

Report



Women Empowerment for Improved Research in Agricultural Development, Innovation and Knowledge Transfer in the West Asia/ North Africa Region

Ebba Augustin with Ruby Assad & Dalila Jaziri





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Ebba Augustin

Ruby Assad & Dalila Jaziri

Every reasonable effort has been made to acknowledge sources used for this study. If any has inadvertently not been acknowledged, the author would be happy to be informed and make good in any future print any errors or omission brought to her attention.

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Title photo: Ruby Assad

AARINENA Secretariat
C/O ICARDA West Asia Regional Office
P.O.Box: 950764
Amman 11195 Jordan
Tel: +962 6 5525750
Fax: +962 6 5525930
[http:// www.aarinena.org](http://www.aarinena.org)





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List of abbreviations

AARINENA	Association of Agricultural Research Institutions in the Near East and North Africa
ACC	Agricultural Credit Corporation (Jordan)
ACSAD	The Arab Center of the Studies of Arid Zones and Dry Lands
AFD	L' Agence Française de Développement
APEL	Association for the Promotion of Employment and Housing in Rural Areas
ARC	Agricultural Research Center
ASDEAR	Association for Agricultural and Rural Development (Tunisia)
AVFA	Agency for Extension Agricultural Training (Tunisia)
CAAES	Central Administration of Agricultural Extension Services (Egypt)
CAPMAS	Egyptian Central Agency for Statistics
CAWTAR	Women's Training and Research Center
CBS	Center for Biotechnology (Tunisia)
CDA	Community Development Association
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CIDA	Canadian International Development Agency
CNFF	National Council on Woman and Family (Tunisia)
CREDIF	Centre of Research, Studies, Documentation and Information on Women
EFTA	European Free Trade Association
EPA	Economic Partnership Agreements
EU	European Union
FAO	Food and Agricultural Organization
FNAT	Tunisian National Federation of Farmers
FTDC	Tunisian Federation for Community Development
GPP	Global Partnership Programs
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GFAR	Global Forum on Agricultural Research
GTZ	German Agency for Technical Cooperation (now GIZ)
HDI	Human Development Index
IAS	Central Department of Irrigation Advisory Services (Egypt)
ICARDA	International Center for Agricultural Research in Dry Areas
ICPD	International Conference on Population Development
IDRC	International Development Research Center
IFAD	International Fund For Agricultural Development
ILO	International Labor Office
INNTA	National Institute for Nutrition and Food Technology (Tunisia)
INS	National Statistics Institute
INSTM	National Institute for Aquatic Science and Technology (Tunisia)



IRA	Institute for Arid Research (Tunisia)
IRESA	Agricultural Research and Higher-Education Institute (Tunisia)
JAER	Joint Arab Economic Report
LE	Egyptian Pound
MAFF	Ministry of Women's, Family, Children's and Elder Affairs (Tunisia)
MALR	Ministry of Agriculture and Land Reclamation
MARH	Ministry of Agriculture and Water Resources (Tunisia)
MCM	Million Cubic Meter
MDG	Millennium Development Goals
MENA	Middle East and North Africa Region
MFW	Microfund for Women (Jordan)
MOA	Ministry of Agriculture
NCARE	International Center for Agricultural Research in Dry Areas
NCARE	National Center for Agricultural Research and Extension
NCCM	National Council for Childhood and Motherhood
NGO	Non Governmental Organization
PBDAC	Principal Bank of Development and Agriculture Credit (Egypt)
PCUWA	Policy Coordination Unit for Women in Agriculture (Egypt)
PRA	Participatory Rapid (or Rural) Appraisal
RWDA	Rural Women Development Administration
TFR	Total Fertility Rate
UAE	United Arab Emirates (Abu Dhabi, Ajman, Dubai, Fujairah, Ras al-Khaimah, Sharjah, and Umm al-Quwain)
UNAP	National Union of Agriculture and Fishing of Tunisia
UNDP	United Nations Development Program
UNESCO	United Nations Educational and Scientific Organization
UNFT	National Union of Tunisian Women
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Entity for Gender Equality and Empowerment of Women
UTAP	Tunisian Union of Agriculture and Fisheries (Tunisia)
WANA	Western Asia and North Africa
WB	World Bank
WEF	World Economic Forum
WID	Women in Development
WLUML	Women Living Under Muslim Law



Foreword

AARINENA was established to strengthen cooperation among national, regional and international agricultural research institutions and centers to ultimately support the agricultural sector in its member countries. Women farmers significantly contribute to the agricultural development in the WANA region, but often remain invisible in agricultural research and knowledge transfer. To assess the role that female farmers play in the agricultural systems in the countries of the WANA region and to better understand the level of services that are directed towards them, AARINENA has commissioned this study on women's empowerment in agriculture.

The study included a desk review of available resources and field studies in Egypt, Jordan and Tunisia representing three of WANAs five sub-regions (Nile Valley & Red Sea, Mashreq and Mahgreb). The study findings are compiled in a report that provides a thorough review of available information and data as well as recommendations for policy makers and practitioners in research and extension organizations.

AARINENA would like to express its gratitude to the research team, in particular the lead researcher Ebba Augustin and her research assistants Ruby Assad and Dalila Jaziri for their thorough work and the preparation of this report. We would like to extended our special thanks to Ms. Nadereh Chamlou, Senior Advisor in the Office of the Chief Economist, Middle East and North Africa Region at the World Bank for her revision of the first draft of the report and her very valuable comments that were incorporated into the final version of this report.

The female and male farmers in Egypt and Jordan and the staff of the research and training institutions interviewed deserve special mentioning as they took time out of their busy schedule to meet with the researchers.

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A handwritten signature in blue ink, reading 'Ibrahim Hamdan'.

Ibrahim Hamdan
Executive Secretary
AARINENA



Executive summary

The study on “Women Empowerment for Improved Research in Agricultural Development, Innovation and Knowledge Transfer in the West Asia/North Africa Region” was commissioned by the Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA). The study aims at proposing policies to ministries of agriculture, agricultural research institutions and extension agencies to advance the role of women working in agriculture in the region. The study combines a desk-study with literature, internet research and field studies in Jordan, Egypt and Tunisia. With limited resources the study team could only conduct field-research in three of the five WANA sub-regions. The countries of the Arabian Peninsula with very limited agriculture were not seen as a priority for this study. Pakistan, Iran and Turkey, that make up Western Asia, and have a combined population of more than 200 Million and a high diversity of agricultural systems, would require more than two field studies to do it justice. The focus of the study hence was on three countries in the Mashreq, Nile Valley and the Maghreb with agricultural systems typical for the respective sub-regions.

The countries of the WANA region are very diverse along key indicators of human development such as health, education and living standards. The region includes primarily agrarian economies such as Somalia and Sudan, countries with a large agricultural sector such as Pakistan, Egypt, Morocco, Syria and Tunisia and countries that have virtually no or minor agriculture like the countries of Gulf, especially the UAE, Bahrain, Kuwait and Qatar. While this report is primarily of relevance for countries with a large agricultural sector, the prevailing patriarchal gender paradigm persists in most countries of the region. It allocates access to vital resources and development potentials along gender lines instead of needs and potentials. Such a paradigm effectively curtails the development of half of the region’s people while hampering population policies and slowing economic and social development beyond the agricultural sector.

The case for women’s equal rights and access to resources in agriculture is clear cut and undisputed. This report and the recent studies cited provide ample evidence that the development prospects of the WANA countries are seriously compromised by persistent gender inequities. The study clearly illustrates the significant barriers rural women and female farmers face in the WANA region. The reasons are manifold, ranging from the limiting impact of the prevailing patriarchal gender paradigm on rural women, to gender-blind agricultural policies, insufficient human resources, lack of skills and know-how in agricultural institutions and organizations. Shortages of funds, weak commitment, gender equity on all levels and persistent gender stereotyping are common.

The study concludes with the following key messages:

Persistent discrimination of women hold development back

The WANA region, more than other regions, faces specific barriers for women to interact in the public sphere and to access vital resources. This poses constraints that need to be addressed with specific measure in agricultural extension work, access to technology, financing and access to information which is a necessity in a globalized world.



Gender stereotyping in policy making, innovation & knowledge transfer

Gender stereotyping in agricultural policy making, innovation and knowledge transfer still persists. Extension services often operate under a patriarchal gender paradigm that view men as the “real farmers” and relegates women to farm assistants and housekeepers, despite their significant contribution to agriculture. The consequence is that the agricultural needs of women farmers are still not adequately met and their countries lose out in agricultural productivity and economic development. This needs to be addressed by giving the women’s machinery in the agricultural sector more clout and directing needed agricultural know how (rather than home-economics) and input to women farmers through primarily female extension agents.

The work of female farmers remains largely invisible to policy makers

The persistent disregard of women farmers is partially rooted in the fact that their vital contribution to agriculture remains largely invisible and unmeasured. Women still provide the majority of unpaid rural labor that is often not reflected in national statistics and hence remains invisible. A positive example is the expanded criteria list used in the 1998 Labor Force Sample Survey in Egypt that increased the labor force participation rate of women from 28 to 42 percent. To make women’s work in agriculture visible by systematically incorporating unpaid rural family labor into national statistics would go a long way. The examples of Egypt and Yemen show that a re-definition of indicators in census data can make women farmers more visible.

Agricultural studies with gender disaggregated data and with relevance to women farmers are still the exception than the rule

Although there has been significant improvement over the last two decades, the study team found that systematically gender disaggregated data in agricultural studies and research that outlines the vital role women farmers play in the different farming systems, are still rare. There are several reasons for this fact. Ongoing agricultural research and knowledge transfer through extension are still largely disconnected. Furthermore, in agricultural research a focus on technical and lab studies persists and field-work that actively involves local male and female farmers is more the exception than the rule. Research institutions could address the mismatch between research and farmers needs by developing an incentive system for participatory, farm based research and by closer cooperation with the extension service and private sector providers.

A large box of tools and approaches – but limited impact for women farmers

Much has been done since the mid 90s to mainstream gender into policy making and implementation. Tools and approaches have been developed to aid this process. The impact of these measures however has remained limited and did not fundamentally alter the gender bias in agricultural research and knowledge transfer. For donors it has remained a challenge to sustainably anchor support for rural women in agriculture into the structures, policies and curricula of governmental partner organizations. Gender tools and approaches need to be appropriate for the institution and level in questions. There has to be a sufficient long-term commitment from top level management and the required human and other resources need to be in place. Donors have to take a long-term view and anchor gender mainstreaming horizontally and vertically in



Success on project level but mechanism for scaling up and policy adoption not yet in place

the relevant agricultural institutions.

On the level of projects and programs much good work is done with and for women farmers in the WANA region and development organizations have made a conscious effort to include women-specific initiatives. No effective mechanisms are in place to make successes known, and upscale them for adoption throughout the region. Donors rarely follow up on sustainability after projects are phased out. A national platform (and at a later stage regional platform) to share best practices and successful innovations and initiatives for women farmers could address this lack of information. With the respective ministries, the women's machinery and civil society organizations as stakeholders of such a knowledge-platform successful initiatives could be scaled up nationally and integrated into respective policies.

Equitable laws internationally adopted but national adoption and implementation lags behind

In the last two decades, significant resources have been invested to bridge the gender gap in development- including agriculture. I.e. lawmakers have worked on norms on women's land rights that have been adopted at the international level within human rights treaties. Despite these efforts, the implementation of equitable policies and the inclusion of rural women as important actors lag seriously behind with the gap between legal rights and legal practice often largest in rural areas. The developments in the region under the conditions of the Arab Spring offer a window of opportunity to address women's rights. It is important that concerned governmental and civil society stakeholders include women's rights into the negotiation of civic rights and make them a vital element in the reform process.

Reduction of poverty requires addressing women and small farmers needs

Reduction of rural poverty, boost in food security, and mitigation of climate change will not be effective if half the population is left out. The example of Tunisia shows that targeted policies to address the needs of women farmer's and rural women can be effective. Meeting the needs of women farmers is vital not only to empower women but to address the broader development issues faced by the countries in the region.

Emerging trends in modern agriculture require reassessing gender roles and policy making

The emergence of new issues and new global and local arrangements require a new look at the agricultural sector and the role women play in it. Women face serious challenges in contract based modern agriculture that need to be addressed. In light of the high internal and external migration of men to find jobs in the cities or abroad, the rural space is becoming increasingly feminized as women stay behind and take over the men's work. These two examples show that a host of new issues arise with current development trends and women need to have the resources and rights to fill emerging gaps. More research is required on the national level how recent development trends affect female farmers and rural women.



This study has been commissioned by AARIENENA and its findings are highly relevant for work with its partners in the region.

AARINENA as regional network for agricultural innovation and knowledge transfer has a vital role to play in alleviating the outlined challenges, especially on the level of its member organizations. While limiting framework conditions persist, such as the scarce funds for public research and extension, much can be done to address the gender blindness in agricultural research, the disconnect between research and farmers needs and the persistent gender stereotyping in agricultural extension. AARINENA can provide capacity building in gender sensitive research and extension planning to its members and can ensure studies provide an answer to the urgent challenges small and women farmers face while providing the platform for exchange of best practice and innovative ideas to get women farmers back into development.

Detailed recommendations have been developed based on the study findings for AARINENA, research and extension organizations and institutions, the key political players Ministry of Agricultural and Ministry of Labor and finally for donors, that have a role to play in moving national actors from theory to implementation.

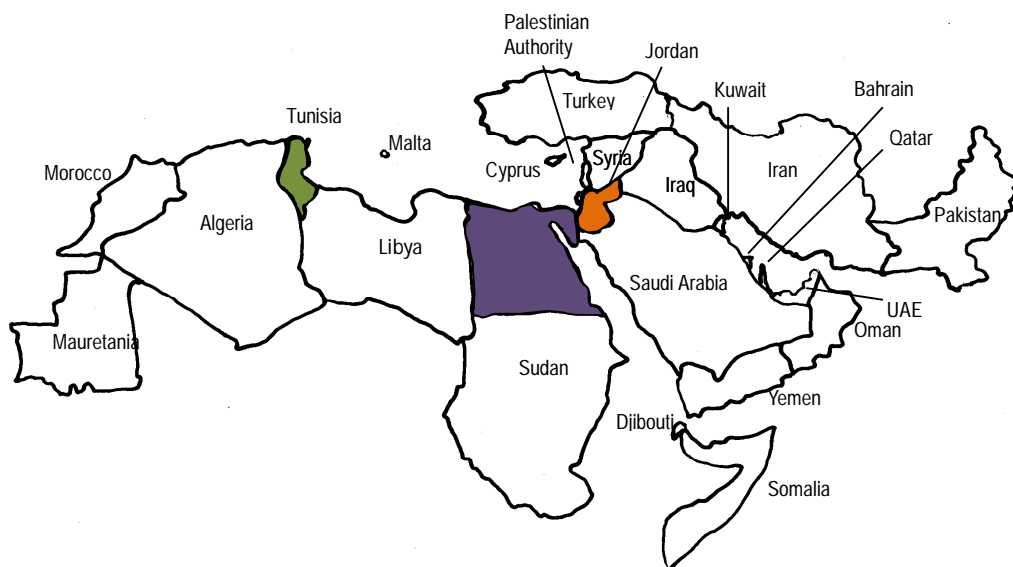


Introduction

The study on “Women Empowerment for Improved Research in Agricultural Development, Innovation and Knowledge Transfer in the West Asia/North Africa Region” was commissioned by the Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA). AARINENA was established in 1985 to strengthen cooperation among national, regional and international research institutions and centers through the dissemination and exchange of information, experiences and research results. AARINENA works to enhance agricultural and rural development in the WANA Region. *“By fostering agricultural research and technology development and by strengthening collaboration within and outside the region, AARINENA aims to achieve greater degree of self-reliance in food and agriculture, and to improve the nutritional well-being and overall welfare of the people of the WANA Region while sustaining and further improving the productive capacity of the natural resources base.”*¹

AARINENA’s Near East and North Africa region (WANA) encompasses five sub-regions, namely:

1. The Arabian Peninsula (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE)
2. North Africa-Maghreb (Algeria, Libya, Malta, Mauretania, Morocco and Tunisia)
3. Mashreq (Cyprus, Iraq, Jordan, Lebanon, Palestinian Authority and Syria)
4. Nile Valley & Red Sea (Djibouti, Egypt, Sudan, Somalia, Yemen)
5. West Asia (Pakistan, Iran and Turkey).



The study puts special focus on one country in three sub-regions North Africa/Maghreb, Mashreq and the Nile Valley, namely Tunisia, Jordan and Egypt.



Study aim and methodology

The study aims at proposing policies to ministries of agriculture, agricultural research institutions and extension agencies to advance the role of women working in agriculture in the region. This includes women farmers, their needs for extension advice and input as well as women working in research innovation and knowledge transfer.

The study methodology included internet research and field studies in Tunisia, Jordan and Egypt. The internet research was conducted in English, French and Arabic by Ebba Augustin and Farah Kasim; field work was undertaken entirely in Arabic by Ruby Assad in Jordan and Egypt, and Dalida Jaziri in Tunisia. PRA tools such as focus group meetings with female and male farmers and key informant interviews with research and extension staff were used for the field work. Organizations in the region that were assumed to hold additional information regarding women's role in agriculture were contacted by email and followed up by phone, however with very limited results. The concept of gender differential access to and control over vital resources in agriculture is the analytical core of the study. It is set into a wider framework of the prevailing gender paradigm and the patriarchal state that dominates the political landscape in the WANA region.

Study rational

Why is gender in agriculture in the WANA region important? The agricultural sector in the WANA region is in the process of rapid change, driven by trade liberalization, globalization, technological sophistication, economical and political reform, severe pressure on natural resources, food security, and climate change and, as is the case of WANA crisis countries, political strife. These massive changes pose challenges and also hold opportunities. The Arab Spring has clearly demonstrated that agricultural development cannot be delinked from social justice and fairness in access. It is here where rural women are at a particular disadvantage, being faced by legal and social barriers that limited their ability to adapt to change.

In the words of the Food and Agricultural Organization (FAO):

*"Agriculture is underperforming in many developing countries for a number of reasons. Among these is the fact that women lack the resources and opportunities they need to make the most productive use of their time. Women are farmers, workers and entrepreneurs, but almost everywhere they face more severe constraints than men in accessing productive resources, markets and services. This "gender gap" hinders their productivity and reduces their contributions to the agriculture sector and to the achievement of broader economic and social development goals. Closing the gender gap in agriculture would produce significant gains for society by increasing agricultural productivity, reducing poverty and hunger and promoting economic growth."*²

Cross-cultural studies have demonstrated over and over in the last two decades that societies pay dearly for gender discrimination. What is common knowledge and consensus in academic circles has not yet filtered down to policy makers, who still by large treat gender equity as a peripheral concern, introduced by well-meaning donors and clashing with perceived social customs. It is for this reason that countries in the WANA region, despite their wealth of resources and people, lag drastically behind most regions of the world in indicators of national well-being. It should be a wake-up call for policy makers and planners to see all countries of the WANA region (with the exception of Malta and Cyprus) to be positioned below the threshold of 100 on the Global Gender



Gap index of the World Economic Forum, with Yemen trailing the tailight of 134 countries. While Yemen's last place in gender equality can be understood in the context of its very low human development in general, countries like Saudi Arabia, the UAE, Bahrain, Libya, Qatar and Iran have a high or medium rank in the Human Development Index (HDI). Their drop to below 100 on the Global Gender Gap index indicates persistent discrimination against half of their countries population - all citizens with xx chromosomes in their genetic makeup.

FAO estimates the costs of the prevailing gender blindness in agriculture (and the benefits, if the gender gap would subside: *"If women had the same access to productive resources as men, they could increase yields on their farms by 20–30 percent. This could raise total agricultural output in developing countries by 2.5–4 percent, which could in turn reduce the number of hungry people in the world by 12–17 percent."*³

Conceptual note

The Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA), in its definition of the WANA region, combines a set of member states that overlap in total or in part with other definitions of the region that have evolved due to shared characteristics such geopolitics, colonial past, Islamic religion, common cultural practices or shared geographic and agricultural features. The desk study partially relies on reports and studies that follow a different definition of the region and therefore the inclusion of a variation of different states. I.e. the concept of the Middle East and North Africa (MENA) region is used by the European Union (EU), The International Labor Office (ILO) and the World Bank (WB). The latter defines the MENA region as Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza and Yemen. This includes Israel but excludes Turkey, Malta, Somalia, Oman and Qatar. The regional UNDP's Human Development Report combines all Arab countries but excludes Iran; so does the Tunis-based Arab Women's Training and Research (CAWTAR). Relevant Women's Organizations such as Women Living Under Muslim Law (WLUML) include into their research all Muslim countries, including Indonesia and Malaysia. The region is also often broken down into sub-regions such as the Gulf Region, Arabian Peninsula, North Africa, West Asia and the Near East.

The desk study intends to provide an introduction into the situation and challenges faced by women in agriculture in the WANA region rather than a detailed statistical analysis. Most background data relies on available studies form the MENA region; additional information is provided for the WANA countries outside of the MENA framework.

1. Overview of the WANA region

Diversity

The WANA region includes 26 countries, 21.6 million sq. km of land, 610 million people, and stretches from Mauretania in the west to Turkey in the North, Pakistan and Iran in the East and Somalia in the South. Its countries differ in their historical development, social makeup and system of governance. Most of the countries are Arab (predominantly Sunni Muslim), with the exception of



Turkey, Iran, Malta, Cyprus, Iran, Pakistan and South Sudan. Egypt, Lebanon, Jordan, the West Bank, Gaza and Syria have small to medium Christian populations. The WANA region has ethnically homogenous countries such as Egypt, Malta, Jordan and Somalia; others are ethnically diverse, such as Iran, Kuwait, UAE, Sudan and Bahrain. The region includes oil economies and little other resources, a relatively small population and a large labor in-migration such as Kuwait, Libya, Oman, Qatar, Saudi Arabia, and the UAE; mixed oil economies such as Algeria, Iran, Egypt, Tunisia, Yemen and Syria and non-oil economies like Jordan, Morocco, United Arab Emirates, Malta, Cyprus and Pakistan. While Qatar can rightfully be placed into the category of the super-rich, with more than USD 80,000GDP per person,⁴ a quarter of the population of Pakistan lives below the national poverty line and almost half of its rural children go to bed hungry every night.

