inheriting their parents' properties. Male relatives are more likely to inherit and enjoy a greater share of the estate. Moreover, women in Egypt, especially in rural areas are often denied their lawful inheritance because of cultural customs that do not recognize women as the *financial breadwinners* of their families. In the case of non-Muslims, inheritance is governed by other religious principles. For example, in the case of Christians, a woman should receive the same share as their male relatives of the same level (Al Tamimi & Company, 2015). However, as indicated by the qualitative data from the assessment, Christian families abide by Islamic law only when it comes to inheritance. "It is more beneficial for men and gives them more money, more power," said a Christian woman in Taha.

In practice, most women are *forced* to choose to take a sum of money instead of their rightful inherited land. In this case, the brother is deemed to be a fair person who does not allow his father's land to go to another family. By custom, married men (the traditional breadwinners) are encouraged to retain property individually rather than share it with their wives. A man from Amoudein said:

**Who would give up his power and social prestige and give his property to another man? If you give a woman land, it becomes her husband's, not hers.**

In most cases, as indicated by all women and men participants of the FGDs, women took much less money than the value of their rightful inheritances because their brothers could not usually afford to give them the full value in cash. Interestingly, when a woman managed to officially receive her share of the inheritance, she did not have control over the inherited land as this was managed and controlled by one of her male relatives. An MWRI official in Minya explained:

**Ownership is not an issue because it is regulated by inheritance laws. However, women's access, control and work are regulated by cultural norms. Even when women have plots of land registered in their names, they do not have a say on how they use them. Ownership makes no difference in women's lives.**

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<sup>11</sup> The proportion of women-owned land in the area is not available.

<sup>12</sup> Interviews with officials of the MALR and the MWRI.

This discrimination against women in accessing and controlling land is also compounded by deeply rooted value systems and gender norms. The individual interviews and group discussions with women showed that keeping property within the family to preserve the *family legacy* was culturally acceptable and encouraged by older women. Traditionally, men remain loyal to their families and hold the legacy of their fathers, and women are expected to be loyal to her husbands' families. Fear of losing the support of their family and familial relations is also widespread. In many cases, women have limited awareness regarding their inheritance rights and when they are aware, they choose not to fight with their families for fear of the social stigma attached to breaking the family bonds with their male relatives.

### 1.3 Access to and control over agricultural resources and credit

Livestock and poultry, as stated earlier, are the responsibility of the woman. Gender gaps are more significant when it comes to decision-making about agricultural and animal resources. By tradition, a woman's home is her *primary* responsibility, and so she decides on what food to buy, what to cook, what small livestock to rear, and what animal products to produce and sell. Despite the heavy responsibilities carried by women, the women interviewed did not have any control over money for anything other than buying food. In most cases, as women lived within an extended family structure, the ability to decide what food to buy for the family was even often compromised as they took orders from the oldest woman in the family, typically the mother-in-law.

Inside the household, anything that is deemed an "economic asset" cannot fall under the responsibility of a woman. In this regard, women take care of all the livestock in the house, but can only decide on buying, selling and cooking the small livestock such as chickens, pigeons and ducks. Women cannot decide to use, sell or buy household goats, sheep or cows without asking a man's permission to do so. When asked about the logic behind this division of responsibilities, women and men stated that these assets were a man's business because of their importance and high cost. A woman from Amoudein stated that these kinds of animals would typically be bought or sold by another man, and it was not culturally appropriate for women to deal with other men.

Access to financial resources and services were evidently rare for women and men in Minya, but this was indicated to be a bigger issue for women than for men. Despite government efforts in this area, a number of factors contribute to a prevalent gender gap in accessing credit and financial resources. Access to credit and loans is closely connected to the ownership of physical and natural assets, especially land and houses in rural areas, as they are used as collateral for bank loans, which places women at a disadvantage in relation to men.

Women's access to finance is also curtailed by the institutional bias of service providers against women. Various studies (New Faces New Voices *et al.*, 2016) confirm that banks request stricter collateral requirements from women than from men, and that the rejection rate is higher among women (6 percent) than men (4.5 percent). The high rates of illiteracy among women coupled with the fact that many, especially in rural areas, do not have a national ID make it more difficult for them to access formal finance (World Bank, 2018).

Moreover, concerning the financial services and loans provided by local, national, and international organizations (e.g. International Fund for Agricultural Development [IFAD], World Food Programme [WFP] and [CARE]), evolving low-interest loans provide a good opportunity for rural populations, particularly women, to start small businesses and become entrepreneurs, but access to such financial assistance is still limited and challenged by some gender-based constraints, including the low level of financial literacy and lack of national IDs among the potential women applicants. This makes women less likely to receive the loans under their own names, and more likely to receive them under their husbands' names instead. It is worth mentioning that on a grassroots level, the NCW, with the support of SIDA, the European Union and the United States Agency for International Development (USAID), is heading up the Women's Citizenship Initiative to give out national ID cards to women who have never had official documentation before, opening up doors for access to public and private services requiring identification, such as health, finance and electoral participation. The initiative was able to issue more than 3 million national IDs to women across Egypt (UN Women, 2019b).

In general, as indicated by the assessment findings, women own resources that are less productive and of lower market value. This is due to a number of factors, including the limited economic resources owned by women, their limited access to credit and financial resources, limited ability to decide on the purchase of valuable assets, lack of experience in business management, illiteracy and financial illiteracy, and the limited mobility of women in reaching markets. Lack of access to credit diminishes the amount of assets female smallholders can marshal, thereby perpetuating a gender asset gap in most areas.

#### 1.4 Access to and control over agricultural services and information

Law 96 of 1992, the Owners and Tenants Law, led to almost 1 million families losing their land. The law gave tenant farmers five years to return the land they were working on to its owners and allowed landowners to set rents and evict tenants. Tenants thus lost their right to fixed rents and farmers were faced with annual rent increases. Further, the Land Reclamation and Agricultural Development Bank only provides services for landowners or those holding ownership certificates, effectively leaving tenants without a government institution to look out for their interests (Mahmoud, 2014). Additionally, the Government of Egypt provides farmers with subsidized farm inputs, especially fertilizers, pesticides, seeds and animal feed (Cassing *et al.*, 2007). However, only landowners are entitled to subsidized inputs. In practice, as a major percentage of farmers cultivate rented lands, they lack access to such inputs, which are reported by the interviewed farmers to be usually received by landowners, and sold back to tenants on the black market. This issue affects smallholders more than other types of farmers.

The Government of Egypt also provides technical support to farmers. The MALR in Minya provides training and awareness-raising sessions to farmers, especially women and young people, on various farming and human-related topics. Rural women in Upper Egypt are often targeted for training on how to start an animal production/dairy production business and how to increase financial profits derived from their engagement in agriculture. In Minya, before the COVID-19 pandemic, about 500 women and men were trained on a yearly basis.<sup>13</sup>

The women and an MALR official interviewed indicated, however, that training opportunities from local and international organizations for women in Minya were very rare. In most cases, these opportunities were not offered to women farmers, but to other professionals who were able to be more active in the community.

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<sup>13</sup> Interview with an MALR official in Minya.



The women, however, said that they would be interested in joining any training opportunity that could maximize their profits and boost their farming roles and decision-making capacities within their households, as well as reduce farming costs, so as to have more money with which to start their own businesses. Women in Amoudein in particular said that their top priority was to start a business and invest in themselves through the earliest training opportunity that came their way. The second top priority, remarkably, was to ensure a higher level of education for their daughters, as the village lacked a high school. All interviewed women agreed that education was crucial for women, and that the lack of it left women vulnerable and unable to even raise and feed their children. For them, to educate their girls was the promise of a better future for the women in the village. A woman in Amoudein said:

**They should not make the same mistake we did. The priority for a young girl is to finish her high school education before deciding to get married and have children.**

Gender norms play an important role in determining whether technologies are adopted. However, qualitative data collected from Minya sites show that women and men indicated equal access to agriculture- and irrigation-related technology and mechanized equipment, as these tools were deemed to be household property. Mechanized farm equipment includes water pumps and trucks. It tends to be expensive, enabling high levels of productivity and sustainability as assets. Control over these, however, is typically the privilege of the household head, who as in most patriarchal societies is the older man. Only a man can decide on how to use such assets and to whom they can be lent or rented out.