The region includes relatively politically stable countries such as Turkey, Iran, Jordan and Oman as well as countries in a state of civil war and strife such as Yemen, South Sudan and Somalia, the latter for two decades has been without a functioning government and in an acute humanitarian disaster affecting 12 million people after the worst drought in 60 years and decades of political conflict. Algeria has been affected by years of internal conflict that has deepened poverty and unemployment in rural areas; its natural resource base and agriculture has been negatively affected. The ongoing Israeli occupation of the West Bank severely impacts its agriculture primarily through drastically reduced access to water, land and agricultural services. Palestinians have access to 118 MCM/year (18 percent) of their ground water resources while Israel controls the remaining 82 percent. 65 percent of the pastures and forest areas in the West Bank are defined as closed military areas and inaccessible to Palestinian farmers and pastoralists. The import of seeds is also severely restricted and unemployment among Bedouins is above 20 percent.⁵

Recent developments

The Arab Spring that started in January 2011 is currently affecting, directly or indirectly, the entire region. It has brought regime change to some countries and embroiled others in bloody repressive upheaval; it initiated careful reform processes in several countries of the region and increased clampdown on dissidents in others. The people of Egypt, Tunisia and Libya have overthrown decade-long entrenched autocratic leaders; however in Egypt the army is slow to let go their reign and benefits. The regime of President Assad in Syria is under intense pressure and the clashes with anti-regime and pro-democracy activists are increasingly bloody. President Saleh has been replaced by a member of the old regime in elections without alternatives. The UAE and Qatar have taken steps towards greater representation of its people. Saudi Arabia provided handouts of USD 30 Billion to its population, but has not yet initiated real structural reforms.⁶ In all countries of the Arab Spring religious and ethnic identities and alliances have remained vital and the notion of citizenship and a common good takes hold only slowly.

Also prospects towards increased gender equity are as diverse as the countries of the region. Much will depend on if tribal and religious affiliations can take a backseat in the democratization process. Tunisia has emerged from its recent elections with the Islamist party Annahda taking 41 percent of the vote; the election resulted in 22.6% of the seats in the Assembly (49 out of 217) being won by women candidates and with a government promise to uphold Tunisia's liberal laws promoting women's equality. In the transition to democracy, women in Egypt have largely been sidelined by the military-led transitional government. Islamist parties have won almost three quarters of seats



in parliament. While the Muslim Brotherhood vows not to roll back women's rights, the Salafists want to relegate women to the domestic sphere and limit their appearance in the public realm.

The region is at cross-roads. Will it adopt an overall regressive stance and sacrifice needed reforms for special interests or open up towards more transparency, accountability, representative government and social equity? Developments in the coming months and years will show if the region can open up to increased equality and participation of women in an environment of active citizenship, or relegate women to the domestic realm under growing repression and retreat of citizenship rights. The direction into which the region will head also has a significant impact on agriculture. The protection of the region's very scarce natural resources, instilling a sense of responsibility and "ownership" in local residents for their environment, holistic agricultural development that includes smallholders, the rural poor and large-scale agri-businesses is only possible in a context where the common good trumps the interests of a few that have the resources and linkage to pack up and leave when conditions deteriorate.

Health & fertility

The WANA region, in the three decades prior to the new millennium, made strong gains in human development: "Literacy spread to 69 percent of the population, average schooling (for those above 15) rose to 5.2 years, child mortality rates plunged to around 46 per thousand births, and life expectancy continued to climb to reach 68 years." Coupled with improvement in agricultural productivity and irrigation techniques, this has led to a steep increase in population numbers that are slowly beginning to decline. Still, the WANA region is the fastest growing region world-wide, with a population growth rate of 3.4% per year. While fertility rates in the last two decades have declined in the region, the pace and intensity of change varies dramatically between countries, with total fertility rates ranging from 1.8 in Lebanon to 5.2 in Yemen, 6.4 in Somalia⁷ and 3.6 Jordan.⁸ Although the process of demographic transition has started in most countries of the region and the total fertility rate of women is declining, the population in most countries of the WANA region will continue to grow, putting tremendous pressure on the scarce resources of the region— primarily land and water. The region's large population centers will increasingly suffer from various environmental degradation and water shortage.⁹

Youth bulge

A direct consequence of high population growth and the progress in health and mortality indicators has been the large number of young people in the region. The so-called "youth bulge" refers to the fact that youth (between 15-24 years of age) constitutes over one third of the total citizenry and has become the largest age group of the region. While such a young population can be a tremendous asset, it also poses a grave risk if the educational system, labor market, resources and infrastructure of a country are not up to the challenge. Studies have found a clear and quantifiable link between the age structure of a country and its overall political, democratic and economic development. Since the 70s, 80% of civil conflicts occurred in countries with a youthful population of 60% below the age of 30. As history shows, countries at the beginning of the demographic transition have also a nearly 90% risk of autocratic government.¹⁰ A young population on its own does not create conflict, but a combination of factors does. Low level services, high youth unemployment, high levels of poverty, low levels of education or education that bypasses market needs, corruption and



nepotism foster a sense of hopelessness and marginalization, while gender segregation and discrimination mirrors and recreates the patriarchal autocratic state structures on the family level. A large number of young men, socially not allowed to engage with the opposite sex outside wedlock, must postpone marriage due to economic reasons; they are unemployed (or underemployed), see all channels for meaningful civic or political engagement blocked and are despised by a political elite that benefits from nepotism and favoritism. It is a recipe for civil unrest.

The “Arab Spring” or “Tunisami” that is currently affecting the Western and Central countries of the WANA region can be directly linked to the youthful population of the region and their unfulfilled needs and aspirations.

Education

Education is one of the most challenging sectors in the WANA region, despite very significant progress in the last three decades. The gender gap in education as well as the gap in literacy between rural and urban populations is still persistent in a number of countries. The quality of education does not provide graduates the labor market needs. Djibouti, Yemen, Iraq and Morocco were ranked by the World Bank as the worst educational reformers in the region. In Pakistan and Mauretania, less than half of the countries’ women are literate; hardly more than half can read and write in Sudan and more than a quarter of women are illiterate in Tunisia, Egypt, Iran, Djibouti and Syria. The picture looks much brighter for the younger generation, compared to that of their parents. The Gulf Countries and the young generation in Jordan, Lebanon and Tunisia have almost achieved universal literacy. (See details in the matrix below.) Here, girls are provided with the same educational opportunity than boys; they often overtake their male peers (despite the fact that most school curricula remain deeply gender biased). This is reflected in an increasing percentage of female university students. Well over half of university students in Iran are women, and female students also enter into traditionally male study subjects. I.e. in the applied physics department of Azad University in Tehran, 70% of the graduates are women.¹¹ A similar picture emerges in other WANA countries with compulsory education. Another interesting fact which is not yet fully understood is that in high income countries of the WANA region, 10 percent of women complete post-secondary education as opposed to only 4 percent of their male cohorts.¹²

Unemployment of these well-qualified women (and that of their male peers) remains high; many either never pursue working or enter the work sphere only for a few years. A World Bank statement from November 2011 illustrates the interconnectedness of the youth bulge, education and economic opportunities in the region. *“The Higher enrollment rates have not translated into sufficient economic gains, as unemployment rates among university graduates remains stubbornly high. For a variety of reasons, economic growth has not been enough to absorb the growing educated labor force: excessive GDP volatility; labor demand heavily dominated by the public sector; economies over-dependent on oil revenues and highly dependent on low value-added products; and weak integration into the global economy. This macro scenario, coupled with mismatches between labor supply and demand, very slow school-to-work transition, and low quality and relevance of post-basic education and training systems, provides a challenging environment.”*¹³



Employment

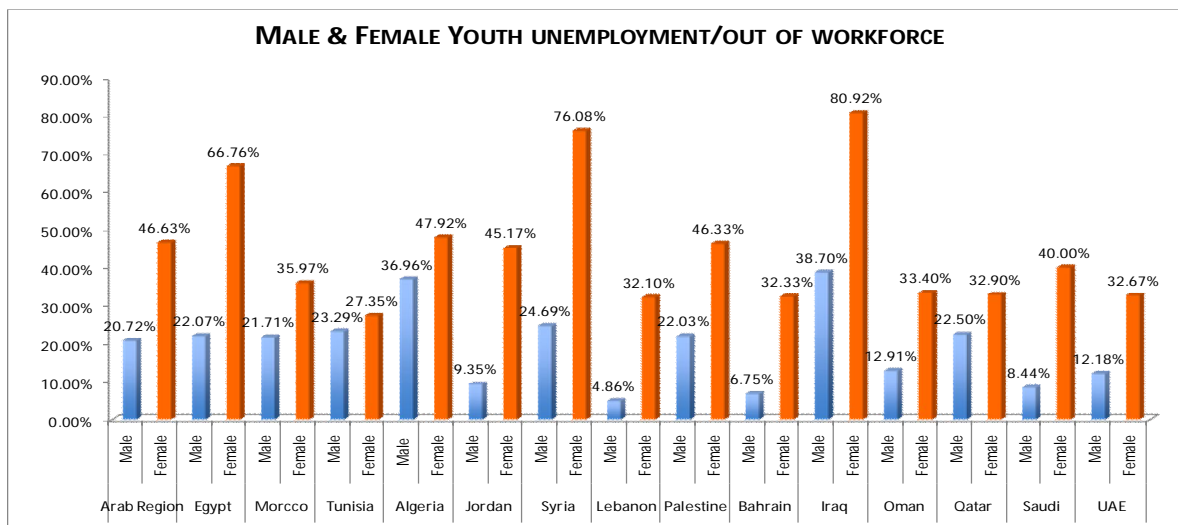
In the WANA region, historically men have been involved in most of the paid labor and women in unpaid work in subsistence agriculture, the informal sector and the household. This pattern has started to change with the increase in cost of living, the better education of women and the demands of the Arab Spring. However, women in the WANA region, on average, constitute 28% of the total work force, the lowest globally and much lower than the 43% average found in other developing nations. Numbers vary between the countries of the WANA region ranging from 28 percent in Tunisia, 26 percent in Egypt, 22 percent in Pakistan¹⁴ and drops to a dismal 16 percent in Jordan. Cyprus and Malta, both European countries, have 53 and 40 percent respectively, the highest labor force participation rate of women in the WANA region.¹⁵ The average (national, not foreign) female labor force participation rate in the Gulf countries is a low 19.2 percent with large differences in the region. While only 6 percent of women in Oman are counted into the labor force, slightly less than 30 percent of Qatari women are counted into the labor force.¹⁶

The majority of workforce in the WANA region is engaged in the service sector which is characterized by low productivity and remuneration, as it encompasses a large number of public sector and informal services. This is where the bulk of women are employed. Exceptions are countries where the service sector is underdeveloped and agriculture predominates- such as in Yemen and Sudan. It is the service sector where most of the female-owned businesses are found. The 77 percent of women-owned businesses in Yemen, 59 percent in Egypt and 37 percent in Morocco are in the service sector. Women's labor force participation is the key factor in demographic development and therefore closely linked to overall economic development and food security. The low rate of women's participation in the labor force in the occupied Palestinian territories coincides with the high birth rate and the high rate of early marriage.¹⁷ Jordan's high equity, education and low labor force participation of women since a decade is unable to reduce their country's birth rate to reap the benefit of the demographic dividend. A recent World Bank report concludes: Dependency ratios in the WANA region remain the highest in the world, with each working person supporting more than two dependents – a recipe for vulnerability in times of crisis. The low participation rate of women in the labor force is the principal reason behind this fact. A World Bank report concludes: *"With the highest economic dependency ratios in the world and evidence of higher rates of return on education for women than for men, MENA is clearly missing opportunities to improve the welfare of families and society."*¹⁸

The region also tops the world in unemployment. Rates in the WANA region are the highest in the world, an average of above 10%, compared to 6% on average globally. The situation becomes more critical when the focus is on young people below 25 years of age.¹⁹ Their unemployment figures climb up to 40% for the region. Despite the general trend, official figures vary widely between countries, with 6.9 in Malta²⁰, 15.4% in Pakistan²¹ and 35% in Yemen²². A gender disaggregated analysis reveals that in most countries of the region, female unemployment is higher than male unemployment. Only in Algeria, the West Bank and Gaza, and the Republic of Yemen are unemployment rates for men significantly higher than those for women. For the region as a whole, unemployment is about 20 percent higher for women than for men.²³ On average, women are twice as likely to be unemployed than men. No other region of the world has such a large gender gap in unemployment.²⁴



Figure 1: Male and Female Youth unemployment in selected countries of the WANA region²⁵



*"A tight job market, slow job creation and the spread of women's education along with society's irrational preference that men should take what jobs there are have combined to increase the unemployment of women...The state also has withdrawn from economic and service activity and limited government employment, which had previously represented the preferred form of employment for women and a bastion of their rights. As a result, Arab countries are witness to an unfortunate phenomenon: an abundance of qualified female human capital suffering from above average rates of unemployment"*²⁶.

The sphere of employment remains still largely segregated along the lines of the patriarchal gender paradigm. Women primarily work as teachers, nurses, social workers, in the service sector and as (often unpaid) family labor in agriculture. However, first inroads into traditional "male professions" have been made, increasing the number of women in scientific subjects.

Rural employment

In the majority of countries in the WANA region, the share of agriculture in women's employment is higher than in men's. In Algeria, 41 percent of economically active women work in agriculture, compared to 25 percent for men; for Egypt the figures are 39/28 percent, for Morocco 59/39 percent, for Syria 58/24 percent and in Yemen 88 percent of the female labor force works in agriculture compared to 43 for men.²⁷

Most rural employment is closely linked to agriculture. It includes farm work, self-employment working in trade with agricultural products and machinery, small agricultural enterprises, providing agricultural goods and services, and wage labor in agriculture. Agriculture is a sector that has the highest proportion of insecure jobs that are often informal, with low pay and little or no social and health protection. Gender inequalities in rural employment are persistent in the WANA region, although how it affects the individual women depends on social, cultural, religious and economic factors. A recent ILO study observes that: "90 percent of the wage gap between men and women in developed or developing countries is unexplained: in other words, it is attributed to gender



discrimination”:²⁸ Official employment figures often do not include unpaid family workers as they might not be reported in the national censuses. In the WANA region, as in the rest of the world, these are mostly women. For example, unpaid work on family agricultural enterprises accounts for an alarming 85 percent in Egypt (compared with 10 percent for men).²⁹

Rural non-farm employment and self-employment are important across all income levels. For poor rural households, they can make the difference between getting by and falling into destitution, between upward mobility and poverty. Many rural households already have a foot, and sometimes much more, in the rural non-farm economy. Agriculture plays a predominant role in influencing the size and structure of the rural non-farm economy by supplying raw materials for agro-processing, providing a market for agricultural inputs, consumer goods and services, releasing labor into other sectors of the economy and supplying (reducing the price of) food to the non-farm economy. The rural non-farm economy includes both non-farm wage employment and nonfarm self-employment (though it excludes agricultural wage employment). It lumps together a highly diverse collection of activities, including trading, agro processing, manufacturing, construction, and commercial and service activities. They can be a critical part of the livelihood portfolio of wealthier households and can play key roles in the risk mitigation and risk management strategies of poorer households; in many countries, rural households with the least diversified livelihoods are the poorest ones.

In many WANA countries the rural nonfarm economy is important for women, and although men have the greater share of non-farm employment, women make up a significant percentage of those employed in the rural non-farm economy. Government services also provide significant rural employment opportunities. Government employment generates 45 per cent of rural earnings in Egypt and 25 per cent in Pakistan. As a result, particularly in the transforming and urbanizing countries, non-farm wage employment is typically more important than self-employment as a source of household income, and wages are of the greatest importance in the service sector where most women are employed.³⁰

Poverty

With the exception of the Gulf countries, poverty in the region is a challenge. Poverty, despite growing slum belts around the cities of the region, is largely a rural phenomenon and compounded by a low level of services, development and vital infrastructure. Seventy percent of the poor in the WANA region reside in the countryside. The rural-urban gap and rural poverty lead large number of primarily male heads of households to migrate into urban cities and neighboring countries. A complicated system of subsidies and trade protection in the region sustain the status quo.³¹ Chronic poverty is female, landless and regionalized. Chronic poverty can be found in rural households headed by women, in remote locations such as Upper Egypt, Iraq, the mountains and steppes plains of Morocco and northwest Tunisia, in Yemen’s remote mountains, and families that are displaced by protracted crisis such as in Somalia and Southern Sudan. Families that depend on pastoral farming and agriculture as primary food and livelihood are most affected. Their access to scarce soil and water resources is restricted and their productivity is low. Their livelihood is further affected by highly unpredictable rainfall, low crop and livestock variety and continuously degrading natural resources. Access to land is another challenge for poor rural families in the region. Land ownership in countries with a severe water crisis such as Somalia, Sudan, Djibouti and Yemen, is the privilege



of a few well linked land owners. Many landholdings are highly fragmented and often farmed with inefficient management practices.³²

Environment – Resource abundance and scarcity

The natural environment of the WANA regions is characterized by opposites – the abundance of oil reserves, that has shaped the life in the wealthy Gulf States and the scarcity in water resources and productive land of the largely arid region. The Arab Human Development Report 2009 summarizes:

*"We have entered the 21st century facing most of the high priority environmental challenges that confronted us in the latter half of the twentieth century, with only differences of intensity and priority. These include: water shortages and deteriorating water quality, land constraints, desertification, the environmental effect of increasing energy production and consumption, the pollution of coastal areas, forest loss, and unwise consumption of natural resources, deteriorating urban environments, and the spread of pollution resulting from dangerous solid and liquid wastes."*³³

The Joint Arab Economic Report (JAER) of 2001 noted that the region was in an acute state of water poverty and the worst affected region worldwide in terms of per capita availability of renewable water resources. Heavy demand and insufficient distribution of ground resources illustrate water use in the region. Much of the population lacks access to clean water; water delivery is restricted in time and quantity of delivery and much water is wasted in agriculture, industry and tourism. While the region is characterized by water scarcity, countries are affected differently. Kuwait and the UAE are most impacted; Yemen, Bahrain and the occupied Palestinian territories are in an acute crisis; Jordan and Saudi Arabia are under significant water stress and Egypt, Lebanon and Syria suffer water shortage and pollution, but their crisis is still less severe. Pakistan in the last years has suffered from severe draughts and flooding.

Agriculture by far uses the bulk of water resources of the region. Over 80% of the region's water resources are used for agricultural production, followed by water withdrawal for domestic use (approximately 8%) and industry and tourism.³⁴ The underlying causes of water scarcity are similar across the region. Tariffs do not reflect the scarcity of the resource water and hence it is not used efficiently. Additional factors include: over pumping of ground-water, high water losses through an aging infrastructure, inefficient irrigation techniques and water management, incompatible water and agricultural policies, agricultural policies that favor large scale commercial agricultural production, corruption and effects of climate change.

The table below summarizes relevant indicators on the WANA countries and allows a country-by-country comparison. The figures are referred to in the different chapters of this study.

	Population (in Mio)	% rural population ¹	Agriculture % GDP ²	Signatory to CEDAW ³	WEF Gender Status 2009	HDI 2011	Agric. Land (% of land area) ⁴	Total Fertility Rate TFR ⁵	Poverty rate ⁵	Share of children underweight % of total		Literacy ⁶		Youth unemployment [*]		Employment overall (%) ⁷		% of economica. active women in agriculture ⁸
										urban	rural	W	M	W	M	W	M	
Algeria	3.5	33.5	8.3	1996 [®]	119	96	17.3	2.3	22	3.0	4.0	89	94	25	8	37	80	32.9
Bahrain	1.2	11.4	0.5	2002 [®]	110	42	11.3	2.2		-	-	100	100	-	-	32	85	0.0
Cyprus	1.1	29.8	2.3	2002 [®]	86	31	12.5	1.45		-	-	-	-	9.4	8.6	54	71	4.9
Djibouti	818 t	11.9	3.5	1989 [®]		165	73.4	4.0		-	-	64	63			62	7879	79.4
Egypt	80.5	57.2	14.0	1981 [®]	125	113	3.6	2.97	22	7.0	8.0	63	78	47.9	17.2	22	75	39.3
Gaza WB	3.9	27.9	3.7	-		114	-	5.1 3.3		3.0	3.0	90	97	20	11			22.2
Iran	75	30.5	9.7	-	123	88	29.7	1.88		10	14	77	86	33.9	22.2	32	73	33.3
Iraq	32.3	33.6	-	1986 [®]		132	21.6	5.0	22.9	7.0	8.0	65	65	29	27	14	69	15.7
Jordan	6.5	21.5	3.4	1992 [®]	120	95	11.0	3.4	13.3	4.0	7.0	89	96	45.9	22.6	15 ⁹	74	22.4
Kuwait	3.6	4	0.3	1994 [®]	105	63	8.5	2.1		-	-	94	96			45	83	0.0
Lebanon	4.1	12.8	4.7	1997 [®]	116	71	76.1	1.77		-	-	99	98	21.5	22.3	22	72	2.2
Libya	6.5	22.1	2.6	1989 [®]		64	-8.8	2.91		4.0	6.0	83	94			25	79	8.6
Malta	408 t	8	1.9	1991 [®]	83	36	31.3	1.52		-	-	99	97		17.6	32	68	0.0
Mauretania	3.5	58.6	12.4	2001 [®]	113	159	38.5	4.3		20	37	44	69			59	8281	62.6
Morocco	31.9	43.3	17.1	1993 [®]	127	130	67.2	2.21	9.0	7.0	14	68	85	19.4	22.8	26	80	49.1
Oman	3	28.3	1.6	2006 [®]	122	89	5.8	3.3				98	98			25	77	10.5
Pakistan	163.7	63.3	21.8	1996 [®]	132	145	34.0	3.2	22.3	35	39	44	69	10.5	7.0	21	85	56.9
Qatar	1.63	4.2	0.1	2009 [®]	117	37	5.7	2.3		-	-	88	94	7.5	0.7	50	93	0.0
Saudi Arabia	25.3	17.9	2.6	2000 [®]	129	56	86.8	3.1		-	-	85	90	45.8	23.6	21	80	1.8
Somalia	8.44	62.5	60.2	-		-	70.2	6.7		-	-	24	-	-	-	57	85	76.7
Sudan	45	54.8	30.5	-		169	-	5.1		-	-	49	51	-	-	-	-	65.1
Syria	21	45.1	17.1	1985 [®]	124	119	75.7	3.1		9.0	10	76	90	49.1	13.1	21	80	56.0
Tunisia	10.4	32.7	10.6	1985 [®]	107	94	63.6	2.0		-	-	69	86			26	71	24.6
Turkey	79	30.4	9.6	1985 [®]	126	92	50.8	2.15	18.1	2	5			25.0	25.4	24	70	66.3
UAE	4.7	21.9	0.9	2004 [®]	103	30	6.8	1.9		-	-	92	93	21.8	7.9	42	92	0.0
Yemen	24	68.2	8.3	1984 [®]	134	154	44.7	4.6	20.7 (05)	37	48	70	95	-	-	20	74	61.9

¹ FAO The state of food and agriculture 2010-11

² The World 1.2Factbook, CIA, updated October 2011, <https://www.cia.gov/librar10y/publications/the-world-factbook/fields/2012.html>

³ UN Treaty Collection 7 November 2011, http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-8&chapter=4&lang=en#EndDec

⁴ World Bank 2007-09, <http://data.worldbank.org/indicator/AG.LND.AGRI.ZS>

⁵ Poverty headcount ration at national poverty line (% of population), World bank 2007-2010 <http://data.worldbank.org/indicator/SI.POV.NAHC>

⁶ WHO country profiles 2010 and UNICEF statistics, *unemployment figures: ⁶ WB data 2007 – 9 and ILO

⁷ World Bank 2007-2009, <http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS> (f) <http://data.worldbank.org/indicator/SL.TLF.CACT.MA.ZS> (m)

⁸ FAO The state of food and agriculture 2010-11

⁹ UNDP, Jordan Human Development Report 2011, p.11

2. Women's role in agriculture in the WANA region

Agriculture is a key sector in all national economies in the WANA region outside of the Arabian Peninsula that consists mainly out of infertile desert land and depends heavily on food imports. Women, although often not visible in national statistics, have an important role to play in the agricultural production and food security. In light of continued population growth and the prevailing youth bulge, food security is agriculture. Women are independent farmers, wage workers in agriculture or contribute labor to family farms and subsistence agriculture.