## 2. Gender and water

### 2.1 Water governance

Water in Egypt is managed on a national level through the MWRI, which is the main water-related governmental organization. The ministry is characteristically *male dominated*, especially on a field level. Irrigation is typically seen as a man's job, and women are culturally not deemed *fit* to work in water and engineering, and therefore, in water and irrigation engineering. Irrigation engineering is typically dominated by male engineers, who are the most visible professionals associated with this sector. However, irrigation management has evolved over time to include non-engineering disciplines and an emphasis on integrated water resources management (IWRM), which "emphasizes the pivotal role of women as providers and users of water" (Najjar, Baruah and Garhi, 2019a). However, in the next ten years, irrigation engineering and management are expected to involve more women, in part because women are increasingly claiming more space and power in such domains, with most of the *newly hired* people being women, and also because men are finding government jobs less attractive, especially those linked to agriculture and irrigation.<sup>14</sup>

At the field and local level, the MWRI has adopted a policy to integrate all water management functions at the district level to support decentralized water management. To support implementation, the MWRI formed the IWRM unit in December 2003, which established a number of Water user associations (WUAs) to promote stakeholder participation. Establishing a WUA provides opportunities for regional and local stakeholders – including governmental and non-governmental organizations and farmers – to participate in the process of water management.

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<sup>14</sup> Interview with an official of the MWRI.

### Water user associations

WUAs are set up to ensure that all stakeholders participate in water management. They were first established at the third (mesqa) level to manage collective pump stations, which, among other things, constrained farmers' ability to levy money and act as independent bodies with full private ownership of the mesqa-level infrastructure. This changed in 1994, when WUAs were defined as legal organizations at the mesqa level for the improved irrigation systems in the old lands, while similarly, water users unions (WUUs) were made legal entities for the new lands. The by-law of Law 213/1994 (Decree No. 14 900 of 1995) detailed the rights and duties of the WUAs and WUUs, legalizing private WUAs at the mesqa level, and (partial) recovery of the capital costs of improved irrigation facilities (Rap *et al.*, 2015).

Setting up a WUA involves several steps, including obtaining legal authority, developing the association by building local management skills, including in financial accounting, reaching an agreement between the MWRI and the WUA on the activities that each will perform, rehabilitating the system to a mutually agreed level, and finally, transferring the local management and maintenance of canals and drains to the WUA. The WUA members usually nominate representatives on the executive council. The council is responsible for all operational and managerial issues posed by the canal. Council members meet regularly with the district irrigation engineer to determine the major reports that need to be made. The association is also responsible for regular mesqa maintenance and resolving conflicts. The government also provides technical and financial support to the WUA whenever needed.<sup>15</sup>

In Egypt, water management is directly linked to landownership. Typically, landowners who benefit from the mesqa are eligible to be members of WUAs. Since women seldom own land and are rarely perceived as irrigators, they are almost never presented with opportunities to serve on and participate in WUAs and other irrigation management institutions.

Researchers have noted that increased participation of women as farm workers and managers should be matched with increased participation of women in irrigation management. However, in practice, the opposite appears to be true, whereby the number of women participating in WUAs often declines with the number of women taking up farming, out of choice or necessity. Other studies (Najjar, Baruah and Garhi, 2019a) identify gendered social norms as the major reason explaining why women's engagement with and contribution to irrigation are ignored or undervalued.

In the same way that social norms structure women's inclusion and exclusion, they also structure and *shape* their inclusion and type of participation in water management bodies. Even when women have the opportunity to participate in WUAs, their domestic water needs are perceived as more legitimate topics for discussion than their irrigation water needs. And since most WUAs do not address domestic water needs, women's participation in WUAs is often just tokenistic. When women express interest in irrigation and in participating in WUAs as irrigators, they are either ignored or relegated to marginal roles (Najjar, Baruah and Garhi, 2019a).

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<sup>15</sup> Interview with MWRI officials in Minya.

Moreover, women are rarely elected on executive boards. Out of the overall number of WUA members in the Minya governorate (*approximately 1000 members*), only one member is a woman, and she is the head of a WUA, despite the fact that in some villages, women make up 25 percent of canal beneficiaries.<sup>16</sup> “No woman can be part of the WUA because it is a man’s business, and women cannot go and solve these issues with the engineers and government staff,” said the men during the FGDs in ABou Oraas.

Training services can be a key tool for optimizing the role of women in irrigation management. Educational attainment and training on agriculture and irrigation are proven to make a big difference in shifting social norms and perceptions for women, and in allowing them to enjoy more decision-making power in managing their farms (Najjar, Baruah and Garhi, 2019a). Similarly, interviewed women referred to the fact that they needed training services to get the *confidence* required to negotiate more space in farm and irrigation management.

## 2.2 Productive water (irrigation water)

While FAO is trying to introduce drip and sprinkling irrigation methods under the newly signed protocol between FAO and the MALR,<sup>17</sup> the predominant irrigation method in Minya is surface flooding irrigation, where water is distributed or allocated to the farmers according to an irrigation schedule. All women and men survey respondents indicated that the main irrigation technique was by flooding. Crop type and land area are the main determinants of how much water the farmers can take from the mesqa to irrigate their fields. Farmers often grow cereals, fibre crops, legumes, sugar crops, forage crops, and fruit and vegetables. In general, the decision to allocate water to different crops is driven by the principle of maximizing “economic return” to water use, as for other inputs to production (Isin and Konandreas, 2017).

Interviewed farmers indicated that the water they used was of very good quality. All interviewed farmers (women and men) believed that the type of soil and the type of crops grown by farmers in Minya (sugar cane, cereals, soybeans, sugar beet, potatoes, cornflower, wheat and barley) needed the flooding technique, and they were convinced that the sprinkling and dripping techniques were not suitable. Consequently, farmers indicated that FAO, the government and partner organizations needed to put considerable effort into financially supporting them in shifting to the new irrigation techniques and providing guidance on how these techniques would work with the type of soil and crops that they worked with.

During the group discussions, farmers in Minya reported that the level of irrigation water was usually high at the beginning of the mesqa, and that it got lower towards the end, which meant that those who owned land in some villages at the end of the mesqa did not always get water when they needed it, which could put their crops at risk for the most part of the year. One role of the WUA is to make sure that everyone on the branch canal or mesqa benefits equally from water by ensuring that the irrigation water schedule and amount of water withdrawn by each farmer is compatible with meeting everyone’s needs, regardless of their gender and socioeconomic status. Sometimes, those with land at the end of the canal rely on groundwater or use more than one irrigation machine, which increases costs for these farmers.

Only 52 percent of women and 54 percent of men said that the quantity of water received was sufficient to irrigate their crops without the need to rely on groundwater. Groundwater quality is reported to be reasonable, even though some shallow groundwater bodies are contaminated. Interviewed farmers in Minya reported that relying only on groundwater exhausted the land and reduced the productivity of the soil because it contained high levels of pollutants and minerals. In Egypt, almost 20 percent of groundwater in the Nile aquifer does not meet drinking water standards, especially at the fringes where the protective clay cap is thin or inexistent. Groundwater in the Nile delta is generally of better quality than in the Nile valley (Fanack, 2018).

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<sup>16</sup> Interview with MWRI officials in Minya.

<sup>17</sup> Interview with the FAO Egypt irrigation project manager.

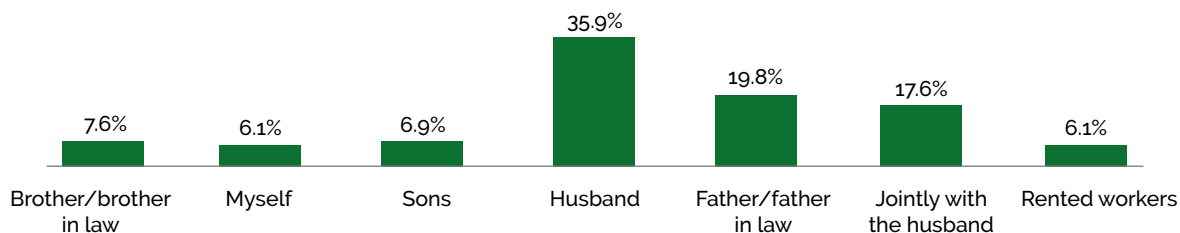
When asked whether a woman or a child could be responsible for irrigating the land at the end of the mesqa, since pulling more than one irrigation machine can be hard (each one weighs 1000 kg), all the women and men interviewed, whether from the government or the field said that women heads of household or children responsible for irrigating their fathers' land usually had priority through a compassionate agreement between all the farmers. This is an informal, traditional *pact* between farmers whereby the most vulnerable can take water first. However, these traditions tend to differ from one village to another.

Water user associations are only found in the areas where modern irrigation techniques are used. Elsewhere, farmers usually use the water pumps (toromba) directly on the main canal whenever needed, and each farmer decides on the time of irrigation and the amount of water needed for their land. Farmers who use these pumps are located at the end of the canal, and can potentially have less water and face higher costs in getting enough water for irrigation. For this reason, expanding the use of modern irrigation techniques to make sure that people benefit equally from the available irrigation water, would be a concrete recommendation.

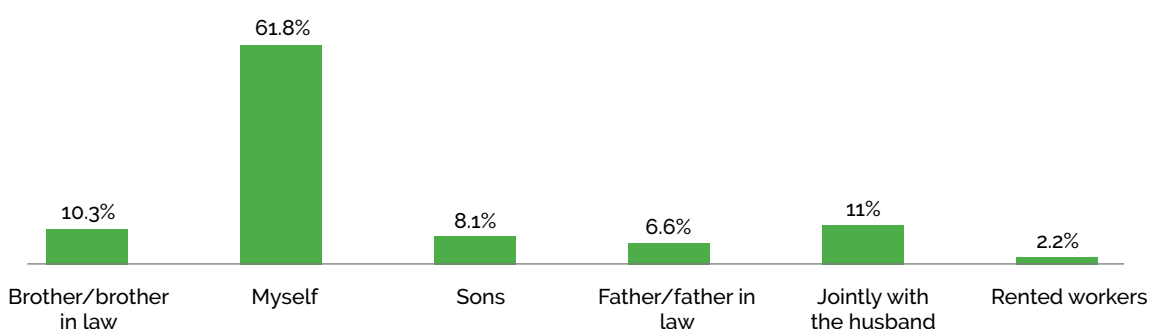
The existing studies and literature on women's participation in irrigation in Egypt suggest that although women participate actively in irrigation and water management inside and outside the household, their contributions are undervalued by landowners, who typically are male relatives or men from their communities. The role of women in irrigation and water management is also underestimated and unrecognized by irrigation engineers and extension services (Najjar, Baruah and Garhi, 2019a).

The men and women interviewed in Minya indicated that the role of women in irrigation was to help men and not lead, because the work was hard and demanding, and not culturally appropriate for women. In the quantitative survey, only 6.1 percent of women said that they were responsible for irrigation, while none of the men indicated that their wives were responsible. By contrast, most of the male respondents (61.8 percent) said that they irrigated the land themselves. Joint irrigation also seemed to be common, as 17.6 percent of women and 11 percent of men said that they irrigated the land jointly with their partners. The qualitative data showed that some women believed they did everything in the field, including all irrigation activities, and sometimes without even their husbands being present as they sometimes had left the country to work abroad. This was evident particularly for Amoudein, where women said that the only challenge for women was the fact that the irrigation machine weighed almost 1000 kg. If a woman could get someone to help her connecting the machine, the rest was easy.

**Figure 8:** Survey findings on women's responses on who is responsible for irrigation in their households



**Figure 9:** Survey findings on men's responses on who is responsible for irrigation in their households.



As shown by the ICARDA study findings on irrigation and social norms in Egypt, the women and men interviewed in Minya mostly viewed and described women as helpers to their husbands, rather than workers in their own right, even though some women described doing all irrigation activities with their husbands and sons, but still viewing themselves as helpers (Najjar, D., Baruah, B. & Garhi, A. 2019) Women and men farmers stated that the division of roles in respect of water management and use was simple: it followed the same traditional division of labour, whereby the water inside the household was women's responsibility, while the water outside the household was men's responsibility. Women's engagement in irrigation activities would not change that fact and lift women out of the "helper" role, as this was a consequence of labour shortages and the high cost of daily workers and was still deemed "inappropriate" according to cultural norms. Men farmers in Taha indicated that in some villages, men who let their wives irrigate the land suffered from social stigma and damaged their reputation.

Social norms also impact beliefs about what a woman can and cannot do. In Taha, all women thought that women were not "physically" able to irrigate. However, they referred to other neighbouring villages where women took the lead in irrigating the land. Both women and men interviewed put this down to a lack of male support due to male outmigration or male engagement in other jobs, leaving agriculture and irrigation to women.

As for access to information on water use, irrigation and water pollution, women and men reported having access to the same information, which was shared among all community members and was thus equally accessible to women and men. Information is also usually passed down from one generation to the next. Interestingly, while women were not perceived as irrigators, they still had the same information as men about when to irrigate, when to stop irrigating and how many times the different crops needed irrigating. A woman in Taha said:

**This information is passed down between generations. We know by heart what each crop needs. We also go to the field a lot to help our husbands. Even if you do not work with your own hands, you observe and learn.**

Some researchers argue that solving gender issues in water should go beyond making women *fit* in irrigation, and instead look at how gendered norms in irrigation are produced, particularly those that deem irrigation to be inherently masculine, despite the significant involvement of women. Women's involvement in irrigation challenges social norms. However, there is a tough road ahead considering that most of women's work with irrigation is unseen and unrecognized. Especially when supported by higher levels of educational attainment, training in irrigation and farming technology, and institutional support for participating in local governance institutions, such as WUAs, landownership has been shown to enhance women's participation in water and irrigation activities and management (Najjar, Baruah and Garhi, 2019a).

### 2.3 Non-productive water (domestic water)

The coverage of non-productive water infrastructure has grown substantially over the last decades in Egypt. In 2014, around 98 percent of the Egyptian population received drinking water from an improved source. In 91 percent of cases, people received water directly into their residence through a piped connection in the dwelling itself or the plot (UNICEF, 2017). However, while access to water is secured in almost all official urban areas, this is not the case in rural areas, where a significant number of households are still not connected to the water system. According to available UNICEF data, 7.3 million people in Egypt do not have access to safe water, 5.8 million of which live in rural areas and 1.5 million in urban areas. In rural areas, around 12 percent of people live in households not connected to the water system, while 4 percent of people in urban areas have no water connection (Ministry of Health and Population, El-Zanaty and Associates, and ICF International, 2015).

The ability to turn on a tap and have instant access to water for cooking and cleaning is something many people take for granted. In the villages assessed, there was generally a quantity and quality issue with the drinking water connected to farmers' premises. Fifty-two percent of the survey sample indicated that the tap water received in their homes was polluted and not suitable for drinking, cooking or even cleaning. As described by farmers in Abou Oraas and Taha, drinking water had to be supplied through a trusted water source, via government trucks that visited some villages twice a week or from the neighbouring mosques, churches and local charity organizations.

According to a report from WHO and UNICEF (cited in UN Women, 2014), three-quarters of global households without access to drinking water at home task women and girls with the primary responsibility for water collection. This is one of the factors preventing many girls from being able to go to school regularly. Similarly, in Minya, water collection is typically a woman's job. Sometimes women delegate this task to the older girl. Women indicated that the task of collecting water usually took an average of 30 minutes, three to five times a week.

For cooking and sanitation, farmers in Abou Oraas and Taha indicated that they had to use water filters, as the colour and smell of the water were very odd, and could not be used either for cooking or cleaning. The water filters, however, were very expensive for most families, as these had to be changed every three months. Almost half of the women and men interviewed indicated that they understood the risks of drinking and using polluted tap water, yet they did not use filters because they were very expensive. A man from Taha said:

**Sometimes I feel helpless. I cannot leave the house and my young children to collect water. I cannot ask my younger girl to leave school to collect water. I wait for them to come back to take care of their younger brother so I can leave the house for 30 minutes and finish the task. I still get blamed for serving their lunch late or for not cleaning the house.**

Women decide how water is used inside the household, as water falls under the domestic sphere, which they manage. However, men think that women cannot make a household decision without consulting their husbands first, even on issues such as how to use drinking water inside the household.<sup>18</sup> Interestingly, women seemed to disagree, saying that what happened inside the household was women's business and men did not interfere in such matters. If women needed to consult someone about such domestic issues, they spoke to their mother-in-law or their eldest daughter, but not their husbands.

Linked to the access to a safe drinking water system is the access to safe sanitation and waste disposal facilities. Recent DHS data show that 91 percent of Egyptian households have access to an improved, not shared toilet facility, that is, they have sole use of a toilet that flushes, or pour flushes into a sewer, bayara (vault) or a septic system. However, accessing a safe waste disposal facility is another matter. Thirty-seven percent of Egyptian households dump waste on the street or in an empty plot or a canal or drainage ditch, 8 percent burn waste and rubbish, and less than 1 percent feed waste to animals. Dumping or burning waste and rubbish is much more common in rural than in urban areas (54 percent and 33 percent, respectively). Around seven in ten households in rural Upper Egypt dispose of waste and rubbish by dumping (45 percent) or burning (24 percent) (Ministry of Health and Population, El-Zanaty and Associates, and ICF international, 2015).