The level and nature of women's involvement in agricultural work varies strongly between the different countries of the WANA region, their different regions and farming systems and by class and ethnicity.

Several key factors can be identified that help determine reasons for women's agricultural role in a country, besides social class and ethnicity. These are:

1. **The prevailing gender system**
2. **The political economy**
3. **The agricultural system**
4. **Relevant state policies**
5. **Gender policy**

Each of the determining factors will be assessed for the countries of the WANA region.

2.1 Gender systems in the WANA region

2.1.1 Gender as a concept

This study looks at women's role in agriculture, research and knowledge transfer in the WANA region. The definition of gender roles and the allocation of norms, values and social practices to them vary from culture to culture; so does the degree of tolerance for deviating behavior. Gender role allocation takes place and is constantly reinforced in a specific "gender system", a system of an institutionalized set of social practices, structures, norms, values, and expectations that differentiate males and females beyond biological traits and justifies resulting inequalities on the basis of these differences. The prevailing gender systems organize relations between men and women on the basis of apparent difference and inequality. Such systems affect development in the agricultural sector (as in any other sphere of development) by setting a framework of values and norms that determine agriculture-related behavior and individual actions. They determine how external changes (i.e., improved access to agricultural input, research findings or technology) will influence agricultural output. Prevailing gender norms and values also influence policy making, policy implementation, and the allocation of resources.

"Gender" is often used wrongly as interchangeable with "sex" and, in development policies and practices, used as synonymously with "women". FAO defines Gender as: *"the relations between*



men and women, both perceptual and material. Gender is not determined biologically, as a result of sexual characteristics of either women or men, but is constructed socially. It is a central organizing principle of societies, and often governs the processes of production and reproduction, consumption and distribution; gender issues focus on women and on the relationship between men and women, their roles, access to and control over resources, division of labor, interests and needs. Gender relations affect household security, family well-being, planning, production and many other aspects of life.”³⁶

While societies ultimately have to decide for themselves how to mold gender relations, justice and fairness in the relationship between the sexes, the rights that women and men claim, the norms that govern their room for self-determination is crucial for their development. This fundamental recognition came after decades of development work and advocacy. Terms such as gender equality, gender equity, women's empowerment, and women's rights have evolved. (For further details on gender concepts see annex 5)

2.1.2 The traditional gender paradigm and the patriarchal state

In the WANA region, a traditional patriarchal gender paradigm (or what the sociologist Valentine M. Moghadam names “patriarchal gender contract”) determines how women and men interact in the private and public sphere. This paradigm provides the binding framework not only of behavior expectations, norms and values, but ultimately the legal and regulatory framework that gives or takes rights and determines social obligations (i.e. in the Persona Status Law, the Labor Law etc.). In the WANA region, the patriarchal gender paradigm is closely linked with the ties and values of **kinship** as a cornerstone of society and the adhesive that holds extended families together.

“[Kinship] preserves and strengthens the individual's sense of self and identity and shapes his social situation. They are also the primary source of economic security. Kinship determines political membership and weaves a web of essential political resources. It also determines religious identities. The centrality of kinship has an impact on patriarchy: kinship transfers patriarchy to all social aspects of life.”³⁷

The underlying values and premises of the traditional gender paradigm extend into the **patriarchal state**. This implies that the male citizens are bound to their ruler by the same logic and assumptions that binds their women to them. In the WANA region The Arab Human Development Report concludes:

“Male control at the economic, social, cultural, legal and political levels remains the abiding legacy of patriarchy... The family continues to be the first social institution that reproduces patriarchal relationships, values and pressures through gender discrimination... Elements of modernity have reached into Arab traditional culture, within and across countries. Nevertheless, large social sectors still remain closer to tradition than to innovation. A girl pays a heavy price for asserting her independence in milieus where individualization in both the human rights and economic senses is weak.”³⁸

The traditional patriarchal gender paradigm rests on several assumptions:

1. Women and men differ biologically



2. Biological differences determine the roles and responsibilities of women and men in society. **Example from Turkey:** *A study of three villages in rural Turkey revealed that “none of women state getting their husbands’ help in domestic task”.*³⁹

The family, not the individual, is the central unit of society. Women and men have different, but complementary responsibilities; **Example from Jordan:** *The Jordanian National Charter states that “[t]he family is the basis of Jordanian society...”*⁴⁰.

3. Gender roles and functions of women and men provide the basis for the allocation of different but equitable rights.
4. The central institution on which society rests is marriage. Wedlock is the preferred state for adult women and men. Derived from her biological function, a woman’s role in marriage is that of a dutiful wife, mother and homemaker; the role of a man is that of a provider, protector (of women and children) and head of household;

Example from Jordan: *A recent study quotes “[t]he women spoke highly of their role as mothers: they referred to it as their destiny, and it brings status . . . a good wife [has a] clean house, well behaved children, food on the table and is ‘ready for her husband’ [i.e. sexually available and attractive]”.*⁴¹

Example for Tunisia: *In a family health study from 2000, two thirds of women believed that women who had no children had a lower social status.*⁴²

Example from Egypt: *In a 2010 adolescent survey in Egypt one in three young men believed that educating boys is more important than educating girls. Over 70 percent of young men and 41 percent of young women agree that a girl must obey her brother’s opinion, even if she is the older sibling.*⁴³

5. As provider, the man (or a male relative) retains the highest authority in the family; he is the ultimate decision-maker and represents the family in the public sphere.

*According to one Jordanian study, “[w]omen experience gender roles as constraints on their scope to make decisions concerning where they go, how they look, who they mix with, and their access to resources”.*⁴⁴ *It should be noted, however, that a similar hierarchical relationship also exists between a son, his father and male elders.*

6. Women’s interaction with the public sphere is channeled through her husband or male family members.
7. The honor of the family rest on the appropriate behavior of their females. Interactions between the sexes and mobility for women are limited so that a “code of modesty” can be maintained. The family honor and dignity rest on the behavior of the woman.⁴⁵

The World Bank report concludes that *“[t]his paradigm presumes that a woman will marry (early), that her most important contribution to the family and society will be as a homemaker and mother, that the household will be headed by a man who has a job that will allow him to provide for his family, that the woman will depend on the man for support, and that the man’s responsibility for supporting and protecting his wife and family justifies his authority regarding and control over his wife’s interactions in the public sphere.”*⁴⁶



Socializing and reinforcing the patriarchal gender paradigm

Although this prevailing gender paradigm is introduced and reinforced through education within both the family and society, it is the family that is the first social entity to install values, norms, and relationships of patriarchy in young children. Most particularly, it is the mother who introduces gender roles to her sons and daughters, who authorizes her sons to *"enforce the rules on their sisters"*⁴⁷ and who grooms girls for motherhood and marriage. Family and school education, local communities, media, proverbs and community narrative reinforce the patriarchal concepts and dichotomy of masculinity and femininity. While aggressiveness, competitiveness, dominance, decisiveness, risk-taking and toughness are popular characteristics of what constitutes a real man, women are seen as weak, emotional, in need of care and protection, indecisive and soft. *"Marginalizing women, both through acts of sex-selective violence and domination in the social sphere, can become a matter of affirming one's masculinity. As a result phenomenon such as domestic violence, female genital mutilation (FGM) and honor killings become socially acceptable in some societies."*⁴⁸ FGM is a widespread practice in the Nile valley, with 97 percent of never married women being cut in Egypt, 90 percent in Sudan, 23 percent in Yemen and 71 percent in Mauretania and in some areas in Kurdistan. In most of the other WANA countries, this practice is rejected or unknown.⁴⁹

How deeply rooted the values and norms of the patriarchal gender paradigm are in some of the WANA countries is illustrated in the findings of the 2010 adolescent study of the Population Council in Egypt. 80.4 percent of males and 66.7 percent of female adolescents believe a husband is justified to beat his wife when she speaks to another man. The percentage is 37.8 and 34.4 percent respectively if a wife refuses to have sex with her husband; and 42 versus 24 percent if a wife is accused of wasting money. In rural areas, the acceptance of wife battery is higher than in cities; the willingness to use force in a marital relationship decreases with education.⁵⁰

The prevailing gender paradigm and the patriarchal state

The prevailing gender system in the WANA region is closely linked to and reinforced by the current system of socio-political institutions and governance, codified through the constitutions, personal status law, labor laws, and the interpretation of religious texts and ultimately the patriarchal, centralized political systems of the majority of WANA countries. It is the

*"role of social institutions, such as laws, norms, traditions, and codes of conduct, ...[that] constitutes the single most important factor determining women's freedom of choice in economic activities and access to key resources."*⁵¹

The Jordanian constitution was drafted in 1952 and is still binding today as an example of how gender equality under the prevailing patriarchal gender paradigm is not integrated into constitutional rights. Women de-facto remain second-class citizens in their own countries. The Jordanian constitution, Chapter 2, Article 6 reads: "Jordanians shall be equal before the law. There shall be no discrimination between them as regards to their rights and duties on grounds of race, language or religion."⁵²

While the WANA region largely shares the patriarchal paradigm, there are significant differences between the countries. The status of women under Shari'a law varies considerably according the



prevailing school of jurisprudence in the country. For example, women enjoy greater rights under the Hanafi school in Iraq than under the Maliki school in Medina.⁵³

The oil economy and high wages for male labor migrants, combined with the industrialization and economic policies in the larger WANA countries, reinforced the patriarchal gender paradigm that codified in the WANA regions (with the exception of Cyprus and Malta). Family and Personal Status Laws are based on Islamic Jurisprudence and elevate fathers, husbands and male family members as guardians to their women-folk-, whatever their age. The Arab Human Development report 2009 states: “. If we look at how different rules of law are applied to equal legal positions, the Arab personal status laws that cover both Muslims and non-Muslims appear as an example of legalized gender discrimination.”⁵⁴

International, national and customary law and its effect on gender relations

While international law is largely equitable, national and customary law, as well as norms of religious origin, tends to be patriarchal and favorable towards men. How this affects women's access to land in rural areas is illustrated in the case of Pakistan. Although 67 percent of villages surveyed in a World Bank study reported a woman's right to inherit land, in reality women owned less than 3 percent of plots.⁵⁵ In Pakistan, following Islamic law, women's inheritance is one-half that of men in similar relationships.

*“[...] the rule in practice has been to deny women's control over their inheritance—of land in particular—and often their entire claim to it. This is especially true in rural Pakistan, where the tribal nature of social organization undermines female inheritance rights. Rather than emphasizing the Islamic concept of immediate family, inheritance practices emphasize the importance of keeping property within the larger (tribal) family, which is always headed by men. Another explanation for the low incidence of female land inheritance is families' routine equation of dowry (money or property brought by a bride to her husband at marriage) with a share of inheritance, though this is not legal and has been decried by government officials, activists, and civil society organizations in Pakistan.”*⁵⁶

In the realm of personal status or family laws, legislative reforms in the WANA countries have been slow and primarily within the framework of Shari'a law. The exceptions are the Non-Muslim countries of the region and Turkey that has an explicit secular legal system. Tunisia has enacted laws that, while incorporating Shari'a norms, improve the position of women. Turkey's Civil Code of 2001 has significantly improved the position of married women, where the husband is no longer the household head and men and women have equal status within marriage. A regime of community of property, with equal shares for both spouses has been enacted, a significant progress for rural women.⁵⁷ In Egypt, personal status matters remain even after the resignation of Hosni Mubarak- a battleground between traditional Islamists and progressive reformists.⁵⁸

Reforms in other countries of the WANA region have included Khula (women's right to divorce), the right of women to give citizenship rights to their offspring, establishing a minimum age for the marriage of girls, and ensuring the right to equal wages for men and women. With the exception of the Tunisian Personal Status Law and the Moroccan Family Code (Moudawana) from 2004, the prevailing family laws largely do not question the principles of the patriarchal gender paradigm. Jordan's family law remains very conservative and Iran's reformed Sharia-based family law was



abrogated by the Islamic state in 1979. Like in most other WANA countries, women in Jordan still require the permission of their husbands to work; the prevailing conservative social norms and values explain the very lower labor force participation of women in the country. The situation in Iran, from the outside, seems paradoxical. With a restrictive Personal Status Law in place, Iran's Islamic government has managed to provide even rural girls with an education; Iranian women are the majority in the country's universities. The gender division of labor, even within the household, is slowly starting to change.⁵⁹

Figure 2. Gender inequities in key indicators in the WANA region⁶⁰

	Divorce rights	Women's inheritance rights	Female Youth ¹⁰ literacy (male)	Female adult literacy (male)
Egypt	Law favors men	Half brother's share	82.0 (88.0)	57.8 (74.6)
Lebanon	Law favors men	Muslim's inherit half brother's share; non-Muslims equal	99.1 (98.4)	86.0 (89.6)
Libya	Equal	Half brother's share	99.6 (99.9)	82.0 (95.2)
Saudi-Arabia	Wives in general cannot initiate divorce	Half brother's share	96.5 (98.6)	81.1 (90.1)
Syria	Law favors men	Half brother's share	93.0 (95.8)	78.0 (90.4)
Tunisia	Equal	Half brother's share	95.8 (98.1)	71.0 (86.4)
Yemen	Law favors men	Half brother's share or less	72.2 (95.6)	44.7 (79.9)
Pakistan	Law favors men	Half brother's share		

Different from the remaining countries of the WANA region, Malta is 98 percent Catholic and has Catholicism as the state religion; it remains, compared to other European countries, socially conservative. However, like the predominantly Muslim states in the WANA region, legal regimes based on religious texts are never egalitarian. A UNESCO analysis states: "A religious state, as opposed to a secular state, establishes religion as a pertinent differentiating factor. This inequality, which is not only legal but also political and social, is also the case for women."⁶¹

The effect of the patriarchal gender paradigm on women and work

The norms and values that underscore the prevailing gender paradigm in Islamic law, as well as customary practices, place numerous obstacles in the way of women in the public sphere and any form of employment (including agriculture) that requires mobility, unhampered access to resources and bargaining power. Moreover, in the prevailing patriarchal gender paradigm women find social and family acceptance, and hence self-esteem, not in a successful career or increased agricultural productivity, but in running a household and ultimately bearing and raising (male) children.

¹⁰ Youth: 15-24 years of age, Adult: over 15 years, figures: 2009 or older



The gender-differential treatment of women and men under the prevailing Personal Status Laws or Family Codes limits women's ability to compete in the labor force and the agricultural sector. Despite the introduction of *Khula*, the largely unilateral right of husbands to divorce and a wife's legal obligation of obedience to her spouse, women's decision-making and entry into the public sphere has been limited. The potential loss of custody of her children also serves as a powerful threat for women to stay within socially accepted norms of behavior. Norms and regulations that were initially put into place to protect the family under the auspice of a male provider and head of households are maintained under all costs and in a changing world limit women's ability to provide for her family when the income earner is absent, unwilling or unable to fulfill his duties.⁶²

While the vast majority of women in the WANA region live under a similar gender paradigm the individual lives of women are also determined by: social class, ethnic background, level of education, place of residency, stage in the life cycle and level of education. The urban, multi-lingual and well-educated women of the economic elite in most countries have very little in common with rural peasant women. Ideologically and politically, women cover a whole spectrum from liberal and secular to nationalist or a supporter of an Islamist movement. The traditional patriarchal gender paradigm is slowly changing, but it remains most prevalent among rural and lower income groups in the WANA region.⁶³

2.2. The political economy

It is the political system and economy of a nation that sets the framework for human development. Political systems in the WANA regions range from theocratic monarchist (Saudi Arabia), Theocratic Islamist (Iran), Catholic democratic (Malta) to secular (Turkey and Greek Cyprus). Until the beginning of the Arab Spring, "political scientists have used various terms to describe the states in the Middle East: "authoritarian-socialist" (for Algeria, Iraq, Syria), "radical Islamist" (for Iran and Libya), "patriarchal-conservative" (for Jordan, Morocco, Saudi Arabia), and "authoritarian-privatizing" (for Egypt, Tunisia, Turkey)."⁶⁴ With the exception of Malta and Cyprus, the political systems of the WANA countries can be summarized as "centralized patriarchal states; "rentier, authoritarian, and, for the most part, culturally conservative."⁶⁵ Despite recent gains of female representation in the WANA region, government bodies and decision-making on the national level and representative bodies, is largely in the hands of men. The result is that women are doubly-wronged:

"the dominance of the modern nation-state impedes their full enjoyment of civil and political rights, while the law binds them to the guardianship and protection of their male relatives in all areas of their individual human rights...Thus, the social contract applied to Arab women remains mired in patriarchy and nowhere approaches that of "the fraternity of men".⁶⁶

The political system is closely linked and in an almost symbiotic relationship with the prevailing gender system. It is not a coincidence that the prevailing system of governance in most of the WANA countries upholds the patriarchal traditional gender paradigm. The interdependence between state governance, legislation and patriarchal social systems that is currently being challenged in the "Arab Spring" is clearly delineated in the *Arab Human Development Report of 2005*:



"...bureaucratic rigidity, the expropriation of different social and civic initiatives and the system of the local dignitary (a man, of course) as the sole intermediary between authority and society held women's rights hostage to the nature and vicissitudes of power. The symbiotic relationship between state authority and patriarchy saw to it that these early achievements soon became opportunities for personal gain. The position of women thus continued to deteriorate with the retreat of citizenship rights and the return of organic patriarchal rights as the final means of self-defense of a society forbidden to engage in the various forms of civic activity. Relations within the family have continued to be governed by the father's authority over his children and the husband's over his wife, under the sway of the patriarchal order".⁶⁷

The fact that most reforms of women's rights in the WANA region have been introduced by orders from the top and not because they were demanded by the majority of people is linked to the "feminization of the state" that began in the countries of the WANA region in the aftermath of the 1975 First United Nations World Conference on Women in Mexico. First ladies, local elites and president's wives, queens and Sheikha until today carry the banner of women's rights largely by sidelining or co-opting local women's movement and by ignoring the structural causes of discrimination that originate in the authoritarian, patriarchal governance of their husbands. What was started by Jenan Sadat in Egypt in the 70s continues to date and what was given by one hand was also often taken by the other. The recent announcement of King Abdullah from Saudi Arabia that Saudi women are to be given the right to vote and run in future municipal elections is a case in point.⁶⁸ Kuwait introduced female MPs, at the Emir's insistence, but has introduced gender segregation in Kuwaiti universities.

Women's growing representation in the last decade has come to play as a concession on the part of many Arab countries to international pressure. *"The latter accepted the formal incorporation of women into their cultural projects on condition that they remain a mute, motionless presence."*⁶⁹

An UNRISD analyst illustrates this instrumentalization of women's rights for Tunisia under the presidency of Ben Ali: *"In addition to helping control the domestic political scene, women's rights became an avenue for the regime to find favor with the so-called democratization agenda of the international donor community (especially the US and France). Compliance with gender conditionality's – such as creating dedicated national machineries inside the state to monitor gender equality, or increasing women's political representation through gender quotas – represented a relatively soft option for President Ben Ali's authoritarian regime, instead of moving towards more genuine democratic participation and a social justice agenda. Progress on women's rights issues were thus deployed as a democratic façade of a non-democratic regime."*⁷⁰

2.1 Changes in political economy- globalization, economic liberalization and decentralization

It is important to take a closer look at how the changes in the political economy of the region, primarily **globalization**, **economic liberalization** and **decentralization** of government administration, have transformed gender patterns of rural work and affected women.

FAO notes that *"Even if it is difficult to tell because of limited statistics, women seem to be participating in the general movement out of agriculture – but at a slower pace than men."*⁷¹ Trade



liberalization policies and the shift to export-oriented, high-input and value crops in many of the WANA countries have mostly encouraged corporate agriculture, favored larger producers and excluded smallholder farmers. While globalization, in principle, opens up rural employment opportunities for women and men, without carefully designed supportive policies, it can transfer costs and risks to the weakest groups in society and increase their vulnerability – in agriculture these are smallholders, landless farmers and rural women. Research has clearly shown that small farm producers often do not have the resources or the access to compete in international markets; they have to compete with food imports into the domestic market. Constraints are manifold, from land tenure, lack of transport and infrastructure, unfavorable credit conditions, lack of access to know how and international markets, innovation and technology. As input into commercial agriculture becomes more expensive, food becomes less efficient to produce and male farmers are increasingly abandoning or selling their land or migrate to the cities or abroad. The trend in the WANA region, like in the rest of the world, is the increasing concentration of land in the hands of a few large land-owners, commercial agri-businesses and foreign companies.