Interviewed farmers in Abou Oraas, Taha and Amoudein referred to the major issue of waste disposal, which added to the health, economic and social burden of households, and particularly women. Where households were not connected to a proper waste disposal system, people (usually women) had to dispose of the waste by renting a car and taking the waste and rubbish from the vault to the desert. As indicated by NCW official

**The pollution issue is getting more and more serious. Farmers are now used to living among their own waste and rubbish. We cannot ask them to make sure they drink or irrigate their soil with clean water where all our eyes see around is rubbish.**

Access to clean water is more than just a health issue – it is the key to gender equality in the world's least developed countries. Nothing can be accomplished or improved without first ensuring that everyone has access to clean and safe water. It is a basic building block that must be secured in order to pursue other goals, such as gender equality, women's empowerment and economic growth, and create sustainable, thriving rural and urban communities. Moreover, lack of access to safe water and proper sanitation facilities contributes to the spreading of diseases, which significantly and negatively impact education, ability to work, nutrition and the capacity of individuals and communities to foster development, equality and economic growth. Without recognizing the uneven burden of water and sanitation work borne by women, well-intentioned programmes to bring water to places in need will continue to fail to meet their goals, and communities will remain underdeveloped.

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<sup>18</sup> A household is classified as having an improved toilet if the toilet is used only by members of one household (i.e. not shared) and if the facility used by the household separates the waste from human contact (WHO and UNICEF, 2014).



Women farmers participating in a farmer field school session, Minya

©FAO/Moemen Gelany



### III. CONCLUSION AND RECOMMENDATIONS

#### 1. Conclusion

The role of women in agriculture in Egypt is vital. Women, as farmers, irrigators, domestic workers, labourers and entrepreneurs, are often a crucial resource in agriculture and rural community development and growth. This, however, is seldom recognized and valued. While national statistics indicate that almost 45 percent of the agricultural workforce are women, their contribution in agriculture is not reflected in these numbers as women play various roles inside and outside the household and on family land.

Culture, and prevailing gender and social norms play a major role in shaping gender identities, roles and responsibilities, and in influencing access to and control over resources in Egypt. Social norms and traditional masculine values come into effect in assigning the responsibility for housekeeping, unpaid jobs and care work primarily to women, which in return hinders women's ability to engage in paid work or education, or to be seen as major contributors to rural development, rather than "helpers" of their male relatives. The findings show that the roles performed by women and men inside and outside the household are determined by gender norms, but also by the household structure, which is based on the extended family. This emphasizes patriarchal norms in which women are subjected to various levels of power in a set hierarchy. According to these dynamics, young women are often in the weakest position and are expected to obey and serve the men and care for the children, as well as the older women and men in the home. On the other hand, living in a nuclear family can present challenges in the sense that although women have fewer people to serve at home, there are fewer hands to help. Nuclear families may, however, present opportunities in the form of more flexibility in gender norms and relations. The economic hardships and increasing cost of marriage and housing in Minya mean that more couples are forced to live within a multigenerational household.

The realities of women and men in Minya reveal increased cooperation and an expansion of women's roles into the public sphere, but these new roles for women are inhibited by cultural norms. This means that women perform greater roles in reality than are recognized by men or by women. Men and women still consider it shameful to admit that women contribute heavily to agricultural activities. While irrigation activities, from engineering to management to carrying out irrigation in the field, are traditionally perceived as a men's job, our findings demonstrate that like with other agricultural activities, irrigation also has a female face, but one which is hardly recognized. Irrigation roles fall mainly on men, as it is culturally inappropriate for women to be seen while irrigating in public. However, women are more engaged in all irrigation activities along with their husbands and male relatives than is usually acknowledged by men or by women.

The study findings further prove the "invisible" nature of women's work, as while their roles in agriculture and irrigation are expanding, society is not keeping up with and accepting such changes, but rather denying them. Moreover, in some cases, due to male migration and the lack of work or interest by men in agriculture, women take on a variety of agricultural and irrigation activities out of necessity rather than out of choice to fill the gap in agricultural labour on family farms. In spite of this, women and men still deny the fact that such activities have become part of women's *main* responsibilities due to the restrictions imposed by gender norms. Gender norms, however, are never static. They are continuously reproduced, adapted, contested and negotiated as part of everyday social interactions between women and men. Due to economic hardship and the need for women to help and contribute, men and women's trade-offs between economic and social costs were very clear – where economic costs were much higher than social costs, gender roles were sometimes negotiated and social norms were compromised, allowing more space for women in male-dominated spheres.

Such new reclaimed spaces for women may bring a number of advantages and disadvantages. They add to women's double burden, risking their health and well-being because of the additional roles placed on them. But they also allow more space for transformative change and create opportunities for women to participate actively in shaping society and asserting their rights to ownership of the land they nurture.

Landownership is a precondition for improving women's participation in agricultural and irrigation management. This is evidenced in our assessment by the fact that women were rarely perceived as agricultural labourers or irrigators by their own families, policymakers or government and extension service providers because they were not the "legal owners/tenants" of the land. Consequently, women were rarely presented with agricultural training opportunities. Moreover, women were almost never offered opportunities to serve in a *leading* role, for example, on WUAs and other irrigation management institutions. Arguably, women's inclusion in agricultural and water management institutions may be enhanced through a variety of training strategies that ensure that domestic duties such as childcare are not barriers to participation, and that participation and services are not conditional on landownership (Najjar, Baruah and Garhi, 2019a). In this regard, factors such as lack of legal awareness, the widespread belief that women should not be entitled to the same land rights as men, and women's fear of losing familial support when asking for their rightful inheritance, were found to be the main obstacles impeding women's access to and control over rightful inherited land in Egypt.

Besides landownership and access to and control over productive assets, education and access to training and services are key factors for women's empowerment and increasing their participation in land and irrigation management. Not only do education and training services enhance women's decision-making capacity inside the household and among communities, but they also boost women's feelings of *self-worth* and give them the *confidence* needed to challenge violence and abuse, including the economic violence of depriving women of their right to inherit land.

Widowed women and the women whose husbands work outside the village or country in search of better economic opportunities, enjoy improved access to water and agricultural resources, and have greater decision-making power over such resources, as they fill the places left vacant by their husbands. These women fulfil most of men's and women's roles. These new roles, while imposing a double burden on women and generating heavy physical, emotional, mental and psychological strain, also create more space for women to expand their decision-making capacity and enjoy better economic and social opportunities.



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While access to, control over and women's and men's roles in respect of productive water are gendered, the same is true for non-productive water, where gender and social norms shape the roles of women, men, girls and boys. As in many other developing countries, women in Egypt are primarily responsible for fetching water. In Minya, a shortage of drinking water and the poor quality of household tap water have created an additional burden on women. Women have to go out to collect water and fit such an activity into an already busy schedule. Furthermore, the consequences of water shortages are felt more by women, who are usually blamed by other family members for not having brought enough water for drinking, cooking or cleaning. Despite being aware of the serious health costs of drinking unsafe, unclean water, the high costs of collecting water in terms of physical burden and time have made more families resort to drinking unsafe tap water.

As previous studies confirm, this assessment also concludes that the ability of women to enjoy their land and water rights is affected by various factors, including the type of family structure and the dynamics they live in, their own level of economic empowerment, employment, income and financial savings, access to credit and extension services, and participation in decision-making inside and outside the household. Our findings suggest that women's meaningful participation in agriculture, irrigation and domestic water could be enhanced through adopting a variety of strategies for empowering women on an economic, social, legal and policy level. However, a focus on the social and economic levels is crucial for bringing about transformative change. In the absence of wider awareness about women's significant contribution to agricultural productivity and their essential role in managing, controlling and allocating water, limited gain can be reached only through legal measures and policy interventions. A multilateral approach to fostering social change and improving awareness among women and men of the value to society of gender equality, together with greater empowerment of women in the social, economic and political realms, are needed to create sustainable change.

## 2. Recommendations

### Recommendations for the government and governmental institutions

- *Enhance, lead and coordinate efforts to enhance the role of women in land and water management.*
  - Work with policymakers for a broader conceptualization and legal awareness of land rights as set out in Egyptian law and by Islamic Sharia in order to ensure that women enjoy their rights in practice.
  - The MWRI is the government body responsible for coordinating and overseeing the work of WUAs, which are considered to be the only official approved water management bodies in the field. The WUAs, however, are male dominated because of social, economic, legal, cultural and institutional structures that lead to the exclusion of women from productive water matters. The government should increase its efforts to reach potential women leaders and develop their capacity through technical, communication and leadership training. This would allow them to become future WUA members and managers. It is essential that participation in training is not conditional on irrigation management or landownership. The use of fixed gender quotas may also be a good approach, as well as awareness-raising sessions directed at men showing how gender roles disadvantage women, and how challenging them can benefit both women and men.
  
- *Direct efforts towards addressing the problems faced by tenants in accessing agricultural resources and markets.*
  - The availability of resources and markets, and the ability of farmers to access them are a prerequisite for generating economic benefits. Market access for agricultural commodities is determined by subsidies and tariffs. The Government of Egypt should identify solutions to help tenants access subsidized agricultural resources, which often go to the landowners and are sold back to the tenants at higher prices.
  - Enhanced rural communities and a resilient agricultural sector cannot be achieved without effective policies and strategies that create and sustain an enabling environment for market integration of small producers. This includes improved governance and transparency, and improved infrastructure. Government support is essential in all these respects, but specific interventions are needed to create market opportunities and link smallholders to markets through government-led food industries and markets.

### Recommendations for the country team

- *Ensure that gender equality and women's empowerment are considered on a strategic level in the country office and included in country strategic plans and documents.*
  - There is a great deal of scope for FAO to engage more strategically in the promotion of gender equality and women's empowerment through strategic partnerships with local, national and international bodies committed to gender equality. For example, FAO could potentially collaborate with the NCW to reach and target those most in need of rural livelihoods interventions. The NCW could also support FAO in filling gaps in research and gender-related data by identifying the needs, priorities, capacities and vulnerabilities of women and men in the specific areas that FAO works in.

- *Enhance the gender capacities of the country office tea*

- In the pressured work environment of FAO Egypt, gender cannot be adequately addressed and integrated in all FAO projects and activities, if this is not led and owned by all staff members, particularly programme staff and specialists. It is crucial that all staff receive basic gender training to increase the understanding of gender within the country office including FAO's commitment to gender equality and women's empowerment as stated in its gender-equality policy.

- In addition, country office programme staff and implementing partners should be trained on gender programming principles to gain a basic understanding of how to apply gender in agricultural and rural development programmes and integrate a gender analytical lens in fieldwork. Dedicated technical support and specific training on gender analysis and gender-responsive programming could be provided by the FAO Regional Office for Near East and North Africa.

- Given the diverse portfolio of FAO Egypt, the country office should ensure that the gender focal point is supported by one or two alternates to whom leadership tasks on gender components at the strategic and programmatic level could be delegated.

- *Support gender-related evidence-based assessments, knowledge management and communications, particularly on rural development, food security and climate adaptation.*

- Ensuring that gender equality is included on a strategic level requires a systematic approach to identifying and addressing gender-related issues throughout the project cycle. A participatory gender assessment of the Egyptian agricultural and rural system should be conducted to ensure that projects are producing transformative changes in the lives of women, men, girls and boys, empowering them, and are contributing to increased gender equality or, at least, doing no harm. This sector-specific gender assessment could support the development of the country gender assessment, especially with regards to water issues.

- The country office should ensure that gender is also integrated in all other relevant and human-related assessments, including in knowledge management and communication material on climate adaptation, rural areas and food security. FAO Egypt produces several communication documents every year in which a gender perspective could be introduced to help the country teams, partners and various stakeholders understand the linkages between food security, rural development and gender equality.

### **Recommendations for the SIDA project team in Egypt**

- *Ensure that gender equality and women's empowerment are considered on a strategic level, including by government and field partners during project implementation.*

- Sustainable agriculture, water productivity and efficiency and gender equality are three major topics shaping national development plans. Given the key role of food, agriculture and natural resource management in achieving the vision set out by the 2030 Agenda, the Government of Egypt is continuously accelerating the transition to sustainable food, agriculture and water systems. This provides an opportunity for the project to foster a coordinated approach between the MALR and the MWRI to support the government in enhancing the linkages between agricultural and water projects and integrating a gender equality perspective across all these projects, in order to achieve sustainable and equitable changes and empower people.

- The project team can also seize the opportunity to support the government in enhancing the MALR and MWRI's capacity, both in using sex-disaggregated statistics and in formulating gender-sensitive agricultural, water and rural development policies.

- *Enhance and expand the projects that aim to empower farmers economically and increase their self-reliance and resilience against economic hardship, climate-related shocks and global pandemics.*

- Although evidence has shown that the Egyptian agricultural sector is the most resilient sector in the face of the recent COVID-19 pandemic, the crisis has highlighted the need to further support local farmers and food producers given the movement restrictions and constraints imposed on the global food supply, and the blocking of transport routes. The availability of markets and access to these by farmers are a prerequisite for generating economic benefits. FAO should focus on projects designed to enhance farmers' access to markets on a national level, raising their awareness and training them on using novel e-marketing techniques, so that they can market their produce across villages, governorates and borders, and enjoy the economic benefits usually enjoyed by food merchants.

- Considering the expected impacts of a changing climate on agriculture, and existing expectations for agricultural production, Egyptian farmers need options to increase agricultural productivity and diversify production, while using land and water resources more efficiently. Projects that focus on introducing new farming technologies and innovation in agriculture, food marketing and irrigation, though not usually attractive to farmers who are comfortable with the old ways, can bring huge economic and environmental gains. The project team should thus introduce such innovative projects and enhance ownership of these by government bodies to ensure sustainability.

- Economic empowerment of farmers is key to addressing issues relating to education, harmful practices, health issues and power imbalances inside and outside the household. Training farmers on new farming and irrigation practices through FFSs can be complemented by financial assistance for rural women and men in starting businesses. FAO can consider collaborating with local organizations working on "revolving low-interest loan" projects, where farmers graduating from FFSs can apply for a small loan to start their business and generate income.

- Consider using school fields for farmer training and in FFSs, at least for theoretical sessions, as they are already equipped with safe water, toilets and childcare facilities and could decrease the time and emotional burden on women by ensuring that women and their children are present in the same place.

- Consider tackling healthy eating and diet issues in a more beneficial way for families by training women on how to make healthy school meals for their children using the well-established FFS programmes in the field. Partners for such activities could include the WFP and Save the Children.

- *Invest in more FFSs, farmer training and advocacy programmes, targeting different levels.*

- Farmer field schools were described by the government official interviewed as a "very useful and successful tool" in developing farmer skills and informing them on new and innovative agricultural techniques. FAO can invest in teaching more farmers in FFSs, reaching more Egyptian governorates and villages, and introducing a diverse curriculum with a greater focus on increasing farmer productivity and income-generating activities. Focusing on topics that economically empower women and men is key to fostering social and political empowerment.

### *III. Conclusion and recommendations*

- Farmers also expressed interest in receiving training on soft skills, leadership skills and how to deal with children, teenagers, husbands and neighbours, and settle intra-households conflict . Such programmes can benefit farmers, especially women, by easing tensions inside households and allowing more time and energy to be invested in productive activities.
  - Farmer field schools can play a key role in tackling gender inequalities and changing social norms through efforts to bring about social behavioural change, targeting powerful community actors and the individuals responsible for maintaining unequal power dynamics and the status quo (traditionally mothers, mothers-in-law, husbands, and community and religious leaders). These awareness-raising programmes, when associated with valuable agricultural training, can create soft and subtle transformative changes in people's behaviour, thus allowing for changes in gender norms, roles and unequal power relations between women and men. These programmes may include topics such as anti-GBV campaigns (with a focus on harmful practices, e.g. FGM/C, IPV and child marriage), legal awareness of women's rights to own land, men- and boys-focused awareness campaigns on masculinity and the importance of giving women their rightful inheritance, as well as access to water and agricultural management bodies.
  - Farmer field schools and wider advocacy programmes can tackle water, sanitation and hygiene topics to raise awareness on the health risks of drinking unsafe and unclean water. These programmes can be integrated into rural public health programmes and implemented in partnership with local and international organizations, with water and sanitation mandates (i.e. UNICEF, CARE International and Save the Children).
  - In designing FFS and communications campaigns, consider the various means of communicating with diverse individuals and stakeholders in rural settings.
  - Advocacy on equitable access to water management bodies could focus on the wider society and policymakers within government bodies. FAO can extend its training and awareness campaigns to the government and policymakers to advocate for models in which the ideal WUAs can be suitable for both men and women, and for designing strategies to enhance women's participation in water management institutions and supporting women in accessing their rightful land resources.
- *Consider the linkages between productive water and non-productive water issues.*
    - The work of FAO, the MALR and the MWRI is naturally focused on irrigation water for agriculture. Advocacy efforts, however, should be extended to include issues such as drinking water and sanitation systems in households where there is not enough water or it is of poor quality, or both, which poses a significant threat to the lives and well-being of farmers, and thus to the future of rural communities in Egypt. FAO and the SIDA project team could advocate for and coordinate work between the MWRI and the Ministry of Health and Population to ensure that available water resources can adequately meet productive and non-productive needs. More importantly, advocacy can help tackle the issue of farmers throwing household waste on the street and into rivers because of inadequate waste infrastructure, which then affects the quality of irrigation water and soil productivity.
  - *Continuously support project design and implementation with updated SDD, gender information and statistics.<sup>9</sup>*