Egypt provides a case example of the effect of liberalization and the speed in which it affects small landholders. In October 1997, a new land law that abolished inheritable tenancies and removed rent controls went into effect. Consequently, land rents rapidly doubled and tripled. A study in the Beni Suef governorate immediately after the law became operative revealed that over 40 percent of randomly selected households had lost all or part of the land that they had been cultivating due to the sudden increase in rents. Families tried to cope with the loss of their livelihood by seeking wage labor in the agricultural and construction sectors.⁷²

This development is further exacerbated by the increasing water scarcity, making water for agriculture an increasingly precious and expensive good. Yemen illustrates graphically the consequences of these developments, increased depletion of natural resources, increasing workload for rural women and girls, declining food security, increase of rural poverty and civil strife. Growing land pressure in countries such as Yemen, Somalia and Sudan is curtailing women's involvement in traditional low input 'survival agriculture' that contributes to family nutrition and storage for times of crisis.⁷³

The consequences of women farmers are often dire but they do provide opportunities. A study of women in agriculture in Turkey lists "a decrease in agricultural land and businesses, changes in agricultural trade, migration, and abandonment of rural areas are observed; on the other hand, apparently more positive developments such as organic farming, increasing mechanization, and businesses that become increasingly more capitalist are observed."⁷⁴ The example from Turkey below illustrates the shift in women's role in agriculture with changes in type of agriculture and farm size.

1. In large farms and agribusiness, women do not work in the fields. Production, management, supervision and marketing are the realm and responsibility of men. Women may give limited management and supervision responsibility if needed. *(In societies with a traditional patriarchal gender paradigm, women tend to lose their traditional role as well as crops from small-holding and subsistence farming when small-holdings are concentrated in*



- agribusinesses. If the local culture permits, women have employment opportunities as seasonal laborers, but salaries are usually very low and protection is often non-existent.)*
2. In medium sized farms, women take on labor intensive work and men are responsible for mechanized agricultural labor and marketing. *(In commercial crop- farming, women farmers are often requested to increase the amount of time they spend on their husbands' plots. Their unpaid workload hence can increase and the time women spend on their own plots (often for family consumption) can decrease. Women often have no access to the income generated from their farm labor. Studies have shown that when traditionally female crops are commercialized, they are taken over by men.)*
 3. In small farms with subsistence agriculture, men often search for non-agricultural labor and women take on subsistence farming, production of crops, dairy and other home production and animal husbandry. In small and medium sized farms, women have a much higher workload than their men-folk; they shoulder the heavy manual farm labor in addition to household and childcare duties. *(It is on these farms that women lose out and their workload increases.)*
 4. In landless rural households, women and men both take on seasonal labor in the village or migrate to the city or other rural regions. Women in these households are often also involved in home-production, house-gardening, livestock and raising poultry.⁷⁵

Migration from rural areas in the countries of the WANA region into cities and neighboring countries is increasingly a crucial livelihood strategy for small and landless (mostly male) farmers. Women are often left with the main responsibility of providing for their families and, if society permits, moves into the agricultural employment that men vacate. The Turkish case study illustrates how women in rural areas of Turkey are affected by these changes. The decrease in income from agricultural work led to men leaving the sector and women taking some of their places. In Turkey, the agricultural sector has the highest ratio of women's employment (46.1 percent compared to 18.9 percent for men). The data clearly shows that non-agricultural work opportunities that were created in rural Turkey primarily benefitted men, leaving women with lower paid agricultural work with a heavier workload. A recent study concludes: *"The majority of women working as unpaid family workers in agriculture without social security lost their job due to recent agricultural policies and some moved to cities to find a job. A small number of women who were able to find a job work in unrecorded working fields without job safety and social security."*⁷⁶

A FAO study noted that while small landholders suffered most from agricultural policies that put an emphasis on corporate agriculture, small farm households have survived through diversification of their livelihood. Off-farm activities such as "tourism, catering and other service activities" offered income and is expected to grow in importance, especially for poor households.⁷⁷

The phenomenon of male out-migration is not new. The oil boom in the 1970s and 1980s was an incentive for men from the countries of the Fertile Crescent, Tunisia and Yemen to migrate into the oil-producing Gulf countries and Libya. Women, especially in Egypt, Tunisia and South-Yemen, entered into the male-dominated agricultural sector. This oil boom caused large-scale intra-regional labor migration to oil-rich states. Male migrants from Jordan, Tunisia, Egypt, Lebanon, Syria, and Yemen left to Libya, Saudi Arabia, Kuwait, and the UAE for work in the oil sector. This affected labor



markets; women made inroads into the male-dominated agricultural sector. Tunisia and South Yemen were most affected by this trend.⁷⁸

The increase in **corporate agriculture** has sped up resource depletion in most WANA countries. Water resources are depleting at an increasing rate and water pollution through agro-chemicals has increased in all WANA countries with significant agricultural production. Legislative framework to regulate the use of agro-chemicals is weak and, where they exist, enforcement is slack. This affects primarily the health of public water consumers, but also agricultural laborers. Pakistan and Egypt, where women have a vital role in cotton picking, provide examples of how women's health (and that of their children) is negatively affected by pesticides.⁷⁹

The trend of trade liberalization has been mirrored by the **allocation of international aid**. Analyses of global aid flows reveals that they are skewed in favor of large projects in 'hard' sectors such as infrastructure and industry, with social sector projects at low priority. Agricultural aid is often allocated to increase a country's agricultural export. However in recent years there has also been a growing effort of development organizations to include women-specific initiatives. One of such organizations is the International Fund for Agricultural Development (IFAD) whose regional Middle East and North Africa division faced the following challenges in reaching out to women in agriculture:

"Among them are ill-equipped local agricultural institutions that are not set up to work with rural women. The government agencies that implement IFAD-sponsored projects have administrative and financial procedures that are not adapted to gender mainstreaming. They often lack a special budget for women-related activities. Budgets still often go to activities that target men. Staff working in projects lacks knowledge of gender and development. Although there is a need for gender training, projects often give preference to technical training that yields instant results, such as increases in productivity. Considering these institutional constraints, gender mainstreaming is a matter not just of cultural change or additional investments, but also of institutional change and reorganization."⁸⁰

2.3. The agricultural system

The patriarchal gender system provides the basis for what Boserup classifies as a 'male farming system' that is still prevalent in most countries of the WANA region. It is characterized by a "high incidence of landlessness, high levels of agricultural wage labor, inheritance through male lines and a lower presence of women in the fields due to strict norms of female seclusion resulting in women concentrating mainly on tasks within the home."⁸¹ A FAO study found some of the broad structures identified by Ester Boserup, and patterns similar to those of the 'male system' still in place "in the MENA region, in parts of South Asia (especially Pakistan, Afghanistan and Bangladesh)."⁸²

The WANA region is characterized by diverse agricultural systems, reflecting the geographic diversity of its countries.⁸³ Arid and semi-arid predominate with a low and variable rainfall pattern. The coastal areas have a Mediterranean climate with dry summers and wet winters. The region's agricultural systems can be classified into the following categories:



Figure 3. Agricultural systems in the WANA region – overview ⁸⁴

Agricultural system	Countries	Gender roles	Livelihood	Poverty Prevalence
Irrigated-large scale	Egypt, Sudan, Iraq, Syria, Turkey, Saudi Arabia, Pakistan (sub-surface water)	Women: planting, weeding, harvesting, packing, Men: irrigation, input supply & marketing	Fruits, vegetables. Cash crops	Limited
Irrigated small-scale	Can be found across the region	Same as above Women: small ruminants & poultry		Moderate
Highland Mixed	Iran, Morocco, Yemen, Pakistan	Same like above in addition Firewood, fodder & water provision for women	Cereals, legumes, sheep, off-farm work	Extensive
Rainfed Mixed	Coastal areas of Malta, Cyprus, Morocco, Algeria, Syria, Turkey and Iraq	Women: home gardens Harvesting, food processing, off farm work (small scale marketing) Men: input supply & marketing	Tree crops, cereals, legumes, off-farm work	Moderate (for small farmers)
Dryland mixed	Coastal areas of the Maghreb countries and Lebanon	Women: livestock care, milking, fodder preparation Men: marketing, off farm work	Cereals, sheep, off farm-work	Extensive for small farmers
Pastoral	Mauretania, Algeria, Morocco, Tunisia, Egypt (Sinai), Jordan, Syria, Iran, Sudan, Somalia	Women: livestock care, milking, fodder preparation, fodder & water provision for Men: marketing, off farm work	Sheep, goat, barley, off-farm work	Extensive for small herders
Sparse (arid)	Algeria, Tunisia, Morocco, Libya, Somalia, Sudan, Saudi Arabia, Oman, the gulf countries, Iran	Women: support men in animal husbandry Men: animal breeding Off-farm work	Camel, sheep, off-farm work	Limited
Coastal Artisan fishing	The coastal areas of the WANA region- declining	Men: fishing Women: processing & marketing	Fishing, off farm work	Moderate
Urban Agriculture	With the exception of the Gulf countries across the region	Women: subsistence Men: commercial	Horticulture, poultry, off-farm work	Limited

Irrigated farming systems have long been crucial in the arid and semi-arid countries of the WANA region and are still generating much of the region’s agricultural production. Historically, large-scale irrigation systems could be found on large river-valleys along the Nile and the Euphrates. Pakistan has the world’s largest contiguous irrigated area in the Indus Basin Irrigation System. Large-scale irrigated farming is characterized by intensive year-round cropping, by both owner-occupiers and tenants. Cash and high value crops, vegetables and fodder are common, as are livestock, buffalos, cattle and small ruminants. In the last decade, deep drilling and pumping technology as well as the exploitation of subterranean aquifers made high-value and non-traditional cash and export cropping possible across all agricultural zones in the region. Under trade-liberalization and export oriented, high-value crop agriculture in this farming system led to significant social change (as outlined previously) and resource degradation- primarily water and soil (extreme examples are the Sana’a Basin in Yemen, the Souss Plain in Morocco, the Bekaa Valley in Lebanon). In large-scale agriculture, women in the WANA region often are recruited as cheap agricultural labor in planting, weeding, manual pest management, harvesting and packaging. Their daily wages are often a third less than that of men and labor protection, if in place, is often not enforced.

New forms of organization in supply chains for export-oriented crops and agro-processing in the WANA region have created better-paying employment opportunities for rural women. Wages are



often higher and working conditions better than in traditional agricultural employment. Particularly in the packing of non-traditional agro-export products, women in the region find employment.

Small-scale irrigated agriculture is practiced widely across the WANA region, primarily in the plains and on terraced hillsides. Land holdings are small (of 1ha or less) and often within the boundaries of larger, rain-fed systems. While small-scale irrigated agriculture does not produce the quantity of output as large-scale irrigated farming, it ensures the survival of people in the region's arid and remote mountain areas. Small-scale irrigated farming develops along perennial streams, at oases and where flood and spade irrigation is possible. Competition over scarce resources, especially water, is high between small-holders and those with large irrigated farms with better access to pumps and water drills. Consequently, water shortage and food deficiencies are challenges that face farmers in this system.

Jordan and Egypt are typical for women's role in small-scale irrigated agriculture. Egyptian and Jordanian women assist the male farmer (husband or father) in his tasks; their level of decision-making, however, is very limited and largely focused on agricultural tasks (like food preservation) that are linked with a woman's traditional role. Small-scale farming is becoming less and less productive in most WANA countries. While men seek other forms of agricultural or non-agricultural employment, elderly women stay behind and continue farming. In Jordan a younger generation of women, significantly better educated than their mothers, are looking for more prestigious and less backbreaking work- primarily in the (however shrinking) public sector of Jordan. It is in this category of farming that women's role in paid seasonal or daily agricultural labor in large-scale agriculture increases.

Modern agriculture often promotes the growth of **contract farming** or out-grower schemes for high-value produce through which large-scale agro processing firms seek to ensure their supply. As in most other agricultural regions of the world, female farmers in the WANA region are largely excluded from modern contract farming arrangements because they lack the access to vital resources that guarantee product delivery. As the example from Turkey shows while men hold the contracts, much of the farm work done on contracted plots is indeed done by women as family laborers.⁸⁵

The **highland mixed agriculture** engages the largest number of people in the WANA region but covers less than 10 percent of the region's land-mass. This agricultural system encloses two overlapping sub-systems: the first produces primarily rain-fed cereals, legumes, tree and fruit crops; the second revolves around raising livestock on communal land (Iran, Morocco), seasonal migration and a high risk of poverty. In the last decade, the highland mixed agricultural systems have suffered from soil erosion, water scarcity and labor migration into cities.

Poverty pockets in the northwestern highlands of **Tunisia** illustrate the challenges that households face in highland mixed agricultural systems. Tunisia's Northwest region is home to 15% of the country's population, with an average of five times the country's average population density of 67 inhabitants per km². Agro-ecological conditions are very challenging and public infrastructure and support services are weak. High population density, non-adapted agricultural practices, livestock pressures, poor quality soils and heavy winter precipitation lead to soil erosion and degradation.



The region has a large forest cover on communally-held and state-owned land. The average cropped or pasture land per person is less than 3 ha. Traditional inheritance practices have resulted in severe land fragmentation and non-viable farms. More than 70% of individual land is not registered or lacks a title. Approximately 60% of households raised livestock, although meat and milk yields are low due to poor livestock breeds and inadequate feed quality and quantity. At least 30% of areas are cropped with cereals, another 30% with fruit trees, slightly less than 20% with legumes, fruits and vegetables, and the remaining 20% left fallow. An unemployment rate of 16 percent is above the national average. Illiteracy, particularly among women, is widespread which constraints their access to vital resources for agricultural production.⁸⁶

Rainfed mixed agriculture is practiced on only a small fraction of the region's land (less than 5 percent), but involves four times the number of people. Rain fed agriculture is characterized by tree-fruit cropping and cattle herding with winter irrigated cropping of wheat, barley, chickpeas and fodder crops. Family income in rain fed agricultural areas is often supplemented with income from male labor migration. Farmers increasingly have less access to quality land and soil erosion is a challenge. Farm sizes are growing when farmers move to seek employment in the cities and vacate their plots. This increases the pressure for mechanization and supplementary irrigation. Smaller farmers rely more and more on off-farm income for survival. Initially, women's workload increases with the introduction of mechanization (a male domain); women farmers get marginalized. In coastal areas, rainfed mixed agriculture is under pressure from urban sprawl, land speculation and tourism (especially in the Maghreb and Lebanon).

Smallholding farmers (women and men), pastoralists and farmers in highland mixed and rain fed farming are often the least educated group of the population. The patriarchal gender paradigm is often stronger in these rural and more remote population groups in other farm systems. Women farmers of this group are at a double disadvantage. Their access to education, extension, input, markets and off-farm income is limited and they are often under stricter male control than their peers in peri-urban areas or in the vicinity of cities.

Dry land mixed agriculture is predominant in dry sub-humid areas with annual rainfall slightly above 200mm. Average farm size is larger than in other agricultural systems and population density lower. Main crops in farming system are cereals, primarily barley and wheat grown in rotation. Cereal farming is substituted with livestock herding, cattle and a large number of small ruminants. The dryland mixed agriculture of the WANA region is dependent on annual rainfall and is extremely draught-prone with resulting high risk of food insecurity. Families increasingly resort to male labor migration into cities for survival. More remote areas have poor market linkages and poverty among small farmers.

Forestry management plays a significant role in the WANA region that is largely arid. Women are involved in the formal and informal forestry sector in agro-forestry, watershed management, tree improvement, forest protection and conservation. In pastoralist and mixed highland agriculture, women are responsible for firewood collection which can be a protective as well as destructive force. When forests retreat, as it is the case in Sudan, Somalia and Djibouti, female labor increases.⁸⁷



Pastoral farming: A quarter of the land in the WANA region is used for pastoral farming, primarily sheep, goats, some cattle and camels. Population density in the semiarid steppe land is low, with the exception of the land around irrigated settlements. Seasonal movement of livestock into humid areas and cattle sales to urban centers links pastoral farming with other agricultural systems. Pastoral herds are often (fully or partially) owned by city residents. Poverty of pastoralists is extensive. When the quality of land and access to water allows women often supplements the family diet with small crop production.

In pastoralist and mixed farming systems, raising livestock plays an important and women are heavily engaged in the sector. A saying in Sudan goes “Where there are beasts, there is life!” They share responsibility with men and children for the care of animals; particular species and types of activity are more associated with women than men. When tasks are divided, men and boys are more likely to be involved in constructing housing, the herding of grazing animals, slaughtering, shearing and marketing. Women are often responsible for animal health-care, milking, dairy processing for market and home production and home-stead feeding. The closer activities with animals are associated with women’s reproductive role, the closer to the household the animals are kept, the higher women’s involvement in their care and management. Poultry and pigeon farming (with the exception of commercialized chicken farms) is often a woman’s affair to the extent that in Pakistan poultry rising is dominated by women. Smallholders and women worldwide (and in the WANA region) face serious challenges when animal husbandry concentrates in the hand of a few large farmers.. While women often have to hand over to a man when the number of animals increases, small holders go out of business.⁸⁸

Sparse and arid agriculture

Arid land and vast deserts cover over half of the WANA region. Despite its vastness, the land is home to only approximately 5 percent of the region’s population. Population density is very low and concentrates around oases and irrigation schemes. The pastoralist raises camels, sheep and goats and use the fodder of the systems irrigated as cropland for their herds. Desert oases and large irrigation schemes produce dates, fodder and vegetables. The boundary between pastoral and sparse agriculture is hard to draw and shifts with climatic conditions. Pastoral farming will remain important with the growing demand for meat in the cities. Desertification and resource degradation is a main challenge for pastoralists, resulting in complex demographic, economic and social changes.

Coastal artisan fishing is found along the Mediterranean, the Atlantic Ocean, the Red Sea, the Gulf coast and the Arabian Sea. While artisan fishing is almost exclusively a male affair, women provide labor in fish processing. In Egypt, Yemen, Cyprus and Turkey, women have a role in small artisan fishery, primarily in net-making, net maintenance and repairs as well as in marketing. Women in Egypt and Turkey also work fish processing. Morocco illustrates the diversity of work women do in fishery:

1. Fisherwomen are involved in collection of shells or seaweeds and fishing sea urchins, crabs and octopus
2. Fishermen’s wives and daughters (in the coastal rural areas) assist their husbands in fish processing



3. Women workers in the processing industry in Morocco account for 67 percent of the labor force in the sector
4. Highly-qualified degree holders in marine research and industry.⁸⁹

In Mauritania, women provide labor in dam and dike building in the Assaba region.⁹⁰ However, with the growth of the off-shore and commercial fishing industry, artisanal fishing is declining and women's work in the sector shifts from artisan fishery to agro-processing.

Urban Agriculture Urbanization is one of the most powerful drivers of global development. Urban agriculture, primarily horticultural and livestock production (poultry), is increasingly important in the large population centers of the region. Urban agriculture in the WANA region can look back to the tradition of irrigated agricultural belts around the old Arab cities, such as Ghouta that surrounded the city of Damascus. However, modern urban agriculture extends into the city and creates a green infrastructure that is contrary to the traditional notion of parks inhabited and productive.

Although urban agriculture currently it is practiced by a relatively small number of city dwellers in the WANA region, its potential is obvious. The RUAF Foundation, one of the main actors in urban agriculture notes: "Next to food security, urban agriculture contributes to local economic development, poverty alleviation and social inclusion of the urban poor and women in particular, as well as to the greening of the city and the productive reuse of urban wastes."⁹¹ Initiatives and research programs in urban agriculture are under implementation across the WANA region. One of them is the Urban Agriculture Project in Casablanca with its four large pilot projects on Urban Agriculture and synergies with industrial wastewater reuse, informal settlements, peri-urban tourism and healthy food production (including a pilot initiative with local women farmers). The project with its 65 research team since five years focuses on the "integration of the existing agricultural use in the Grand Casablanca into urban development and on its transformation from a classic rural land use category into a multifunctional green infrastructure."⁹²

Amman Greater Municipality in Jordan is also currently implementing an "Urban Agriculture Project" that is promoting vegetables farming in home gardens and along green areas in the city of Amman. The Ministry of Agriculture is member of the project's steering committee and Amman Agricultural Directorate is responsible for implementation.

Urban agriculture holds much potential especially for low income women in marginalized urban areas. However, this potential can only be realized if planners and implementing agencies actively and with priority include urban women in planning, innovation and implementation of urban agriculture initiatives.

Change in the agricultural systems

The chapter above outlines the different agricultural systems prevalent in the WANA region. Rural areas are multifunctional dynamic systems that encompass different land-use activities. While agriculture often provides the backbone of the local economy, rural employment also includes industry, non-agricultural labor, forestry, recreation and tourism. Agricultural systems have been affected by economic restructuring, change in agricultural production, population growth and climate change. In most WANA countries, the urban population is growing and city migration is rife.



With economic liberalization and globalization, agriculture is commercialized and concentrated in the hands of large agricultural producers, highlighting the need to create non-agricultural employment in rural areas.

The WANA region has seen change in **social systems**. In the arid and semi-arid countries and areas of the WANA region, large portions of the population were historically leading a nomadic or semi-nomadic pastoral life or gathered crops. In the 20th century, most of these settled down. For example, only 5 percent of Jordan's Bedouins in the Eastern Badia region still lead a Nomadic lifestyle. In many areas overgrazing, deforestation, and soil-degradation in rain fed and irrigated agriculture was the consequence.

With the change in lifestyle, the **mode of agricultural production** also changed. Modern agricultural tools have been introduced, some of them inappropriate and leading for further erosion of the soil. In most countries of the WANA region, resource degradation has led to an ever-increasing workload of rural women that are responsible for household management and require water and fuel to feed their families. Western Sudan is an example, where the illustrated change in social system, agricultural production, degradation of natural resources and with population growth led to large-scale tribal warfare.⁹³ It is a striking phenomenon that large-scale and often sexual violence, primarily (but not limited) towards women, is intimately linked with resource-induced tribal warfare. Algeria is another example, where 44 percent of cultivated land in Algeria is at risk of desertification due to the transition from traditional animal husbandry and agriculture to modern systems.⁹⁴ In most affected countries, the consequences are not as dramatic as in Sudan, Algeria and Somalia, but unemployment and poverty in rural areas is set to rise. Smallholder farmers, pastoralists, landless farmers, rural women and unemployed youth are at risk of being the most affected.

2.3.1 Influencing factor: Climate change

"We must all hang together, or most assuredly, we shall all hang separately." (Benjamin Franklin 1776)

Major change factors impacting the agricultural systems in the WANA region, the rural population and food security is the change in climate. A current UNPD report notes "Climate change presents a new and real threat of severe environmental, economic, political and security impacts in the Arab region [...] Climate change is likely to act as a risk multiplier, aggravating water scarcity. Water scarcity on the other hand threatens food security by reducing agricultural productivity, as well as hindering human health and economic development; water scarcity can also lead to additional environmental stress, as well as increase tensions within and between nations sharing water resources."⁹⁵

The MENA region, affected by the **highest level of water scarcity** in the world, is considered one of the most vulnerable regions to climate change. Scenarios include an increase in temperature of up to 2°C in the next two decades and over 4°C by the end of the century. The climate is expected to get hotter and drier, leading to a significant decline in renewable water resources and extreme weather conditions, such as droughts and floods. The 2010 floods in Pakistan and drought in the Horn of Africa are believed to be climate induced. The region's agriculture will be especially hard



with its dependency on seasonal rains and economic/agricultural activities in coastal zones. WANA's countries in crisis that are currently embroiled in resource scarcity-induced conflicts might see a further deterioration. Grassland and livestock agriculture that is primarily found in marginal areas will be hardest hit. Vulnerable social groups and the poor are increasingly at risk. Mediterranean countries like Jordan, Egypt, the Palestinian territories and Lebanon are expected to see a reduction in rainfall and increase in desertification. A 1.2°C increase in temperature is projected to decrease water availability in Lebanon by 15 percent because of changed runoff patterns and evaporation. Projections for Syria envision a 50 percent decline in renewable water availability by 2025.⁹⁶

The Sub-Sahara countries, Djibouti, Somalia, and Sudan are expected to see increased **desertification**, and loss of productive land and **extreme weather** events. Tropical diseases such as malaria, yellow and dengue fever might spread further north. Competition for Nile water is expected to rise, with an increase of population pressure and dwindling water resources. The Gulf countries, under models of climate change, could see an increase in underground water salinity, land degradation, loss of biodiversity on land and in marine life, and flooding of coastal areas with threats to the region's desalination plants.⁹⁷ The Arabian Peninsula might also expect more extreme weather conditions and flash floods.

With WANA regions' high dependency on scarce water resources, all climate change scenarios point to significant affect on **food security**. In rain fed areas, agricultural yields will fluctuate more widely and decline on average. A recent study estimated a reduction in agricultural output for the region as a whole of 21 percent in value by 2080, with countries like Algeria and Morocco even further hit with up to 40 percent loss. Countries with a high need of fuel wood for energy, such as Sudan, Somalia and Yemen, deforestation and extension of agricultural land are foreseen.⁹⁸

The scenarios outlined above are already being witnessed, but are set to accelerate. Pakistan has seen severe floods in recent years; the grassland of the Sahel is shrinking; Maghreb countries such as Algeria and Morocco have witnessed severe flash floods; Somali and Djibouti currently face a severe draught. The different socio-economic groups in the countries of the WANA region will be affected differently, as will women, men and children. Small-scale farmers, fishermen and foresters whose livelihood largely or exclusively depend on agriculture and agriculture-related businesses which already comprises 75 percent of the world's one billion hungry that will be hardest hit.⁹⁹ Under the restrictive conditions of the patriarchal gender paradigm, women's coping ability will be severely restricted.

In the crisis countries of the WANA region, climate change effects are compounded by the impact of local and regional strife and war on agricultural resources. **Iraq's** agriculture is severely affected by decades of war and insecurity. Investment has been lacking; thousands of trees were felled for "security" reasons and as firewood; soil salinity has increased, as did desertification in the hardest hit areas. Formerly fertile agricultural land has been transformed into semi-arid desert that is plagued by frequent sandstorms. Water levels in Iraq's Euphrates and Tigris rivers have fallen with below average rainfall and dam constructions under way in Turkey and Syria.¹⁰⁰

The effects of climate change are unequal by the poor and disadvantaged groups. The UNDP HD Report concludes in 2008: *"Gender inequalities intersect with climate risks and vulnerabilities.*



*Women's historic disadvantages—their limited access to resources, restricted rights, and a muted voice in shaping decisions—make them highly vulnerable to climate change.*¹⁰¹ Pakistan is similar to **Yemen, Sudan** and **Somalia** due the increasing population pressure, over-grazing and desertification, women face an increasing burden to feed their families and provide basic resources such as water and fire-wood. Slash-and-burn agriculture has destroyed two-thirds of Sudan's forests and women need to cover longer (and riskier) distances to collect firewood. Near major rivers, soil erosion has increased flooding, contaminating drinking water and spreading water-borne illnesses, such as cholera. In Yemen and Somalia, with the falling of ground water levels, rural women and girls have to make longer and longer trips to water sources to provide drinking water for their families, affecting girls' school attendance and their physical development.

Pakistan's 2010 monsoon flood directly affected 14.1 million people. The damage to the agricultural sector was unprecedented. More than 2 million hectares of standing crops, 1.2 million heads of livestock, fisheries and forestry were destroyed. The primary infrastructure such as tube wells, water channels, household storages, 1.1 million houses, animal sheds, personal seed stocks, fertilizers and agricultural machinery were also destroyed. The flood damaged transport infrastructure, roads and bridges and hampered access to markets. Household food security deteriorated rapidly in the affected areas from previously around 10 percent to up to 76 percent. As predicted in the climate change scenario for the WANA region outlined above, it affected primarily the already vulnerable, families of small farmers and unskilled laborers that lived already largely below the national poverty line. Over 60 percent of affected flood victims in Pakistan lost immediate access to their primary livelihood.¹⁰²

The gender dimension of the flood and of food-security is illustrated in the report of a consultative meeting with women from all affected areas that was convened by UNIFEM in the immediate aftermath of the flood: “[...] women had been sidelined in the relief efforts. Aid was being distributed by men to men, and women did not have equal access to assistance. In many cases, local men would even hinder aid workers in approaching women. Furthermore, women and girls were facing serious problems of harassment and violence when trying to access aid and living in displacement camps.”¹⁰³ Floods like the one that severely affected Pakistan have another sinister gender bias; in countries with a patriarchal gender paradigm they tend to claim far more female victims because their mobility is restricted and they have not been taught to swim.

In the WANA countries with an important agricultural sector, rural women are often the primary producers of staple food. This agricultural sector is particularly vulnerable to draught, fluctuation in rainfall and flooding. With declining water resources, rural women in countries like Yemen, Somalia, Djibouti and Sudan (and in pastoral communities), have to make longer journeys every day to provide water for their households. In rural communities, women manage household water resources and develop coping strategies to maintain family health and nutrition with declining quality and quantity of water resources. Agro-pastoral and pastoral households that rely on livestock for their livelihoods are especially affected by draughts that are currently affecting the Horn of Africa. Massive droughts and floods often trigger a wide range of health problems from diarrhea, skin problems and mosquito-borne diseases like malaria and dengue fever. With women responsible for family health, their work-load is likely to increase under climate change conditions in the WANA region. It is important to keep in mind that for marginalized families the after effect of



natural disasters might have long-term consequences. Experience in Ethiopia has demonstrated that “children aged five or less are 36 percent more likely to be malnourished and 41 percent more likely to be stunted if they were born during a drought year and affected by it.”¹⁰⁴

The research on climate change clearly demonstrates its multi-level causes and effects and the need to look beyond national borders for sustainable solutions. There is a strong element of social and gender justice that comes into plan on the international, national, community and household level. The Human Development Report 2007-08 concludes *“The battle against dangerous climate change is part of the fight for humanity. Winning that battle will require far-reaching changes at many levels—in consumption, in how we produce and price energy, and in international cooperation. Above all, though, it will require far-reaching changes in how we think about our ecological interdependence, about social justice for the world’s poor, and about the human rights and entitlements of future generations.”*¹⁰⁵

2.3.3 Food security

“There is sufficiency in the world for man’s need but not for man’s greed” Gandhi

The FAO World Hunger report 2005 notes that *“Economic growth, investment in agriculture, good governance, political stability, internal peace, rule of law, rural infrastructure, agricultural research, better education for children in rural areas and improving the situation of women are all essential for increasing agricultural production and reducing hunger and poverty in rural areas.”*¹⁰⁶

Food security is an issue of critical importance for governments of a region that as the world’s top food importer relies on more than 50% of the food from outside sources. 6.1 million people in the Maghreb countries, 42.8 million in Pakistan, and 14.2 million in the Mashreq, the Arabian peninsula and the Gulf were reported undernourished in FAO’s 2011 report on State of Food Insecurity in the World.¹⁰⁷ Ironically, rural areas have a higher share of food-insecure people than urban areas. A recent WFP survey found that one of every three Yemenis, 7.5 million people, suffer chronic hunger. The country’s childhood malnutrition rates are among the highest in the world, with 3.2 percent of children aged between 6 and 59 months wasted, 55.7 percent stunted and 9.2 percent of children between 12 and 59 months acutely malnourished.¹⁰⁸

Small import-dependent countries such as Jordan and Yemen and small farmers and poor consumers were harder hit by the rise in food prices between 2006 and 2008 than those larger countries in the region. The rising food prices in the last five years and the volatility of international markets have added weight to the domestic agriculture in the region. Non-food producing countries of the WANA region, such the countries of the GCC, are eyeing Sudan and other African countries for food production. They are not alone in the effort to ensure access to agricultural land. According to recent World Bank statistics, Sudan is most affected by what many observers call a “massive land grab” primarily for speculation and exploitation. Between 2004 and 2009, 3.9 million hectare of Sudanese farmland was transferred into foreign ownership. The outlook of these deals for the country’s agriculture and rural people is bleak. The report states “Investors interest is focused on countries with weak land governance. Although deals promised jobs and infrastructure, “investors failed to follow through on their investment plans, in some cases after inflicting serious damage on the local resource base.” Consultation with local communities is weak, conflicts over land-rights



common and rarely efforts were made to link the investment with national development strategies.¹⁰⁹

Growing resource scarcity and high population growth across the region might even further increase the dependency on imports. Some of the largest countries of the WANA region have a high rate of (especially rural) poverty. The price volatility has made the poor and smallholder farmers increasingly vulnerable to poverty because food represents a large share of their income. High food prices hurt the rural poor and women headed households most as many of them are net food buyers.¹¹⁰

Climate change effects on the region, particularly on agriculture, are expected to hit already marginalized groups especially hard. Poverty and food insecurity share most of the same indicators and are closely related. Families that are food-insecure do not have enough fertile land to grow food or insufficient money to buy food. FAO studies have clearly demonstrated that food security and nutritional status of families are directly related to the status of women in the respective societies, investment into female human capacities and access to vital resources. A case in point is Yemen, the country with the last place on the gender development index of the World Economic Forum (WEF); where rural families are twice as likely to go hungry (37.3 percent) as those living in the cities (17.7 percent), where 25% of women are malnourished, 55.7% of all Yemeni children under 5 stunted and 45.7% of all female headed household's food insecure.¹¹¹

Providing support to rural women is the key to the reduction of malnutrition on the community level. While women unfortunately play no role in the development of policies on the national and the meso-level, rural women are producers of food in subsistence agriculture and home-gardens, store and prepare food, allocate food to children and set the level of hygiene. Income and labor allocation for family needs and nutrition differs considerably from mothers to fathers; with women spending a far greater share on family needs than men. During emergencies, women's limited mobility can impede their access to humanitarian aid or markets, which can adversely affect female-led households. Male-led households are also at risk as men often do not know how to cook or care for young children. Sexual harassment against women in times of crisis and the lack of privacy also affects a woman's ability to provide for her family and to breastfeed. The ground for a woman's ability to feed her family is already laid in her upbringing as girl child. A woman that has been stunted in her youth, wasted, or that has never been allowed to attend school will be less able to ensure her children's nutrition than a woman who has received support in childhood. Access to clean and sufficient water (minimum of 50l per day) is another vital prerequisite.

The important role of women in food-security (relevant activities are listed in the left column) is illustrated by the matrix below that was developed by female extension agents from the Ministry of Agriculture in Yemen.¹¹²

Table 4: gender division of labor in food security (Yemen)¹¹³

Activity	Women/Girls	Men/Boys
<i>Subsistence crop production in home-gardens</i>	Differs from area to area. In some location it is exclusively women's work	In some areas, such as Hudeida, men share into home-garden work
<i>Cash crops</i>	Women provide help and support in some cases with labor input	Primarily men



Activity	Women/Girls	Men/Boys
<i>Market purchase and sales</i>	Marketing is restricted for women due to mobility-restrictions. (In rare cases women can market their own products (such as i.e. eggs). Women at the market are usually widows or women head of households.	Primarily men
<i>Storage (household level)</i>	Any food-store for household consumption Women's sole responsibility	
<i>Store (field-products and fodder)</i>		Exclusive responsibility of men
<i>Wood-collection</i>	Primarily women and girls (boys can help)	In rare cases the men might help (such as in Hudeida)
<i>Purchase of fire-wood</i>		Responsibility of men because it involves often travel to markets
<i>Fetching water</i>	Exclusively women's role! In some cases men might provide transport by car.	
<i>Providing food</i>	Women for subsistence production	Men for market products
<i>Food storage</i>	Women's responsibility	
<i>Food preservation</i>	Women's responsibility	
<i>Food selection</i>	Women's responsibility	Men purchase food, hence they have the largest say in what is purchased prior to selection
<i>Food preparation</i>	Exclusively women's role	
<i>Food distribution in the household</i>	Women's exclusive responsibility	
<i>Breast-feeding</i>	Women	
<i>Grazing and animal husbandry (household)</i>	Women and girls	Sometimes boys
<i>Participation in structured community management and politics (such as NGOs)</i>	Women in rare cases and with a strong standing on the community level. This requires also a certain level of education which many women do not possess.	Primarily men

The following list of factors that potentially severely limit women's ability to secure sufficient and nutritional food for the families, was compiled for Yemen, however most of them equally apply for other WANA countries with large and poor rural population. The factors demonstrate the obstacles that women face in farming and the effect unequal access to vital resources has for food security of the family. The list of factors demonstrates how significant family nutrition could be improved simply by equaling out access to resources for women and men.

1. If a man has agricultural land, he would be reluctant to allocate part of the land for house-consumption because he will lose cash income;
2. Men's decision-making ability to allocate land and resources for cash-crops leads to increase of qat (cash crop) production which leaves no space for subsistence crops;
3. Women's limited control of the families agricultural production (either cash or in-kind);



4. Women are more concerned about the food-security of the family and therefore work on land for home production with limited time and resources;
5. Long distance to water resources and heavy time-need to provide water;
6. Women have very limited mobility (for extension support, agricultural input, marketing etc.);
7. Very limited access to information and knowledge;
8. Agricultural input (such as fertilizers) are not available to women;
9. Women are largely unaware of food-security information such as the need for different type of foods, nutritional value and food-preparation;
10. Women are largely unable to reach markets for buying and selling purposes, as this is a man's role;
11. Development projects largely ignore the poor and women;
12. The difficult geographical features especially the highland and desert areas (remoteness, marginal land).¹¹⁴

2.3.4 Women in agriculture in the WANA region

Rural women in the countries of the WANA region that have significant agricultural production and where a large percentage of nationals work in the agricultural economy, play a significant role in agricultural production. Their contribution varies considerably and depends on the agricultural systems, the type of crop and social norms and values. However, rural women have one thing in common across the WANA region- they have considerably less access to productive resources and opportunities than their male peers. The gender gap is consistent in all crucial assets: agricultural input and services, in land, livestock, access to knowledge, credit, technology and marketing services. It begins already in childhood where girls in remote rural areas have been almost completely left out of the quantitative expansion of education in the WANA region. This has geographic, cultural and political reasons. Rural, especially remote and underserved areas in the mountains and vast desert areas in Yemen, Iraq, Sudan and Mauretania, remain home to the most conservative population groups of the WANA region that receive the least of political support and development. The Arab Human Development Report notes:

*"The Arab desert and countryside, with their wild expanses and limited contact with modern civilization, are still ruled by family and tribal solidarity, kinship ties, loyalty to tribal authority and a traditional economy tied to the land, livestock, the weather and simple industries. All of these are conducive to male dominance, permitting no participation for women except in certain activities, such as childbearing, service to the husband and family, and pastoral and agricultural activities that are related to sheer survival".*¹¹⁵

As we will see, this discrimination carries heavy costs, for the individual women, their families, local communities and the development of the agricultural sector of the individual country. Women work in agriculture as farmers and head of households; they provide unpaid labor on family farms and work for pay on neighboring farms and in agri-businesses. Women are involved in crop-production, livestock herding, home and commercial processing of agricultural products including fish-farming.



The available data on women's role and involvement indicates wide variations among countries in the WANA region. Countries with a large rural population, where agriculture contributes significantly to the GDP and where agricultural land covers a sizeable portion of a country's land mass has a much larger participation of women in agriculture than the oil-rich, but otherwise natural resource-poor desert countries in the Gulf. The percentage of agricultural land in the total landmass of a country is another important factor. While Mauretania, Egypt, Sudan, Somalia, Syria, Yemen and Pakistan have half (or more) of their population residing in rural areas, Kuwait, the UAE, Qatar and Bahrain are primarily urban. Jordan, Iran, Morocco, Tunisia and Turkey also have a sizeable rural population. Yemen (88%), Pakistan (75%), Morocco (59%), Syria (58%), Iraq (51%), Turkey (45.5%), Djibouti (41%), Algeria (41%) and Egypt (39%) are the WANA countries with the largest share of their female labor force working in the agricultural sector. (Find details and sources in the matrix in the overview in chapter 1.) In Pakistan, women's labor force participation in rural areas is 23.6 percent, double that of urban areas.¹¹⁶

Women as agricultural workers are a significant 38 percent of the rural female workforce in the WANA region. In most countries and in rural areas, non-agricultural employment is less relevant for women than for men. This is the case particularly in the Maghreb and Mashreq countries, where only 7 percent of rural women work in non-farm activities, compared to 40 percent of rural men.

With the change in agro-politics in the region, some countries have seen significant changes in women's involvement in the agricultural sector. In Pakistan, the female share of the agricultural labor force has almost tripled since 1980 to 30 percent (75 percent of all female labor force is employed in agriculture). Libya and Syria have also seen a rapid rise in women working in agriculture.

Data provided on rural unemployment indicates considerable variation among countries in the region, and reflects the seasonal demand for labor in agriculture. In cereal-growing areas for example, most of the agricultural labor is needed in the fall and early winter months for cereal sowing, and again during harvesting, generally in June. This leaves approximately 5-6 months for farmers to seek employment elsewhere. However, work opportunities outside agriculture in the rural areas are limited in most countries, which contribute to increasing unemployment and underemployment of men and women alike, and to temporary and permanent migration of men to the urban areas.

Women are involved in home-based production as well as agricultural production of the land. Labor-intensive jobs in small and medium sized agricultural businesses are women's responsibility and their workload exceeds that of men. In addition to the reproductive responsibilities, rural women provide more domestic labor in the form of seasonal, part-time, and unpaid work. On family farms and in labor migrant households with small landholdings, women take on the extra workload in agriculture to sustain the family; when income from crops and livestock raising is insufficient or the income from male off-farm labor cannot sustain the family. Most of women's products are immediately consumed, such as clothes and food, not recorded in rural statistics and hence most of their vital contribution to the national economy is "invisible".

The raw statistical data of women's employment in agriculture masks the reality of women's labor in the sector and the existing gender gap in access to income and ability of decision-making of rural women. The following table (2009 household survey) illustrates the extent of rural women's



contribution to the survival of their families and the national economy – largely without the benefit of remuneration. This scenario is indicative for women’s employment in agriculture in the relevant countries in the WANA region.

Table 5: Work type of Employed Women in Turkey by Income Percentage¹¹⁷

Sector	No of workers	Salaried & wages	Employer	Self employed/business owner	Unpaid family worker	Total
<i>Agriculture</i>	2.854.00	7	0.3	15.0	77.0	100.0
<i>Non agriculture</i>	3.340.00	83.3	2.0	9.2	5.5	100.0

2.3.1.2 Gender Division of Labor in agriculture the WANA region

Work in agriculture in the WANA region is generally characterized by a clear **division of labor** between the sexes and age groups. Determining factors besides the gender system are means of subsistence, the size of the landholding, size and socio-economic situation of the family product pattern, place of settlement, and the connection with the city and its markets. A woman might perform tasks in agriculture that are traditionally considered “male” if she is the head of household (with an absent male) or the family is too poor to afford to hired labor. A 2010 FAO-IFAD-ILO study finds that a pattern can be discerned where women tend to be the main producers of food, while men appear to be managing most of the commercial crops; the latter often with significant and unpaid women’s labor.¹¹⁸

For any analysis, it is important to differentiate the **gender division of labor, decision-making power and access to and control** over vital resources.

In **Pakistan**, cotton picking is an exclusively female task, so is collection of firewood, production of dung-cakes, milking, milk-processing and production of gee. Livestock rearing, the primary subsistence activity, is women’s work; only grazing is the responsibility of men. While women are involved in the production of staple crops, their role is secondary; in legumes and vegetable production, however women’s work is instrumental.¹¹⁹

In **Sudan**, women are heavily involved in traditional agriculture and to a much lesser extent in the modern agricultural sector. Women in the Arab-Muslim north play a significantly lesser role in agriculture than their sisters in the newly independent South Sudan. Officially, women only constitute 17% of the labor force in agriculture. However, a study in the Northern Kordofan state in western Sudan, where the economy is based on traditional rain fed crop farming, found that women contribute 74% to the monthly agricultural income, 65% to the total family income, and 62% to agricultural 65% to reproductive tasks.¹²⁰

The gender division of labor is illustrated in details for a community in **Turkey**.¹²¹ Kalecik is a rural region 68 km Northeast of Ankara, 800m above sea level in mountainous terrain with sparse vegetation and rocky land. Its economy depends on agriculture, the arable land per household is small (significant less than 8 ha), most of the land is in the hand of a few families and many households are landless due to remigration in the last two decades. Cereals (wheat and barley) are the main crops followed by vegetable production in irrigated lands and increasingly viniculture.