- In order to support project and government partners in integrating gender into project design and implementation, adequate SDD and gender information need to be regularly collected, analysed and reported. FAO and the SIDA project team should ensure that an updated gender-responsive assessment is used to inform the programme and its action plans.
  - A gender-responsive monitoring system is crucial for supporting the collection of data and information on the specific needs and priorities of rural women and men, and more importantly, the changes in their lives as a result of FAO and partner interventions. A project gender-responsive plan based on gender-sensitive indicators and a participatory monitoring methodology is key for keeping the project up-to-date with accurate data and information about the diverse circumstances and lives of women and men.
- *Ensure that gender is appropriately addressed in project-related assessments and communication materials.*
    - As shown by the study findings, like with all other resources, water and agricultural resources are deeply connected to cultural, social and economic systems, where gender and power relations influence the different ways in which water is accessed, conserved, controlled and managed. Because a gender lens should be applied to all studies and assessments of human-related systems, it is crucial to apply such a lens to the socioeconomic analyses and value chain assessments carried out in the context of the SIDA project.
    - Ensure that a gender-responsive system is used to monitor field data and information, with quantitative and qualitative gender-sensitive indicators to monitor the changes and progress happening on an individual level as a result of interventions by FAO and its partners.
    - Given the significant outputs achieved since the SIDA project was implemented in Egypt, it is important to always document successes in communication materials that summarize such achievements for all involved stakeholders, emphasizing the gender component and how it is taken into account throughout the project, particularly in water productivity activities. The project team should publish biannual flyers and summary reports to monitor and report on the project progress.
    - Ensure that gender-sensitive communication materials are adopted and conduct regular communications assessments to understand which communications sources and platforms are most trusted by different groups of rural women and men in the target communities.
  - *Take gender and protection considerations into account when designing and implementing field projects.*
    - Ensure that all partner staff are trained on basic gender concepts, FAO's commitment to gender equality and women's empowerment, do-no-harm principles, gender equality and food security linkages, and gender analysis before designing and implementing field projects.
    - Ensure that field partner projects are grounded on gender-sensitive protection assessments and consider a do-no-harm approach when choosing project areas. For example, in order to ensure that both women and men participate, project areas should be as close as possible to participants' households and should be supported by the necessary facilities (e.g. separate and accessible bathrooms for women and men, older people and people with disabilities, and nurseries for children under 5).



### III. Conclusion and recommendations

- Project activities should also acknowledge women's double burden and not increase their workload. Most actors consider that livelihoods and rural development interventions are useful for all women and men involved. In Egypt, this means that women who wish to gain an equal footing with men by attending training programmes to start their own businesses will end up doing domestic work in addition to their livelihoods capacity development to be considered self-reliant. It is important to recognize the interconnected roles and activities of men, women, girls and boys in the public and private spheres and to enable women to choose suitable times that fit into their domestic schedules and do not lead to more challenges and tensions inside the household. These training programmes can also be combined with awareness campaigns targeted at men to promote *shared responsibilities and equal partnership* between women and men in the domestic and public spheres.
- Expand project linkages with other major gender and protection issues within the water and agricultural sectors to create wider changes. Such gender and protection issues could include the inability of girls to access education because of a lack of awareness of the importance of girls' education or lack of adequate services and schools in villages, and widespread harmful practices like FGM/C and child marriage, GBV, malnutrition and sexual and reproductive health and rights.
- *Conduct regular stakeholder analysis to demonstrate the different levels of involvement and participation of both men and women at different levels and then design a strategy to promote equal participation.*
  - The project team should make sure it works with organizations committed to gender equality and led by women to design and implement FFSs. FAO and partners are relying heavily on women leaders in rural communities to target participants and reach out to farmers. However, local organizations can help increase the project scale, and they bring their experience of working with rural women and monitoring improvements in women's and men's lives as a result of attending FFSs. Such organizations (e.g. Association of Women Leaders in Minya) can provide new methods, tools and topics to enhance FFS training, by harnessing their wide experience of local conditions in the field in Minya and other Egyptian governorates.
  - Establish and strengthen partnerships with other UN agencies and international organizations (e.g. ILO and UN Women) to support learning and the sharing of knowledge and experiences, and improve coordination and cooperation in the field of farmer training.

#### **Recommendations for field partners (Life Vision)**

- *Ensure that partner staff in Minya have appropriate gender competencies and resources for integrating gender in project implementation.*
  - To ensure that gender is adequately considered in all field activities, all project staff need to receive continuous training on gender equality topics, including gender analysis and gender-responsive programming.
  - A dedicated in-house gender focal point should lead key technical gender-related tasks, for example, ensuring that partner organizations are informed through an annual gender action plan. This will ensure that gender is not just integrated in FAO projects through FAO's internal gender experts, but also taken into account in other field projects. This should increase sustainability and knowledge transfer, and the take-up of good practices on a wider scale.

- Field partners should expand the age limit to include women up to the age of 49. Younger women are less likely to engage in FFSs as they have other household responsibilities, and FFSs may add to their work burden, potentially leading to burn-out. On the other hand, women in their 30s and 40s could have more free time and be more willing to participate in these programmes.
- Keep consulting women on the different focus topics, especially after COVID-19, which may have shifted some of the community priorities.
- Ensure that all FFS project sites are equipped with childcare facilities and separate bathrooms (accessible to people with disabilities) for women and men.

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## ANNEXES

### Annex I: Stakeholder mapping

The preliminary investigation has revealed that several relevant stakeholders were working in Egypt and in the Minya governorate in particular. While these stakeholders may vary in their typology, field of action, experiences, interests, objectives and other major aspects, they complement each other in achieving the various activities required. Below is a map of stakeholders in the field assessed, with a brief description of their work areas and potential

A. Governmental bodies	
Stakeholder name	Ministry of Agriculture and Land Reclamation (MALR).
Main activities	<p><b>The MALR is a ministerial body in charge of agriculture and land reclamation in Egypt, with responsibilities for:</b></p> <ul style="list-style-type: none"> <li>• implementing agricultural development projects in Egypt and working to promote agricultural policies and agrarian reform policies in line with national development plans;</li> <li>• providing supervision of and coordination between agencies working in the field of agriculture and land reclamation to achieve speedy performance and accuracy in implementation;</li> <li>• conducting studies and research on the development of agricultural, animal and fish production and disseminating research results through seminars, and local and international conferences;</li> <li>• providing technical agricultural advice to other government agencies, institutions, bodies and individuals in Egypt and neighbouring countries; and</li> <li>• supporting the development of rural communities by advancing their technical capacities through training and technical advice, and supporting their resilience and livelihoods through various services, including subsidized agricultural inputs and mechanized farming tools.</li> </ul>
Includes gender competencies/ gender officers or focal point / women office	Gender focal points on a national and local (Minya) level.
Includes a gender sensitive vision / policies/action plan	Included in the 2030 National Vision Strategy for Egypt.
Implements gender equality or women-focused activities	Provides direct technical support and training for women farmers, together with business planning sessions for women producers.
Potential collaboration with FAO	<p><b>FAO works with the MALR in almost all its projects. More areas of collaboration under the SIDA project could include:</b></p> <ul style="list-style-type: none"> <li>• supporting improved coordination between the MALR and the MWRI in implementing SIDA projects in the three pilot areas;</li> <li>• supporting the government in integrating gender into national agricultural policies and enhancing gender-sensitive information and SDD to inform governmental projects.</li> </ul>

<b>A. Governmental bodies</b>	
<b>Stakeholder name</b>	<b>Ministry of Water Resources and Irrigation (MWRI).</b>
Main activities	<p><b>The MWRI is the ministry in charge of managing water resources in Egypt. It is also responsible for:</b></p> <ul style="list-style-type: none"> <li>• designing and implementing irrigation projects and carrying out maintenance of waterways and water facilities;</li> <li>• designing, planning and implementing the agricultural land drainage policy, so that its networks extend to all Egyptian lands in a way that preserves soil fertility;</li> <li>• monitoring all water resources, including surface water, groundwater and rainwater to address water shortages and improve water efficiency;</li> <li>• designing, planning and implementing projects to develop water resources from the Nile and its various tributaries and surface water, groundwater and wastewater resources;</li> <li>• supporting the modernization of water transport and distribution systems to ensure that the needs of different water users are fulfilled in a timely manner, to the necessary extent and with the appropriate quality;</li> <li>• conducting the necessary investigations and research to evaluate groundwater reservoirs in the Nile delta, Nile valley and the Egyptian deserts, assessing their potential, and drafting and implementing a suitable use policy;</li> <li>• taking necessary measures to ensure the safety of the public water facilities built on the Nile and improve their efficiency to serve various national purposes;</li> <li>• supporting agricultural production by developing pumping stations using the most recent technologies; and</li> <li>• supporting, coordinating and supervising field and local water management bodies (WUAs).</li> </ul>
Includes gender competencies/ gender officers or focal point / women office	Gender focal points on a national and local (Minya) level.
Includes a gender sensitive vision / policies/action plan	Included in the 2030 National Vision Strategy for Egypt.
Implements gender equality or women-focused activities	No specific gender-equality or women's empowerment activities
Potential collaboration with FAO	<p><b>FAO works with the MWRI in almost all its projects. More areas of collaboration under the SIDA project could include:</b></p> <ul style="list-style-type: none"> <li>• supporting the MWRI in initiating technical training to enhance the capacities of WUA members, with a particular focus on women and their involvement in WUA management, including targeted leadership training to enhance women's participation in WUA management positions; and</li> <li>• supporting the MWRI in adopting a gender-responsive monitoring system to ensure the collection of regular SDD on women and men's access to irrigation water and their involvement in managing this resource.</li> </ul>



A. Governmental bodies	
Stakeholder name	National Council for Women (NCW).
Main activities	<p><b>The only national independent mechanism for women in Egypt. In Minya, the NCW works on ensuring that women are treated on an equal footing with men in terms of political, economic, social and cultural rights through:</b></p> <ul style="list-style-type: none"> <li>• advocating for change and awareness raising on priority issues for communities and conducting public awareness campaigns on male migration, FGM/C, child marriage and GBV;</li> <li>• supporting leadership training for women to enable them to play an essential role in society and integrate their efforts into national comprehensive development programmes;</li> <li>• coordinating with over 406 women community leaders in Minya villages so that they can easily reach women for technical support activities, including business and entrepreneurship training;</li> <li>• supporting women in acquiring national ID and other legal documents for asserting their legal rights and enhancing their political participation;</li> <li>• supporting women's economic empowerment activities by collaborating with local organizations providing training and job opportunities for rural women;</li> <li>• supporting victims and survivors of violence by referring them to safe specialized governmental pathways for legal and psychological support; and</li> <li>• supporting other governmental bodies in making gender equality and women's empowerment an integral part of development strategies and policies.</li> </ul>
Includes gender competencies/ gender officers or focal point / women office	
Includes a gender sensitive vision / policies/action plan	National Strategy for the Empowerment of Egyptian Women 2030.
Implements gender equality or women-focused activities	All their activities are targeted at achieving gender equality and women's empowerment.
Potential collaboration with FAO	<p><b>Under the SIDA project, FAO could benefit from the NCW's help in the following areas:</b></p> <ul style="list-style-type: none"> <li>• Rely on the NCW to target and reach the most vulnerable populations. The NCW has a wide reach through a number of well-known and trusted community leaders. Targeting rural women through the NCW's channels could help reach more people in need and enhance FAO's presence in the villages inside Minya and other governorates.</li> <li>• Support coordination between the NCW, MWRI and MALR in the context and for the focus areas of the SIDA project on supporting water efficiency/ productivity and water sustainability.</li> <li>• Ensure that the programmes implemented to support women's economic empowerment are carried out in coordination with the NCW to ensure that the projects are targeting different individuals from different households to avoid duplication and wasting efforts, and thus, benefiting more people.</li> </ul>

<b>B. Non-governmental organizations and local grassroots</b>	
<b>Stakeholder name</b>	<b>Life Vision.</b>
Main activities	<p><b>Supports the productivity of rural communities through the following activities:</b></p> <ul style="list-style-type: none"> <li>• Farmer field school training on water productivity and efficiency, reducing costs of agricultural activities, increasing crop and animal productivity, etc.</li> <li>• Implementing clean water, sanitation and hygiene (WASH) projects to provide impoverished households in Upper Egypt with access to clean drinking water and improved sanitation solutions while reducing the environmental damage caused by the inadequate disposal of household waste. The programme includes a hygiene and health awareness programme that goes in parallel with the infrastructure.</li> <li>• Leading youth empowerment projects to contribute towards the promotion of rapid economic growth, improved livelihoods and poverty reduction by increasing income and work/job opportunities for the poor, more specifically women, people living with disabilities, and young people, in selected areas by improving productivity, diversification and product quality while establishing efficient marketing services and facilities and improving the marketing and business skills of the project beneficiaries</li> <li>• Supporting community-based care and protection to advocate with and for the most vulnerable to improve and implement social protection systems and measures, and to promote the provision/restoration of social circles of practical support around vulnerable individuals, complementing government measures.</li> </ul> <p><b>In Minya, through a protocol signed between the MALR and Life Vision in 2013, engineers were offered FFS training with a mixed, "best-of-both" curriculum between ILO Start Your Business and FAO Generate Your Business , where:</b></p> <ul style="list-style-type: none"> <li>• Participants receive a weekly two-hour session on theoretical and practical topics related to agriculture and human development. For the 36 agriculture-related topics, the focus is to teach participants (with a focus on women) farming, crop harvesting, keeping livestock and animal care, and starting small-scale agricultural projects or food-production projects by selling jam, butter, pickles, animal feed, gee, cheese and other products to become small-scale, economically independent food producers. For the 36 human development topics, women and men receive sessions on financial literacy, business planning, dealing with children and adolescents, sexual and reproductive health awareness, breastfeeding, child nutrition, self-examination for cancer detection, and how to build relationships with others (neighbours and relatives).</li> <li>• Life Vision also links farmers directly with relevant governmental bodies, having successfully improved coordination between the MALR and the MWRI and between these governmental bodies and the communities.</li> <li>• Helping raise awareness of agriculture among the community, where women work as key drivers of change by spreading the information they receive across.</li> </ul>
Includes gender competencies/ gender officers or focal point / women office	
Includes a gender sensitive vision / policies/action plan	

<b>B. Non-governmental organizations and local grassroots</b>	
<b>Stakeholder name</b>	<b>Life Vision.</b>
Implements gender equality or women-focused activities	<ul style="list-style-type: none"> <li>• Works on improving the status of most economically vulnerable women through conducting vocational training and handicraft workshops, and introducing management techniques, business coaching and income-generating activities.</li> <li>• Links women and men handicraft producers with quality control specialists and open channels in the local and international market for local women and men producers to be recognized on the market and provide more added value.</li> <li>• Implements women-focused FFS to reduce the gender gap in terms of information, access to technology and resources.</li> </ul>
Potential collaboration with FAO	FAO's collaboration with Life Vision is deemed very successful by all the government officials interviewed. The Organization could expand its collaboration by reaching more villages and governorates in Egypt, and could help simplify the FFS and farmer training curriculum, and make sure it incorporates more gender-related topics.