Cattle breeding is an additional course of income with milk production increasing in the region. Villagers process milk locally into cheese and butter at home.

Table 6: Gender Division of Labor and Control in Kalecik/Turkey

	Gender Division of labor		Decision-making (control)	
	Women/girls	Men	Women	Men
Plant production	Women join when need for manual labor,	Main responsible		X
Land preparation	women's work	X		
Planting	decreases with mechanization	X		
Fertilization		X		
Applying pesticides		X		
Mechanical plant production	of labor	X		
Animal husbandry		X	Women have a say	X
Grazing/Feeding/shearing		X		
Milking	70%	30%		
Barn Cleaning	25%	75%		
Gathering hay	X			
Feeding	25%	75%		
Dairy production	X		X	
Milk processing	X		X	
Marketing	12%	88%		X

The example illustrates that women substitute for farm labor if the family cannot hire male farm hands. When machines are introduced that could ease manual labor, men take over. Women rarely use machinery due to “women’s inadequate education, timidity to use machinery and traditional pattern” as the study notes. With men in charge of marketing women’s dairy products, women’s mobility is limited and cash income is under male control. Because women’s work is home-based and unrecorded, the women of the case study (as 66 percent of all employed women in Turkey¹²²) are deprived of social security.

Rural women’s primarily home-based work in agriculture, and the prevailing gender division of labor, leaves women with little clout in marketing and entrepreneurship. Their access to cash is very limited, in turn restricting their voice in household decision-making. Even if most rural small and landless farmers have a similar low level of education and qualifications as rural women, they are defined as “farmers” and hence, contrary to female farmers, included into extension programs and knowledge transfer. With little access to collateral and not counted as “working”, rural women farmers have also minimal access to credit. A 2009 report lists the number of Turkish rural women that have accessed loans as below 1 percent.¹²³

An analysis of the gender division of labor in Yemen illustrates how the type of farming system and livelihood affects the gender division of labor in the country. The three most time consuming and often physically challenging tasks in rural Yemen that girls above 10 and women perform are water provision, gathering firewood and fodder for animals. The time requirement and workload varies considerably between diverse geographical areas and the affluence of families.¹²⁴

Table 7: **Livelihood and gender division of labor in the agro-ecological zones in Yemen**

	Lively-hood system	Vulnerability	Food insecurity	Women's work	Men's work
Upper Highlands	Most densely populated; 30 percent of the country's Resources Qat accounts for 60% of income Sorghum production	High pressure on land and water resources	18.1% poor, 23.8 borderline (42% total) high rate of food- insecurity	High number of malnourished women (19.1% severe, 28.9% malnourished) Women take increasing role in irrigation that is not recognized Increasing workload of women to carry water due to water depletion	
Red Sea/Tihama Coast	Cereals, vegetables and tropical fruit production	Poorest area in the country extremely hot temperatures, agriculture impossible without access to water pumps	11.7% poor, 23% borderline(34.7 % total) Highest number of malnourished women (21.8% severe, 34.2% malnourished)	Increase no. of women head of households due to migration of men Increasing involvement of women in male-lead irrigated agriculture, animal production and fodder farming Women are in control of home-gardens Women & men collect fire-wood Women are responsible for water provision and food storage	Well irrigation remains men's work Women and men work n cash- crops (access & control) Men (exclusively) take on all marketing tasks Storage in the field is the responsibility of both men and women
Eastern Desert Plain	Nomadic, arid, water supply depends on limited, erratic and scattered rainfall high population of camels and goats		6.0 % poor, 22,8% borderline (27.8 total)		
Internal Plateau	Rain fed agricultural production of cereals pulses, vegetable, fruit orchards cattle & sheep on terrace system wadis with pockets of bio- diversity during rainy season	Terrace degradation and land-erosion due to neglect of rain-fed systems	6.8% poor, 17% borderline	Increasing workload for young women to carry water due to water depletion – high dropout rate for girls Women are responsible for daily agricultural activities Women have knowledge in soil and water management	Men responsible for seasonal work Need to pay for water weakens women's standing
Lower Highlands	Produce 40 percent of the country's cereals qat accounts for 84 %t of income . production of barley & maize		7.3% poor, 5.7% borderline		Irrigated agriculture for cash crops with little consideration for domestic needs
Arabian Sea	Maize production		3.4 poor, 10.5 borderline		

2.3.1.2 Access to and control over resources in agriculture

While women's role in agriculture varies considerably across the WANA region as we have already seen, they face gender-specific constraints that reduce their productivity and limit their contributions to agricultural production, the livelihood of their families and the economic performance of the agricultural sector of the national economy. IFADs Near East and North Africa Division confirm, in their assessment, specific challenges they face working with rural women of the region. "These include women's limited mobility, high levels of illiteracy and traditional gender roles."¹²⁵

A 2011 FAO report on gender in agriculture calculates the costs for the persistent gender discrimination in agriculture: "The yield gap between men and women averages around 20–30 percent; most research finds that the gap is due to differences in resource use. Bringing yields on the land farmed by women up to the levels achieved by men would increase agricultural output in developing countries between 2.5 and 4 percent. Increasing production by this amount could reduce the number of undernourished people in the world by 12–17 percent. According to FAO's latest estimates, 925 million people are currently undernourished. Closing the gender gap in agricultural yields could bring that number down by as much as 100–150 million people."¹²⁶

Women's lack of access to assets and resources evolves in a self-perpetuating cycle which only serves to strengthen already-existing gender biases in rural employment, production and marketing opportunities. With low-levels of education, women face challenges to make their voices heard, access credit and knowledge, invest in new technologies and increase agricultural output.

The chapter below summarizes challenges rural women in the WANA region face in access to vital resources:

1. Land (quality, size and tenure)

Land ownership by women in the WANA region is rare and varies greatly between the countries of the region. Women own 28.6 percent of land in Jordan, 4.4 percent in Morocco, 4.9 percent in the United Arab Emirates and 0.4 percent in Oman.¹²⁷ Landholdings in the WANA region are increasingly fragmented due to population growth and inheritance laws. In WANA countries where the division of inherited land is traditionally frowned upon, male farmers cultivate under "joint-ownership" with their brothers, often hampering investment. In the countries of the WANA region that follow Islamic jurisprudence and the patriarchal gender paradigm, women usually inherit half of their male counterparts; this also applies to land-holding. Even when inheritance rights allow women to inherit land, women often decide to forgo their right to increase their family support in case of divorce or widowhood¹²⁸. Social change is starting to change this practice; women in rural areas are still much less likely to demand their inheritance rights than their urban sisters.

Tunisia provides an interesting case study in the challenges rural women face in access to land. Tunisia has a particularly advanced legislation with a matrimonial property regime; separation of property between the spouses and property laws are gender neutral. However, while the husband has no control on the property of his wife, conjugal obligations follow local customs based on the traditional patriarchal gender intra-household division of roles. Succession law, based on Shari'a,

severely limits women's inheritance rights. In case of an only child, the son is "universal heir" while the daughter is entitled to half the estate; only male cousins and uncles have inheritance rights. A FAO report summarizes the consequences of this interplay of different levels of rights for women's land ownership: *"The negative effects of the discriminatory succession norms on women's land rights are particularly acute, as inheritance is the primary means of acquiring land rights in Tunisia; for instance, a village-level study in the Sidi Bou-Zid region found that inheritance accounted for over 70 percent of land acquisitions in most covered villages, and in some cases even for 100 percent (e.g. in Mliket). The study also reveals that customary rules excluding women from inheritance are followed in rural areas. Therefore, when women marry outside the clan, they do not claim their statutory inheritance rights over land, as this would be perceived as inappropriate and as an offence to their male family members."*¹²⁹

2. Water (quality and quantity)

In a region as water-starved as the WANA region, water is a key resource for agriculture. Access to water, like access to fertile land, determines the level of agricultural production. In many countries, large farmers that are well socially and politically linked have the resources to drill deeper and deeper wells; farmers whose land-holding is upstream and or whose large plots are close to water sources in irrigated agriculture usually have preferential access. This leaves small-holders and women often with the least quality water. Increasingly, community-managed Water User Associations or Water Boards attempt to provide more equitable access and more efficient management of scarce water resources. As in agricultural cooperatives and unions, women farmers are often not represented. The example of Yemen illustrates how men's agricultural priorities (cash crops) take precedence in decision-making on water with dramatic consequences for sustainable water management and food security. Women members of the Amran Basin Committee listed the production and consumption of qat as the main challenge facing women in local communities. Approximately 90% of water resources are used for agriculture; of this water, 60% is used for qat production. Male farmers, as household heads and the ultimate decision-makers in the family, prioritize qat as a cash crop rather than water and input for the vegetable fields of their wives.¹³⁰

3. Livestock (type and number)

Livestock breeding and care is traditionally included in the gender role differentiation in rural households. Small ruminants, poultry and most birds are "women's responsibility"; larger cattle and camels, that of men. Subsistence dairy production (cheese, ghee, butter) is also primarily undertaken by women. Within this framework, however, division of labor and responsibilities vary according to the agricultural region and even household. Women generally take care of feeding, herding and cleaning small ruminants. Women do not have much say as to the purchase of livestock, but take care of the day-to-day decisions on stock production. The larger and more valuable the animal, women's decision-making power on purchases or sales diminishes. When it comes to the growth of herds, women farmers are often constrained in raising animals due to a lack of credit. Marketing, i.e. the sale of sheep and goats during the Muslim Eid to city residents, is a male affair, generating cash for male family members.

4. Agricultural inputs (seeds, fertilizer, pesticides)

The purchase of agricultural inputs from the market or cooperatives is usually delegated to male members of the rural household, even by women head of households. This is mainly due to the norms of the predominant patriarchal gender paradigm that limits women's mobility and contact with the public sphere, but also to rural women's limited education. The governmental agricultural extension services primarily serve larger farmers and men, leaving many women farmers deprived of up-to-date knowledge and input. Women very limited access to agricultural cooperatives and technical know-how invariably affects women farmers' access to and use of agricultural inputs.

5. Machinery and mechanical tools

In most countries of the WANA region, mechanized agriculture is the realm of male farmers. A study in Jordan found that only 8 percent of the rural women in the study sample had access to machinery in their agricultural work; all of the large labor-saving machinery and tools were used by men.¹³¹ Even traditionally female tasks in agriculture, when they get mechanized, are taken over by men. This is rooted in the prejudice that women cannot handle machinery, women's limited experience in modern agriculture, the persistent low-level of education of rural women, women's limited mobility and the small number of extension services provided for women. In several countries, modern technology is introduced and marketed through cooperatives and rural societies, where women have very limited access.

6. Cash income

In agriculture, women's activities in the region often take place in the informal economy or on the family farm where women's labor is considered part of her household duties, hence not monetized. Even when women receive cash for their labor, they might not actually have it in hand. In some areas of Tunisia, remuneration for female farm workers was paid collectively to the family with the pay given to the male head of household. When female agricultural laborers get paid, they usually receive a third to 50 percent less for the same work as their male counterparts. Children (male and female) involved in agricultural production (primarily seasonal labor) receive even less than women. The fact that they have no cash in hand deprives women of the social respect that is duly given to the male "bread winner". In addition to their lack of remuneration, women also forgo the social and status benefits associated with "cash".

7. Credit

Closely related to collateral in form of land is access to credit for agricultural investment or input. Like male small-holding farmers, rural women face the same risk of bad loans, inefficiencies in the banking sector, and often exclusion from formal credit. Women own less land than men and therefore have less collateral than their male peers. Formal employment, especially in rural areas, is significantly lower than for men; women are more involved in subsistence agriculture that does not push cash into their hands. Illiteracy rates in rural areas are persistently higher in rural than in urban areas and, for most credit transactions, women need to be able to sign and read the small print of their obligation.

Compared to male small famers, women farmers face cultural restrictions of mobility, the need for a

male guardian for banking transactions (in some WANA countries), the lack of access to land for collateral and, in countries with high rural illiteracy rates, the inability to sign land deals and contracts and apply for assistance.¹³²

Access to credit for women has significantly improved over the last decade. The Women's World Banking annual report 2010 lists the Lead Foundation (in Egypt), Microfund for Women (in Jordan), the Association Al Amana (in Morocco), Enda Inter-Arab (in Tunisia) and the Cask Foundation (in Pakistan) as its members.¹³³ The credit volume of these Micro-finance organizations has substantially increased in the last decade; most organizations provide loans to rural women. Jordan is one of the countries of the WANA region that has several micro-credit providers competing for clients. Credit access for rural women still remains an issue for most female farmers in the WANA region, particularly in remote areas with a low-level of services and access. Public agricultural extension and rural development programs of NGOs could play a much larger role in linking rural women with micro-finance providers, such as the members of the Women's Word Banking listed above.

8. Agricultural extension

The case studies in Egypt and Jordan confirm that the gender gap in agricultural extension persists although agricultural extension for women farmers through NGOs has increased. While large industrial farms often have the political clout to make their needs heard and can access expertise through non-government channels, these avenues are closed for small farmers and women. How much this bias affects the local economy is illustrated in the case of Pakistan, where poultry farming is a major pillar of the rural economy. "The rate of women in poultry farming at household level is the central in poultry industry. Even though rural women are not using modern management techniques, such as vaccination and improved feed, but their poultry enterprise is impressive."¹³⁴ A recent study in the Eastern part of Jordan found that technology transfer and extension services primarily target male farmers, even in rural communities where women provide the bulk of agricultural activities.¹³⁵

In general, women farmers' need for extension directly follows their responsibilities and work in the agricultural sector. However, in this field, knowledge and reliable data for agricultural extension programs are weak. Public extension still largely views women through the prism of the patriarchal gender paradigm and hence provides women farmers with little suitable support on agricultural production. Cases in point are the study countries elaborated on in this report. In Pakistan, women are responsible for animal care in subsistence agriculture and market production; they need advice in animal care, feeding, calf rearing and poultry raising little extension support goes their way.¹³⁶

9. Farmer associations and cooperatives

A 2010 study on rural employment concludes: "Despite the widespread commitment of many countries to respect and promote the principle of freedom of association, the effective recognition of the right to collective bargaining... rural workers – and especially women and children – face both legal impediments and practical challenges in asserting their rights."¹³⁷

Smallholders often access value chains through producer organizations or cooperatives. It increases their bargaining power and access to larger companies for contract work. Credit and assets such as

greenhouses and production technology also can be accessed at better prices through cooperatives. High-value chains usually exclude asset-poor farmers and include most rural women, due to their low-level of representation in farmer and producer associations and cooperatives.

Farmers associations and co-operatives in the region, where they exist, are often controlled by the government. Their ability to represent farmer's interests and act as intermediary between the farmer, the private sector and the government is compromised. Women farmers are largely absent in farmers' organizations in the WANA region; if they are included, they are rarely in decision-making positions. Their often restricted mobility and limited room for interaction with men severely restrict the ability of women farmers to get their voices heard and represent their interests. A female member of the Water Basin Committee in Amran/Yemen described her experience, "as a woman I do nothing in this committee but administration work. The male members are not concern about our participation at all. They are part of the Yemeni community that undermine women participation and under estimate our opinion or role. The WBC was not efficient yet in making others feel and believe that water issues are women issues and water responsibility is primarily woman responsibility."¹³⁸

Membership in farmers' cooperatives is often conditional upon land ownership; this may exclude rural women, who rarely own land. Women's representation in trade unions in the WANA region differs across sectors. A study in Tunisia in the late 1990s found that only 3.5 percent of union members are women, compared to 55 percent in the textile industry.¹³⁹

The field study undertaken in Egypt and Jordan for this report found, that even if women farmers are registered members of cooperatives, they rarely play an active role; their activities often center on traditional female tasks, such as food processing and home production.

10. Employment and self employment

Rural employment encompasses farming, self-employment in trading, small enterprises and wage labor in the production of goods, services and labor in agriculture. In the WANA region, rural women are mostly self-employed in agriculture; rural men work mostly as non-agricultural wage earners. Only 7 percent of rural women work in non-farm activities, compared with 40 percent of rural men.¹⁴⁰

For small-holder and landless rural households, access to paid labor in agriculture or non-agricultural labor is an important coping mechanism. The Arab Charter on Human Rights recognizes the equal right of women and men to freely choose an occupation, enjoy equal work opportunities, and equal remuneration for equal work. Most countries have adopted non-discriminatory labor legislation; however gender, class, and in some cases, ethnic discrimination remains widespread, particularly in rural areas.

A recent FAO-IFAD-ILO report lists the factors that push women into a disadvantaged economic position relative to men in terms of the returns to their labor in the rural economy:

- a) There is evidence of **gender-based labor market segmentation** in both agricultural and non-agricultural sectors in most rural areas. Women tend to be working in fewer sectors than men. In agriculture, they are primarily involved in subsistence production, daily and seasonal labor; in manual (low skilled) work rather than with machines (specialized work).

- This occupational segregation is one of the causes of the persistent gender gap in wages and suggests that it may be more difficult for women than men to switch to better jobs in new sectors when new economic opportunities arise.
- b) Women are disproportionately employed in low-quality jobs, including jobs in which their rights are not adequately respected and social protection is limited. . In Pakistan, under stricter seclusion of women, most female non-agricultural activities are home-based (where labor legislation cannot be enforced).
 - c) A gender gap in earnings persists in both wage employment and self-employment. Women agricultural laborers earn an average between half and two-thirds of men’s wages; in Saudi Arabia, the gender segregation in the workplace is strictly enforced.
 - d) Women have fewer hours of paid work but overall larger work burdens (due to competing demands of care responsibilities and non-market work, women spend less time on average in remunerated work, which lowers their total labor income and is likely to increase stress and fatigue).
 - e) *Women in many WANA countries require the approval of their husbands to seek work outside of the house.* Syrian Personal Status Law, for example, requires the permission of husbands for wife’s to work; similar legal or customary regulations are in place throughout the region. How the patriarchal gender framework affects women’s participation in employment is illustrated in the case of Jordan, with its very low labor force participation of women. *“Various legal codes (labor, personal status, citizenship, retirement, and criminal) peripheralize women by making them into male dependents and de facto deny women full competence even after they have reached the legal age of majority. The result is that, even though Jordan exerts efforts to allow women greater participation in public and business life, the laws act as a push factor forcing or encouraging women to leave the workplace.”*¹⁴¹
1. At the national and local level, women entrepreneurs in agriculture face legal and socio-cultural barriers. Mobility restrictions imposed on women are not only difficult to overcome, but seriously constrain a rural woman’s ability to seek employment, to open her own business, to market her agricultural produce, to become a member of cooperatives, access bank credits and receive extension information. The case of Yemen illustrates an extreme example, but mobility restrictions for (especially rural) women are a fact in most of the WANA countries. In Yemen, women’s mobility is severely restricted by law, which requires that a wife secure her husband’s permission to leave her house. Research by Dr. Samir al-Shamiri, professor of sociology at Aden University, found that 28.2% of Yemeni women suffer from several mobility restrictions, which render them immobile.¹⁴²
 2. In countries where social security for rural work is provided, women that work in subsistence agriculture, and as unpaid agricultural laborers on family farms, are not eligible for support. That prevents them and their families from governmental benefits that most men enjoy.

11. Markets

Domestic and international markets often discriminate along gender and class lines. Unequal access to markets is an important source of gender disadvantage. Gender-differentiated access to markets affects rural women's ability to receive a fair price for their production, network and especially to have access to cash income. Marketing structures in rural areas are often weak, especially when road infrastructures are lacking as in Yemen's mountainous areas and remote villages in Pakistan. Women are further hampered by their lack of transport and social restraints to their mobility. Agricultural companies tend to approach men for business ventures and marketing. With less representation in cooperatives and rural organizations, women are also at a disadvantage in cooperative marketing. Women farmers often lack the resources to produce or collect wholesale and processing facilities beyond home production are often in the hands of men.

A FAO study finds that the barriers to enter international markets are so high for women producers that poor households, and particularly poor women, seem to be benefiting from incorporation into global value chains more through labor markets than through product markets.¹⁴³

Many rural women remain out of touch from domestic and international markets due to a lack of business awareness, limited knowledge as to where the markets are, and how to reach them. The majority of women entrepreneurs in the agricultural sector are small business owners that operate their businesses from home (with a lower level of education and technical skills) and often remain confined to traditional "women's businesses," such as food processing and preservation.

12. Protection

Legal protection against physical harm during work in agriculture is a privilege that women in rural employment, especially in seasonal agricultural labor, often have to forgo. Women and men in unskilled seasonal agricultural labor are at risk of exposure to agricultural chemicals such as pesticides and fungicides. The examples provided in this study on labor in the cotton industry in Egypt and Pakistan show that enforcement of protection and security regulation, if they exist, are lax at best. Women in child-bearing age and lactating mothers risk not only their health but that of their children.¹⁴⁴ In countries that are in crisis rural women, women seasonal laborers (and refugee women) have an exceptional risk of gender-based violence when their work takes them out of the safety of their homesteads and tribe. Somalia, Sudan, and some regions of Pakistan find rural poor and landless women perceived as servants or personal property by their landowners and risk violence and forced sexual encounters.

13. Time

The resource "time" illustrates that women's work in agriculture and the economic sphere cannot be separated from women's productive responsibility in the household and how much the gender division of labor acts as a constraint for women. In the countries of the WANA region, the gender division of labor allocates women the responsibility for most of the reproductive work in the household. The examples of Yemen, Somalia, Sudan and other WANA countries with a large rural population show that reproductive tasks that are closely linked to subsistence agriculture and food security, such as food preparation, collection of firewood and water can be extremely time-consuming tasks that are often the responsibility of women and children. With long, back-breaking

hours spent on these tasks, the food-security of the family and often the education of girls are affected, with long-term consequences for the families, communities and ultimately the country concerned. Women's work provides a safety net for the family's well-being, often in the absence of adequate provisions by state and community institutions. Women's, and often children's, unpaid labor is key to food security and to the maintenance of the rural labor force.

Women's disproportionate share of unpaid work restrict women's ability to take on paid employment or start their own businesses, weaken women's bargaining power in paid employment, and limits women's representation in workers' cooperatives and other similar organizations. When women are forced to take on outside paid employment, the burden of unpaid work is often transferred to the daughters.

14. Education

Despite significant gains in education in the WANA region over the last three decades, education is still less available to rural than to urban women. The gender gap in literacy is still 10 percent or higher in Pakistan, Sudan, Mauretania, Yemen, Tunisia, Syria and Egypt. A recent study in Jordan found a high level of illiteracy among the women in the three study communities in the East of the country and identified the low-level of education as the single most important factor that negatively influences women's productivity in agriculture.¹⁴⁵ Education is an important factor in diversification of family income through non-farm earnings; allows access to vocational training and eligibility of technical and agricultural training; and increases rural women's access to markets beyond their community.

Illiterate women tend to marry earlier (often in their teens), have a larger number of children, a higher risk of maternal mortality, and a higher rate of malnutrition and spousal abuse—often perpetuating the cycle of poverty and ignorance into the next generation. Return to education is especially high in non-farm rural employment in rural areas.

15. Decision-making

The ability to make decisions on vital matters and to affect decision-making on the community level for resource allocation is an important measure of empowerment for women and men. Gender is a determining factor in a person's ability to make decisions. While women are primarily responsible for food preparation, it is often the husband that makes the decision on food purchases and allocation of plots for subsistence farming. Across the WANA region, there is a significant gender gap in decision-making. In Yemen, decision-making takes place in closed circles between men. A Yemeni female employee of the water utilities notes how women are excluded from decision-making in issues of their immediate concern at work. "Men interact a lot at work and meet in the afternoon in various venues, like in the mosques and in the next morning we are surprised about their decisions they have taken together". The restrictions that are placed on women's ability to make vital decisions in the countries of the WANA also extend to the national level. The 2005 Human Development Report that is dedicated to Arab Women notes that in 2006, Yemen had 87 women's associations; however, women in decision-making positions do not exceed 6 percent. "In spite of the explosion in the number of civil associations, the presence of women had no impact at this critical stage. Women's representation arose as a concession on the part of many Arab countries (due to international donor pressure). The latter accepted the formal incorporation of

women into their cultural projects on the condition that they remain a mute, motionless presence."¹⁴⁶

2.4 Gender policies

The process of institutionalizing gender, recognizing the system behind persistent gender gaps in all spheres of life, is one of the most important issues in changing women's status and providing them with the opportunities they need to realize their development potential. Change can be a bottom-up process, but also needs to be supported from the top. If women are seen as crucial actors in agriculture by policy makers, vital resources will be allocated to them and policies and support structures will reflect their needs. If women remain invisible or are disregarded, they will continue to be left out, despite sustained evidence to the contrary and glossy gender reports. In the framework of our study, it is important to look at how gender is institutionalized in the policies and institutions of the WANA region, especially in the agricultural sector.

In the last two decades, significant resources have been invested to bridge the gender gap in development- including agriculture. Lawmakers have worked on norms on women's land rights that have been adopted at the international level within human rights treaties such as the Convention for the Elimination of All Forms of Discrimination against Women (CEDAW). CEDAW states the principles of non-discrimination on the basis of sex (art. 2) and contains a provision specifically devoted to rural women (art. 14). It states:

2. States Parties shall take all appropriate measures to eliminate discrimination against women in rural areas in order to ensure, on a basis of equality of men and women that they participate in and benefit from rural development and, in particular, shall ensure to such women the right:¹⁴⁷

- (a) To participate in the elaboration and implementation of development planning at all levels;*
- (b) To have access to adequate health care facilities, including information, counseling and services in family planning;*
- (c) To benefit directly from social security programs;*
- (d) To obtain all types of training and education, formal and non-formal, including that relating to functional literacy, as well as, inter alia, the benefit of all community and extension services, in order to increase their technical proficiency;*
- (e) To organize self-help groups and co-operatives in order to obtain equal access to economic opportunities through employment or self employment;*
- (f) To participate in all community activities;*
- (g) To have access to agricultural credit and loans, marketing facilities, appropriate technology and equal treatment in land and agrarian reform as well as in land resettlement schemes;*
- (h) To enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communications.*

With the exception of Iran, the Occupied Territories, Somalia and Sudan, all WANA countries have signed and ratified CEDWA, however all with specific reservations. In the Muslim countries, the

reservations relate predominantly directly or indirectly to the application of Sharia'a law. The reservation of **Jordan** illustrates the point: *"In case of contradiction between any term of the Convention and the norms of Islamic law, the Kingdom is not under obligation to observe the contradictory terms of the Convention."*

The reservation of **Egypt** on article 16 (shared by Kuwait, Libya, Morocco and Saudi Arabia), illustrates the concept of complementary rights (based on the tradition patriarchal division of role in the current interpretation of Islam) rather than equality:

"Reservation to the text of article 16 concerning the equality of men and women in all matters relating to marriage and family relations during the marriage and upon its dissolution, without prejudice to the Islamic Sharia's provisions whereby women are accorded rights equivalent to those of their spouses so as to ensure a just balance between them. This is out of respect for the sacrosanct nature of the firm religious beliefs which govern marital relations in Egypt and which may not be called in question and in view of the fact that one of the most important bases of these relations is an equivalency of rights and duties so as to ensure complementary which guarantees true equality between the spouses. The provisions of the Sharia lay down that the husband shall pay bridal money to the wife and maintain her fully and shall also make a payment to her upon divorce, whereas the wife retains full rights over her property and is not obliged to spend anything on her keep. The Sharia therefore restricts the wife's rights to divorce by making it contingent on a judge's ruling, whereas no such restriction is laid down in the case of the husband.

"The Arab Republic of Egypt is willing to comply with the content of article (2), provided that such compliance does not run counter to the Islamic Sharia."¹⁴⁸

The basic principles of CEDAW are also included in instruments relating to the environment and to sustainable development, such as the **Convention to Combat Desertification** and **ILO Conventions** (e.g. the Equal Remuneration Convention 1951 and the Discrimination (Employment and Occupation) Convention of 1958). In 1995, the **Beijing Declaration** stated that "women's empowerment and their full participation on the basis of equality in all spheres of society [...] are fundamental for the achievement of equality, development and peace". The conference led to a Platform for Action, which is "an agenda for women's empowerment" and gender equality; women's empowerment is included in the Millennium Development Goals (MDG3)¹⁴⁹. The Millennium Development Goals, set in 2000, provide a worldwide framework for development. Gender equality is a Millennium Development Goal on its own, but also directly linked with MDG targets to reduce extreme poverty, reduce hunger and to protect natural resources. A review of the MDGs in 2005, which includes the country reports from seven WANA countries, found significant progress in gender disaggregated data collection and analysis but noted "...it is disturbing to see the near invisibility of gender concerns in reporting under Goal 7" (partnership for development and environment). The report continues, *"Despite the visible evidence of women's involvement in management of natural resources like water and forests, they are not recognized either as significant factors in conserving and sustaining these resources, or as stakeholders in planning. ... The implications of environmental degradation for girls' education, maternal health and child survival have been completely ignored – instead, practically all the reports approach the issue of environmental sustainability from a technical perspective."*¹⁵⁰

At the national level, many countries of the WANA region have adopted national plans of action and established national women machinery i.e. in the Ministry of Agriculture, to strengthen the inclusion of rural women. Focal points, or gender units, in Ministries of Agriculture and Water have been established and National Women Commissions set up often by presidential decree. An example is Pakistan, where women's role in the economy and overall social equality is being discussed at the national level. Respective initiatives are being proposed and implemented by the government and civil society organizations, mostly at legislative and policy levels. The Pakistani government is executing a 'gender and development plan' (2001-2011) and has recently passed a, 'Women Protection' bill.¹⁵¹

The last decade has also seen a significant effort of international organizations in agricultural development to mainstream gender throughout their programs. Gender units and gender focal points have also been established within development institutions. The results of the field study in Egypt illustrate the obstacles that stand in the way of even long established gender units to ensure that women in agriculture receive the attention and resources they deserve.

There has been substantial success in introducing gender-disaggregated data in different sector. Capacity building includes gender training and sensitization; however expertise in the region remains scarce. Specific fields of know how such as gender budgeting, gender in micro-finance and agriculture have emerged. IFAD is one such organization that has designed and implemented *"measures that are aimed at providing women with information, skills and services, reducing their workloads (for example, through providing access to potable water points and energy-efficient stoves), and increasing household income and food security (for example, through providing credit services to women and small businesses run by women and organizing them in local associations that respond to their own needs)."*¹⁵²

INCARDA has introduced a program for MSc and PhD researchers that include under Social Economic and Policy research "Gender and social analysis for improving household income and more sustainable NRM".¹⁵³

Despite these efforts, the implementation of equitable policies and the inclusion of rural women as important actors lag seriously behind. The gap between legal rights and legal practice is often largest in rural areas. The findings of the field study in Egypt show little of the well intended measures in the research and planning stage turn into concrete benefits for women farmers.

IFAD has faced several challenges in the implementation of its programs in the WANA region. They are common and point to the root causes why progress in the field on women's access to resources and decision-making in agriculture remains limited.

"Among them are ill-equipped local agricultural institutions that are not set up to work with rural women. The government agencies that implement IFAD-sponsored projects have administrative and financial procedures that are not adapted to gender mainstreaming. They often lack a special budget for women-related activities. Budgets still often go to activities that target men. Staff working on projects lacks knowledge of gender and development. Although there is a need for gender training, projects often give preference to technical training that yields instant results, such as increases in productivity. Considering these institutional constraints, gender mainstreaming is a

matter not just of cultural change or additional investments, but also of institutional change and reorganization.”¹⁵⁴

A similar conclusion is reached by an IDRC- and ICARDA-sponsored expert meeting in 2008. Despite that fact that there was clear evidence of substantial and complementary roles of women in agricultural-livestock production systems, as well as farm, water, and rangeland management, ...” *national policies, extension programs, and resource management institutions continue to neglect or under-involve women. This is exacerbated by normative perceptions of farmers and decision-makers as solely men, neglecting women’s substantial contribution to labor, household economies, and management of resources, and limiting women’s access to technologies, information, and productive resources.”¹⁵⁵*

An analysis undertaken by an expert group convened by ICARDA and IDRC found the relative lack of progress to include women as important actors into policies and programs rooted in: “organizational norms that discount social and gender issues, structural marginalization of social science units or gender focal points, limited support to SAGA and to women researchers in education systems, lack of attention to gender in ENRM policies, difficulties in translating policies to practice, and weak accountability measures.”¹⁵⁶

A recent analysis finds the conclusions of the other above-mentioned stakeholders and sums its analysis up:¹⁵⁷

1. While governments, donors and development practitioners have come to recognize that agriculture is central to economic growth and food security, their commitment to gender equality in agriculture is weak.
2. Gender as a cross-cutting theme is included in most national and regional agricultural and food-security policy plans, but still gender concerns and women’s issues are usually included in a separate chapters rather than consistently into all parts of policy and programming.
3. The underlying assumption that access to technology, infrastructure and markets is gender-neutral still persists; their access is highly stratified by social class and gender.
4. Many agricultural policy and project documents fail to address the needs of smallholding farmers and women in their proposed interventions.

The **policy level rural development**, mostly under the mandate of the Ministry of Agriculture, has no “institutional home”. When it comes to servicing the needs of the rural poor and women farmers rely on opportunities in the rural informal sector that are often not reached by government services coordination with other ministries such as the Ministry of Social Development, Ministry of Planning and Ministry of Local Development .¹⁵⁸

2.5 Invisible working women

The economist Amartya Sen noted in 1990: “...the perception of who is doing “productive” work, who is “contributing” how much to the family’s prosperity, can be very influential, even though the underlying principles regarding how “contributions” or “productivity” are to be assessed may be rarely discussed explicitly. These issues of social perception are, I believe, of pervasive importance in

gender inequality, even in the richer countries, but they can have a particularly powerful influence in sustaining female deprivation in many of the poorer countries."¹⁵⁹

This statement of Amartya Sen still applies today, although progress has been made to make women's work in agriculture and other sectors visible and valuable. However challenges remain. In the context of a culture minted by a patriarchal gender paradigm *"women are less likely than men to define their activities as work, they are less likely to report themselves as being engaged in agriculture and they work, on average, longer hours than men – so even if fewer women are involved they may contribute more total time to the sector.*"¹⁶⁰

The prevalent definition of the agricultural labor force includes all people that are working or looking for work, in formal or informal jobs, and in paid or unpaid employment in agriculture. This includes self-employed women as well as women working on family farms; it does, however, NOT include tasks that are taking substantial work, are vital to family survival and are closely linked to agriculture and natural resource management, such as such as fetching water and firewood. A FAO report from 1994 summarizes: *"Due to inconsistencies and poor methods in data collection and reporting, and because of narrow definitions of work and employment in national statistics, data often fails to capture the real contributions of women's work in the Near East region. As a result, there has been a widespread erroneous notion that women in the region have a marginal role in all sectors of the economy, including that of agriculture. However, more recent efforts to include disaggregated data by gender at the national level, as well as information gathered in micro-studies and special surveys, have shown that women's contribution to agricultural labor has been severely underestimated, and that in fact, women's participation rates are indeed quite significant, especially when unpaid labor is taken into account.*"¹⁶¹

The need for more sex-disaggregated data was already highlighted and a Plan of Action adopted at the First World Conference in Women in 1979. Its rational goes well beyond making women visible. Human capital is a crucial factor for agricultural development and policies and plans derived on the basis of inadequate information results in low policy impact, waste of human, economic and environmental resource. FAO established a gender-disaggregated statistical database in 1993 for agriculture and notes that *"Much progress has been made in particular during the past two decades with regard to the collection of socio-economic and sex-disaggregated agricultural data.*"¹⁶²

While gender-disaggregated employment and agricultural statistics have become the norm they are still not consistent across the countries of the WANA region. The perception that women do not contribute to agriculture in the WANA region is still prevalent. For researchers studying women's economic contribution (including agricultural sector) in the WANA region several challenges remain:

1. Most countries in the WANA region follow national labor statistics, the ILO definition; data collection on women's work in societies with patriarchal societal systems and honor codes that seclude women is notoriously difficult.
2. Male researchers conducting representative household surveys have scarce access to women's spheres and the common definition of "work" often does exclude women's tasks.

3. Inconsistency in data collection over time and between censuses undertaken by different government agencies.
4. While gender-disaggregation of labor force data has improved over the last decade, labor market statistics, including the agricultural sector, are still not always gender-disaggregated. Notable positive exceptions are Turkey's State Institute for Statistics that carries out gender-disaggregated surveys on women's economic participation, so does the Women's Research and Documentation Center, CREDIF, in Turkey.¹⁶³
5. Women's work in agriculture tends to be underreported in national accounts, due to attempts of tax evasion for women's labor, but generally due to the fact that women's work on the land is often counted as extension of her reproductive family duties, rather than "real work". *"The anthropologist Homa Hodfar notes "Even though men regard women's participation as essential in running these family businesses, and many women invest long hours, few are considered "working" women by their husbands, neighbors, or even themselves. These attitudes have made it difficult to collect information on women's unpaid family work."*¹⁶⁴
6. What applies to rural is also relevant for urban agriculture. A study on the urban agriculture came to a similar conclusion and concluded *"the millions of women involved in urban and peri-urban food production, processing and marketing have mostly been invisible to city officials, economic planners and development practitioners. This invisibility of women in the urban food economy happened in parallel with the industrialization of food along with other commodities."*¹⁶⁵
7. Labor force data (including in agriculture) in international and national sources are not consistent. While ILO statistics are a good reference, for gender-disaggregated data; the category "Employment for detailed occupational groups by sex" in ILO's SEGREGAT databank is blank for most countries of the WANA region.

How the definition of work can make women's labor seem marginal or essential can be illustrated in the case of Yemen.

If "work" is defined solely by work for wages or income, the labor force participation of women in Yemen is 4 percent. If unpaid labor on family farms and the informal sector is included, women's labor force participation rises to 31 percent. If the definition of labor includes all work that is performed in the country, including the family, women's labor-force participation would climb above 90 percent.¹⁶⁶

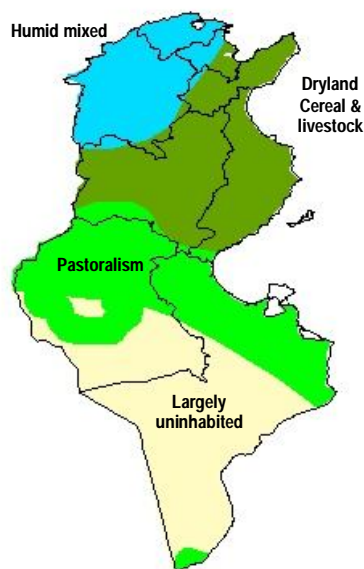
A similar case from Egypt is noted in a paper for an UNRISID report. The Egyptian 1989 Labor Force Sample Survey (LFSS) added data collection on women's work in agriculture, the urban informal sector and the unemployed population. The labor force participation of women significantly increased from the 10 percent in the 1986 survey to 28 percent. Using the same expanded criteria list for the 1998 survey women's labor force participation had climbed to 42 percent.¹⁶⁷

What remains completely outside of any labor statistic is all domestic or "reproductive" work that is largely undertaken by women such as food preparation, health care, education of children, child

care cleaning, etc.; these tasks are not covered in any labor statistics. As soon as the same work is undertaken outside of an individual household, in a restaurant or a commercial enterprise, and when it is enumerated, it is counted into labor statistics. In short, if a family hires a housekeeper that cares for the children, cleans the house, and cooks, that work is included into the GDP. When a mother does the same work, it is not. Traditional women's work has been excluded from the GDP since the 1940s, when it was designed because tax-collectors and businesses didn't have an interest and economists did not know how it should be reflected. Attempts have been made to calculate the work that is done within the household into national statistics. The figures add between 20 to 40 percent to the GDP¹⁶⁸. Because women's work in the household and community is largely invisible to statistics, gender stereotype that women do not "work" are unproductive and continually reinforced. It is unfortunate that in a monetized economy, the care for what we cherish most, our children and loved ones, is least valued.

2.6. Case studies¹⁶⁹

2.6.1 Tunisia



Tunisia, with its 164.000 km² of land and slightly more than 10 Million inhabitants, is located in the Maghreb where the Eastern basin and the Western Mediterranean basin meet. Strategically placed, it is a center for Arab and African markets. Half of Tunisia's land is arable land and a further 9 percent consists of lakes and salt lakes. Tunisia is composed of three regions with four different climate zones. Central Tunisia is characterized by mountain ranges divided by basins and fertile valleys; the eastern extended plains are ideal for olive trees framed by the mountains of Magmata; in the south, the Great Depression of Chat Jerid delineates the border to the Sahara; a long 1,300 km of coastline runs in the north. The coastal areas are predominantly in sub-humid climate, the Northwest, Cape Bone and Central Tunisia are semi-arid zones, and the South is dominated by desert climate.

Tunisia faces similar environmental challenges as its Maghreb neighbors: ineffective waste disposal, water pollution through untreated waste water, growing deforestation, overgrazing, and soil erosion that increases desertification.

Tunisia has four farming systems:

1. Humid mixed in the North-western tip of the country (sq Km 21174.95590)
2. Dryland with cereal and livestock in the northern central part (sq Km 39655.28740)
3. Pastoralism in the central part of the country and the very southern tip (sq Km 37986.27352)
4. Largely uninhabited desert area in the south (sq Km 48096.57725).¹⁷⁰

Compared to Libya and Algeria, Tunisia is not as resource endowed, but it holds the first place worldwide in production of phosphate. Tunisia has reserves of crude oil in the Gulf of Gabes and the Ghadames basin in the south; in 2007, the country produced approximately 75,000 barrels of crude oil per day. While domestic production does not meet local demand, Tunisia relies increasingly on its natural gas.

Until 2011, Tunisia was a republic with a presidential system dominated by a single political party. Tunisia's President Zine El Abidine, after deposing Habib Bourguiba in 1987, ruled uncontested for 33 years until he was removed from office after two months of popular violent demonstrations. Since elections in October 2011, a moderate Islamist party, An-Nahda, along with two centre-left party centrist secularist parties, formed the government.¹⁷¹

Prior to January 2011, Tunisia had achieved significant progress on key development indicators in health, education and poverty reduction; a large middle class had emerged and the country had made significant progress in gender equality. However, progress had been achieved under a stifling political system and persistent high unemployment of over 13 percent, particularly affecting young Tunisians. Statistics noted unemployment for the age group between 20 and 24 to be 30 percent for university graduates. The reasons for this malaise can be found in the large number of university graduates entering the labor market, the prevalence of the sector's agriculture, textiles and clothing, automotive that required a low-skilled work force combined with the low number of knowledge-intensive businesses in Tunisia that could absorb the well qualified workforce.¹⁷² Women made up a relatively high (26 percent) of the country's workforce; a quarter of economically-active women worked in the agricultural sector. Women in Tunisia are harder hit by unemployment than men; nearly 50 percent of women are unemployed, compared to 35% of men.

Tunisia, through the implementation of successful family planning policies, has a birthrate of 1.2% percent, one of the lowest population growth rates in the WANA region. The country is increasingly urban, with 65 percent of its people residing in cities.

While poverty has declined due to sustained and high economic growth until 2005, unemployment has remained high and constituted one of the major factors behind the "Tunisami" that started in December 2010. With rural to city migration, poverty ceased to be a primarily rural phenomenon. Isolation, lack of access to social services, and a lack of opportunity to diversify income made the rural poor more vulnerable to economic changes and fluctuation in weather. The rural poor are primarily landless families living on the outskirts of population centers in rural areas; they are day laborers, illiterate, farmers in small-scale rain fed agriculture, women and youth, in general, by their lack of economic autonomy and lack of decision-making.¹⁷³

Poverty pockets, areas in which poverty is much higher than the national average, are found primarily in the rural Northwest of Tunisia. Their case illustrates how rural poverty is multi-dimensional and closely linked to resource degrading agricultural practices. Here, the population is concentrated in mountainous areas under difficult agro-ecological conditions. Public infrastructure in these areas is weak, the health and education infrastructure, as well as access to agricultural services, is low. With a high population density and unsuitable agricultural soil erosion in the Northwestern Mountains, a serious situation is exacerbated by winter rains. Soil quality on the

mountain slopes is poor and eroded by livestock feeding, hence agricultural productivity is low and natural resources are increasingly overexploited, intensifying rural poverty.