<b>Stakeholder name</b>	<b>CARE International (Aysheen Bekheirha).</b>
Main activities	<p><b>With support and funding from CARE International, an organization called Aysheen Bekheirha is working in Minya with a focus on rural communities. The main activities are:</b></p> <ul style="list-style-type: none"> <li>• targeting pregnant and lactating women and girls (PLWG) or women of childbearing age for sexual and reproductive health services and nutrition awareness sessions;</li> <li>• enhancing irrigation infrastructure and access to productive water, especially in the places that suffer from lack of water or irregular water flow;</li> <li>• strengthening capacities of government, farmers and other partners in agriculture and rural development planning; and</li> <li>• supporting improved access for rural communities to drinking water through establishing safe water centres close to households and schools.</li> </ul>
Includes gender competencies/ gender officers or focal point / women office	Gender adviser based in Cairo.
Includes a gender sensitive vision / policies/action plan	Gender strategy for the organization.
Implements gender equality or women-focused activities	<p>Most of the projects are informed and reviewed by gender experts to ensure gender is taken into consideration.</p> <p>In Minya, certain activities are targeted specifically at women, especially with regards to sexual and reproductive health and nutrition activities, complementing FFSs, which target rural women to raise their technical capacities.</p>
Potential collaboration with FAO	<p><b>CARE's Aysheen Bekheirha project works directly with FAO partners such as Life Vision, specifically on water projects and farmer training. FAO, under the SIDA project, could benefit from CARE's experience through:</b></p> <ul style="list-style-type: none"> <li>• initiating collaboration to join efforts in FFS implementation and avoid duplication of efforts, while reaching more people in Minya and other governorates; and</li> <li>• extending efforts to tackle drinking water issues through providing support to grass roots organizations, like Aysheen Bekheirha, who help ensure drinking water reaches all rural populations, as productive and non-productive water are highly connected.</li> </ul>

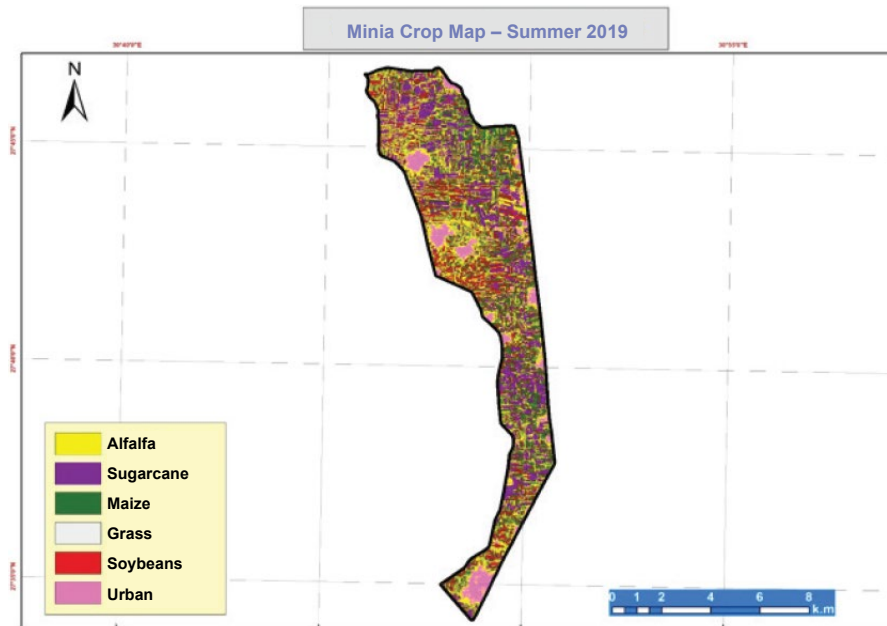
<b>C. International organizations</b>	
<b>Stakeholder name</b>	<b>Save the Children (STC).</b>
Main activities	<p><b>Save the Children works in Egypt to give boys and girls a healthy start in life, the opportunity to learn and protection from harm. The profile of STC in Minya includes the following activities in 12 villages:</b></p> <ul style="list-style-type: none"> <li>• Supporting nutrition and health awareness activities for PLWG. These campaigns include sessions on healthy water for drinking, sanitation and hygiene for mothers and children.</li> <li>• Supporting PLWG access to health check-ups and sexual and reproductive health facilities and services by establishing health centres inside villages and close to children's schools to improve access for women.</li> <li>• Targeting 2- to-6-year-old children for nutrition and health awareness sessions.</li> <li>• Supporting rural women and men's access to safe drinking water through establishing water centres inside villages and closer to farmers' homes and children's schools.</li> <li>• Enhancing farmers' technical capacities in agriculture and the use of technology through FFS programmes.</li> <li>• Undertaking research and studies to generate data and information in collaboration with local research centres on access to food, water and children's conditions, challenges and opportunities in the rural villages in Minya.</li> </ul>
Includes gender competencies/ gender officers or focal point / women office	Gender adviser based in Cairo.
Includes a gender sensitive vision / policies/action plan	Gender strategy for the organization.
Implements gender equality or women-focused activities	<p>Most of the activities focus on community development and establishing a healthy and better future for girls and boys. Gender equality is treated as a crosscutting issue and integrated across all activities. In some activities, the focus is only on women, as in nutrition programmes for young children, and FFSs for rural women in agriculture. Men and boys are also targeted through nutrition awareness campaigns for children under 5 and for adolescent programmes.</p>
Potential collaboration with FAO	<p><b>FAO could benefit from STC's experience in:</b></p> <ul style="list-style-type: none"> <li>• initiating collaboration to undertake and support research and studies on nutrition, water and food. STC would focus on the health component, while FAO would focus on the farming, food security and socioeconomic components of this research.</li> </ul>

## Annex II: List of interviewed informants

Organization	Name	Role	Sex	Place
MALR	Fatma Abd El Monem	Field engineer	F	Minya
MALR	Abd El Monem Saqr	Director of the Agricultural Administration Department	M	Minya
MALR	Hussein Mohamed Othman	Extension agronomist	M	Minya
MALR	Abdelaty Elkhatib	Undersecretary of the MALR	M	Minya
MWRI	Omar Darwish Omda	Undersecretary of the MWRI	M	Minya
NWRI	Ahmed Saleh Mohamed abdallah	Manager of the Water Management Association Department	M	Minya
NCW	Manal Abu Samra	General manager for the NCW Minya office	F	Minya
NCW	Rabab Sayed Mohamed	Rural economic empowerment specialist	F	Minya
Life Vision	Maged Ramzy	Executive manager	M	Minya
Life Vision	Salwa Abdou Ghbrial	Agricultural projects specialist	F	Minya
CARE	Eshaq Zaki	Project supervisor in Minya	M	Minya
CARE	Mansour Yaqoub	Project head in Minya	M	Minya
CARE	Kareem Mohamed	Project head for CARE Egypt	M	Cairo
CARE	Marwa Hussein	Head of agricultural projects for CARE Egypt	F	Cairo
Save the Children	Tarek Ashor	Senior officer for health programm	M	Minya
FAO	Rawya Eldabi	Head of communications and alternate CO gender focal point	F	Cairo
FAO	Waleed Abouelhassan	Irrigation project coordinator	M	Cairo
FAO	Moamen Gelany	Field coordinator	M	Minya

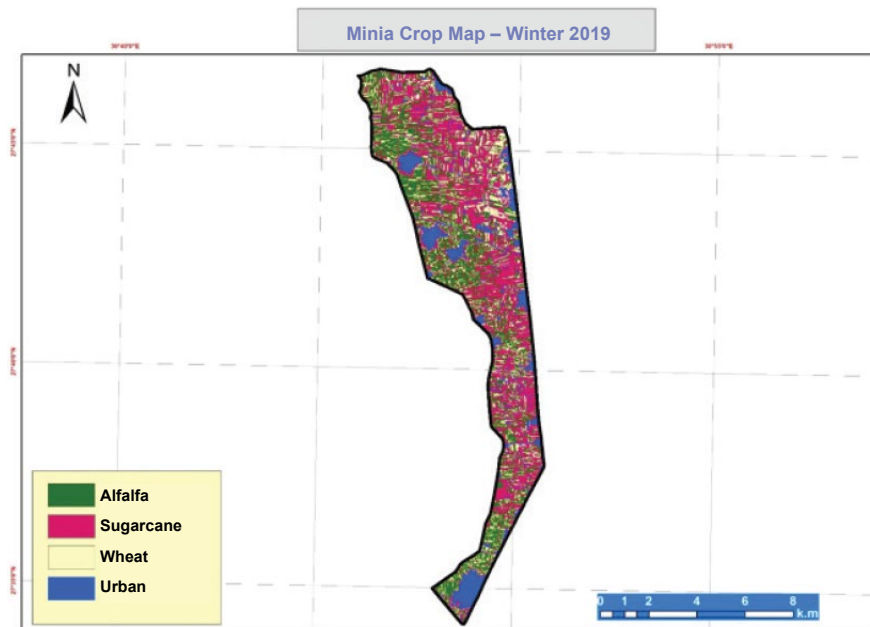
## Annex III: Minia crop maps

### A. Summer crops



Source: Soil, Water & Environment Research Institute, 2019. *Minia Summer crops*, Giza, Egypt.

### B. Winter crops



Source: Soil, Water & Environment Research Institute, 2019. *Minia Winter crops*, Giza, Egypt.





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Food and Agriculture Organization of the United Nations  
Cairo, Egypt

ISBN 978-92-5-137227-2



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CC3019EN/1/04.23