Agriculture

Of Tunisia's 15.5 million hectares, 63% are regarded as "useful agricultural area," where crops can be cultivated and livestock graze. Rainfall is low and varies geographically throughout the year. Only a small fraction of arable land is in the humid or sub-humid areas, with at least 600 mm of rain per year. More than three quarters of the country is arid or desert, with annual rainfall below 300 mm. Tunisian agriculture is primarily composed of small farms with declining acreage. 97 percent of farms currently cultivate an area of less than 50 ha and more than half of all land-holdings farm on less than 5 ha. This decline in available land per farm went hand-in-hand with a 10 percent increase in farm numbers over the last decade. Olives are planted by almost a third of Tunisians farmers, followed by livestock (22 percent) and cereal farming (15 percent).

The Tunisian agricultural sector is a main pillar of the national economy. It generates about 11.5 percent of GDP, employs about 16 percent of the countries' workforce and contributes to 14 percent in the national level investments. It is the largest user of the Tunisians resources: 80 percent of the countries water and 90 percent of fertile land are used for agriculture. 40percent of the Tunisia's workforce is employed in agriculture and agriculture related work. With the exception of large urban centers, most of the governorates have an agricultural-based economy. Agriculture has contributed to the economic growth of Tunisia, with an average of 5.88 percent; however, the contribution fluctuated heavily depending on weather conditions. Agricultural development is guided by 5 year plans, with the current 11th plan prioritizing export promotion, development of water resources and the strengthening of food security.¹⁷⁴

The economic development of Tunisia (including the agricultural sector) is closely linked to Europe; in 2008, the EU accounted for 64.5 percent of Tunisian imports and 72.1 percent of Tunisian exports. Primary EU cooperation partners are France, Italy, Germany and Belgium. Tunisia was the first Mediterranean country to enter into a free trade area with the EU. Tunisia has further signed Economic Partnership Agreements (EPA) with the Great Arab Free Trade Area (GAFTA), two multilateral agreements (the Agadir Agreement with Jordan, Morocco and Egypt) and the Agreement with the European Free Trade Association (EFTA).¹⁷⁵

Women's role in agriculture

Rural women in Tunisia have always actively participated in agriculture, working in fields, with livestock on the farm, and processing and storing products for household use and the market. In 2010, women comprised 26 percent of the Tunisian labor force; a quarter of economically-active women were working in agriculture. As in other WANA countries with a significant percentage of agriculturally-related activities, the real contribution of women to the agricultural sector would be significantly higher if the unpaid family labor would be reflected. Because women work primarily as unpaid family labor, their quantitative and qualitative contribution to agriculture has not been counted, or has been greatly underestimated, in statistics.¹⁷⁶

The division of labor differs according to farming systems, local tradition and age. In areas where men are engaged in fishing, mining and commerce, or have migrated to urban areas or abroad for

jobs, women take on essentially all farming tasks. In areas where agriculture is the main source of income, the entire family is engaged in farming with the following division of labor: men are responsible for land preparation- digging pits and cisterns, irrigation, harvesting and livestock herding; women are responsible for hoeing and weeding, caring for livestock within the household enclosure, processing and storage of agricultural products, and the artisanal production for home and market carpets, blankets, baskets and other handicrafts. Fishing is essentially the domain of men. Women are responsible for all household tasks, including collection of water and fuel wood, used by about 20 percent of households for cooking.

Provision of labor does not go hand in hand with decision-making. In general a rule applies, that the more women are involved in agricultural activities, the more decision-making power they have. However, men retain the ultimate decision-making power over the sale, rent and exchange of land and the means of production, including large livestock. Decisions on development planning, large-scale projects and the introduction of technologies and infrastructure are made by male planners without input from rural women or taking into consideration their specific needs.

National Machinery supporting women in agriculture

Tunisia signed the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1980, and ratified it with reservations in 1985. Already in the 1980s, within the framework of the Eighth Development Plan, specific attention was given to women; a strategy to strengthen women's participation in productive farming activities was included. Since then, the advancement of women (especially the outreach to women in rural areas) has been an integral part of each 5 year plans of Tunisia. It has helped Tunisian women to know that the personal status law from 1956 which already gave women rights is further advancing; these laws are still not applicable in some other WANA countries. Tunisian women received the right to divorce, polygamy was abolished and a minimum age for marriage was set. Additional amendments in 1992 further reduced gender-inequalities in the Personal Status Law. Changes were also made to the Nationality Code, the Penal Code and the Labor Code.

Tunisia's Women's National Machinery dates back to the late 1990s. A Women and Development Commission was set up at the end of the 1980s. The Centre of Research, Studies, Documentation and Information on Woman (CREDIF) was established in 1990 and mandated to provide information and gender-disaggregated data for policy makers and report on women's advancement in the country. CREDIF also runs an observatory to monitor conditions of women, and manages a training program on "Gender and Development" for Tunisian and African women as part of South to South partnership.

In 1991, the National Commission on Women and Development was established, joined by similar ministries in other WANA countries in the following years. Its mission was to design an overall strategy and multi-sector based programs for women and to prepare women's strategies for part of the usual 4 year national social and economic development plans. The Ministry of Women's, Family, Children's and Elderly Affairs (MAFF) was established in 1992 under the Office of the Prime Minister. It mandated that activities be coordinated for women at the national level. It was assisted by the National Commission for Rural Women as the key entity to reach out to rural women. Its mission is to elaborate a national strategy to promote rural women and to guarantee greater

impact of the national plan for the promotion of rural women. In the same years, the National Council on Women and Family (CNFF) was founded. Additionally, a unit for Women's Professional Training was set up in the Ministry of Professional Training and Employment.¹⁷⁷

Civil-society and rural women

Civil society organizations also play a role in outreach to Tunisian rural women. The *National Union of Agriculture and Fishing of Tunisia* (UNAP) in 1990 set up a *National Federation of Women Agriculturalists* with 18 regional delegations. The *National Union of Tunisian Women* (UNFT) is the oldest women's NGO in the Tunisia. Other organizations that are involved in providing services for rural women or that represent women's interests are The *Association for Agricultural and Rural Development* (ASDEAR), the *Association for the Promotion of Employment and Housing in Rural Areas* (APEL) and the *Tunisian Federation for Community Development* (FTDC).¹⁷⁸

ENDA, Environment and Development in the Third World, is one of the few micro-finance organizations as well as the only best-practice provider in Tunisia that offers micro-credit to rural women. In 2007, 85 percent of ENDAs clients were women. ENDA offers loans, loan insurance and non-financial assistance for women, including education on women's rights and gender issues, counseling and legal services for female victims of violence. With 156,852 borrowers and a gross loans portfolio of USD 56.4 million, ENDA is the largest micro-finance provider in the country and is currently focusing on developing micro-enterprises in rural areas. Rural women's access to credit in rural areas is still limited and female farmers fall into the ENDAs main category of borrowers (70 percent of its clients) work from home; these women do not surface in labor statistics, have low incomes, are mostly seasonally employed, and lack education and experience. In 2010, the organization saw a 24 percent increase of loans for of livestock rearing.¹⁷⁹

Development programs have also focused on gender issues and women in rural development. Initiated by MAFF and implemented in collaboration with the National Statistics Institute (INS), CREDIF, and ESCWA, a program on gender statistics aimed at to systematically integrate women into national statistics and the development of women-specific indicators in all relevant sectors. SIDA, UNESCO and UNFPA also have supported women specific projects, including in rural areas.¹⁸⁰

Agricultural research and knowledge transfer

With a high percentage of GDP (12 percent) and export revenues (8 percent) accounted by agriculture significant emphasis is placed on the agricultural sector. This is also reflected in priority given to agricultural research and rural development. The number of researchers has risen by an average of 4.3 percent per year in the second half of the 1990s and early years of the new millennium, significantly supported by donor funds. A study on trends in agricultural research in Tunisia in 2006 found 17 agencies involved in this field, with 441 full-time researchers and US\$ 68 million in funds. The Agricultural Research and Higher-Education Institute (IRESA), established in 1990 on the framework of a World Bank-funded agricultural research project, is responsible for oversight of the governmental and higher education agencies that are involved in research. IRESA is a semi-autonomous public agency under the Ministry of Agriculture and Water Resources (MARH) tasked with the administration of four of the country's eight public agricultural research institutes and all nine of its agricultural higher-education agencies. Four additional governmental institutes

are involved in agricultural research: the National Institute for Aquatic Science and technology (INSTM), the Institute for Arid Research (IRA), the Sfax Center for Biotechnology (CBS) and the National Institute for Nutrition and Food Technology (INNTA).¹⁸¹

Agricultural research is primarily government-funded, although as the example of IRESA shows the World Bank and other bilateral and multi-lateral donors (including the EU) have significantly influenced the structure and the organization of Tunisia's agricultural research.¹⁸²

Private-sector agricultural research and development in the agricultural sector does not exist in Tunisia. Since 2002, IRESA has undergone decentralization and strengthening of the regional branches in order to better meet the farmer's needs. Regional collaboration with neighboring Maghreb countries, the countries of the European Union, ACSAD and ICARDA is strong. A study in 2006 found that Tunisia's researchers are well-qualified, with 91 percent holding post-graduate qualifications and 70 percent PhD holders; (30 percent at IRESA and 21 percent at the higher education agencies were women). In 2002, 28 percent of agricultural researchers at the IRESA were women, a share considerably higher than the 18 percent of female researchers in Morocco. If the political development in Tunisia allows women equal access to resources, the percentage of female agricultural researchers with a doctorate degree will most probably rise further, as more than 50 percent of students in agriculture are women.¹⁸³

Agricultural extension

Agricultural extension is provided by several governmental and non-governmental actors. The Agency for Extension Agricultural Training (AVFA) is a public administrative body under the authority of the Ministry of Agriculture and Hydraulic Resources. It is responsible for the implementation of programs training and extension. AVFA is responsible for developing and monitoring programs and all activities related to the capacity development and training in agriculture and fishery. AVFA carries the responsibility for agricultural extension, for training of extension staff and their oversight. AVFA's mandate also includes the private agricultural consultants and their advice to the farmers. It uses traditional training and makes use of outreach and knowledge-transfer through mass media, films and written material. AVFA employs 24 coordinators for each region of Tunisia that operates from technical extension centers. AVFA is responsible for 39 educational institutions in Tunisia that provide vocational training in different agricultural fields. AVFA oversees pilot programs for a better integration of private consultants in the field of extension.¹⁸⁴

The research conducted for this report in Tunisia did not report a gender bias in decision-making or field of work of AVFA extension agents; however, female extension agents are clearly a minority, with less than 10 percent of the entire extension staff of AVFA (30 female extension agents, compared to 400 men). On the field, certain advice is preferred to be given by female extension agents, such as the explanation of artificial insemination of cattle to women farmers.

Agricultural extension is also provided through **projects** that are either funded through the national budget or provided by IRESA through conventional extension supported by external funding sources, primarily international donors. The latter use more participatory methods to identify local needs and based on these baseline studies provide appropriate extension.

Gender mainstreaming is a requirement for most donor-funded projects. A report of the World Bank “Northwest Mountainous and Forestry Areas Development Project” notes that 57 percent of participants train in “various agricultural areas” and 51 percent in extra-agricultural training in crafts and essential oil extraction were women; this is where the gender breakdown ended in the document. No analysis was undertaken as to how the project impacted gender relations and women’s access to resources or workload.¹⁸⁵ Donor projects use a mix of extension methods, from field days to demonstration farms, but also rely on public media such as radio and television. Current donors in the field of agriculture include l’Agence Française de Développement (AFD), the World Bank, and several UN agencies.

UNESCO and ALECSO support an Urban Poverty and Environment Program that implements research and development activities around sustainable use of resources. The multi-stakeholder program has a gender approach and also directly supports women.

Extension and research is also conducted through extension offices that have their own budgets and each cover a specific agricultural sector. I.e. the Office of Livestock and Pasture (OEP) is responsible to promote and develop the livestock sector through research and training. The target groups are female and male livestock breeders that are supported according to their respective tasks in livestock breeding. In general, the extension staff does not report barriers to approaching women livestock-breeders with the exception of the Southern governorates. Research is conducted in cooperation with relevant research institutions, i.e. with INRAT or the Veterinary Schools. A gender breakdown on OE’s technical staff is not available, although there are a significant number of female technicians; they are decision makers. Their reported challenges are budget constraints and logistics, rather than gender barriers.

Knowledge transfer in agriculture is also provided is through agricultural professional associations and unions that are located throughout the 24 regions of the country and NGOs take on a role in agricultural extension and knowledge transfer. A recent World Bank project assessment notes: *“An efficient partnership for local and community-based development is possible between governmental and non-governmental organizations in Tunisia ..., grassroots organizations, namely CDs and GDAs, have strengthened significantly over the project years. The gradual improvement in the education level of key representatives and the increasing presence of all community socioeconomic segments in these groups (women and marginal groups included) suggest that populations are now using these organizations more.”*¹⁸⁶

Another important partner in the agricultural sector to knowledge transfer is the Tunisian Union of Agriculture and Fisheries (UTAP) that was founded in 1950 to represent the interests of Tunisian farmers and persons involved in fishery. UTAP is the umbrella for large and small agricultural cooperatives and serves male and female members by outreach of five regional units. It provides technical support and training to its members. UTAP attempts to reach out to areas that are not covered by public extension. UTAP works directly on the level of famers. It has a centrally-located multidisciplinary unit and three specialist units for fishery and livestock farming and livestock farmers.

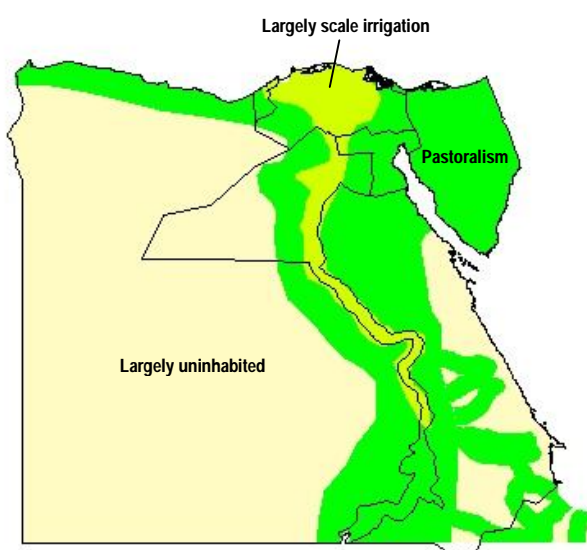
Finally, farmers that have the resources to pay, can access professional extension that is provided by individual local or international agricultural specialists. This is an option that is mostly used by large

commercial farms.

AVFA, until 2010, piloted a World Bank-funded program for rural women in 10 regions of the country that aimed to increase women’s participation in agriculture, knowledge transfer to women farmers, and increased productivity of female farmer’s agriculture and to improve the living standards of rural families. The program ended, and with it the special support to rural women provided by AVFA. It remains a challenge to sustainably anchor support for rural women in agriculture into the structures, policies and curricula of governmental partner organizations.

Male and female farmers are represented in the Tunisian National Federation of Farmers (FNAT) which is part of UTAP. FNAT conducts research in agriculture and assists farmers in their organization and representation. At the executive office level, women’s representation is small and their decision-making ability low.

2.6.2 Egypt



Egypt, with a GDP of USD 188413 million, is northern Africa’s most populous country. Its 1 million km² in landmass is formed by a large extended desert plateau, cut in two by the Nile Valley and Delta. Egypt exhibits three different agricultural systems:

1. Pastoralist farming along the northern coast, the Sinai Peninsula and alongside the irrigated Nile valley extending into the desert (sq Km 286259.25595)
2. Large scale irrigated areas along the Nile Valley and in the Delta (sq Km 52327.96738)
3. Largely uninhabited desert area (sq Km 558530.81619).¹⁸⁷ Only three 3 percent of Egypt holds cultivated land (3.4 million ha),

stretched along the banks of the Nile River, its main branches and canals, and in the Nile Delta. A narrow strip along Mediterranean coast of only a few km in width is low capacity rangeland.¹⁸⁸

Economy

The impressive economic growth since 2004, reaching as high as 7.2 percent in 2008, has not led to a proportionate reduction in income poverty or deprivation.¹⁸⁹ Poverty, particularly in rural areas where 57 percent of the population resides, is prevalent; the lack of job opportunities in rural areas has led to high levels of city migration, into informal settlements of Cairo and Alexandria. UNDP data for 2008 showed that 22 percent of Egyptians lived below the national poverty line¹⁹⁰. Since 1994, the Egypt’s Human Development Reports have clearly shown a persistent level of deprivation of rural households (75 percent of the poor are concentrated in the governorates of Minya, Sohag, and Asyut in Upper Egypt¹⁹¹). While there is progress in some indicators of human development;

the trend has not yet turned. Poor quality education and education which lacks relevance to future and present needs of children and their families, fragmented land ownership, constraints on rural-urban mobility, underemployment, and limited income generating alternatives to farming are the main challenges for rural households. The situation is compounded by unequal distribution of infrastructure.

Unemployment in Egypt is high and youth unemployment is particularly worrisome. At least 90 percent of the unemployed are under 30 years of age and many more are affected by underemployment. The global economic crisis has pushed poverty figures upwards since 2009, a direct result of decline in rates of investment, employment and economic growth.

In higher education the gender gap has been closing. More than half of university graduates are women (56 percent). However, transitioning into the labor market remains a huge challenge, especially for young women. Egypt has a very low labor force participation rate of 18.5 percent and it is especially the high among young women between 18 and 24 of age.

Population

Egypt's population is estimated at currently 80.5 million, with a with an average annual growth rate of 1.9 percent. While Egypt's mega cities, Cairo and Alexandria, are growing, the majority of Egyptians (58 percent) lives in the country side. Even in rural areas, life is crowded and villages are large and could count as small cities in other countries of the region. With life centering on the narrow strip of fertile land along the Nile and the Delta, overall population density in these populated areas reaches 1,165 inhabitants per km².

Despite a significant decline in birth rate (TFR 5.9 in 1970), Egypt still has a high TFR of 2.97 which implies that the current Egyptian population of 83 million¹⁹² will double by 2050. Rural women continue to give birth to more children than urban women (3.2 vs. 2.7). Urban Governorates and Urban Lower Egypt have the lowest birth rate, at 2.6 TFR. Rural Upper Egypt is the region with the highest rates, at 3.6 TFR. Early marriage closely related to higher number of children is primarily a rural phenomenon. Over 70 percent of women and 93 percent of young men between 15-21 years in rural areas are married by the age of 18. The extended patriarchal family is still the predominant way of life; 79 percent of rural households are extended families. Young women in rural areas generally move into the house of their in-laws; over 95 percent of women live with their husband's family.

Egypt's youth bulge is formidable. Children under 18 years of age are more than one third of the population (38 percent), and an additional 23.5 percent (or 19.8 million) of Egyptian men and women are between 18 and 29 of age, putting exceptional pressure on the both the labor market and the educational system. The challenge is not yet met on both levels. 27 percent of young people aged 18-29 have not completed basic education (10 percent have never enrolled in school). The social and gender gap in these figures is staggering, 80 percent of youth that never attended school resides in the countryside; 82 percent of the "never-been's" are girls. In Upper Egypt, the gender disparities are largest, pointing to persisting and deep-rooted gender inequalities.¹⁹³ The same large gap between urban and rural is also visible in female literacy. The DHS data from 2008 shows that while 81.2 percent of urban ever married women between 15 and 49 years of age are

literate; the literacy level drops dramatically for the same age group of women by almost half to 42.4 percent, illustrating the staggering development gap between urban and rural Egypt.¹⁹⁴

Agriculture

The agricultural sector accounted for 16.81 percent of GDP and employed about 31 percent of the labor force, of which 49 percent were female. Egypt is self-sufficient in nearly all agricultural commodities, with the exception of cereals, oils and sugar; these exceptions make Egypt one of the world's largest food importers. Agricultural imports in 2001 included 4.4 million tons of wheat and wheat flour, 4.7 million tons of yellow maize, 0.6 million tons of vegetable oils and 0.4 million tons of sugar. On the other hand, the main export crops were, amongst others, 53,000 tons of cotton, 444,000 tons of rice, 176,000 tons of potatoes and 37,000 tons of citrus.

In Egypt, 99.8 percent of cropland was irrigated in 1997. Even the small, more humid areas along the Mediterranean coast requires supplementary irrigation to produce reasonable yields. Smallholdings characterize Egyptian agriculture; about 50 percent of holdings have an area less than 0.4 ha (1 feddan). Farmland 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; violators are prosecuted and face serious penalties. The total water withdrawal in 2000 was estimated at 68.3 km³. This included 59 km³ for agriculture (86 percent), 5.3 km³ for municipalities (8 percent) and 4.0 km³ for industry (6 percent). Reuse of agricultural drainage water, returned to the rivers, in irrigation amounted to 4.84 km³/year in 2001/02. Of the 2.97 km³/yr of treated wastewater, 1.5 km³/yr is reused for irrigation, while the rest is pumped into main drains where it mixes with drainage water and is then used for irrigation. Treated wastewater is usually used for landscape irrigation of trees in urban areas and along roads.

Social structure

Egypt has always been a deeply religious country with a tribal, patriarchal gender paradigm. A recent World Values Survey conducted in Egypt among female and male youth confirmed this belief. The survey showed overwhelming religious sentiments of youth of all ages and gender. 96 percent of youth in this study placed religion as central in their lives. With this high figures Egypt ranks first in the world of religious sentiments of youth; 38 percentage points above the international average of 58 percent. Kinship and family are of central importance; young people strive to keep tradition alive and gender relations are still largely based on male supremacy in decision-making, traditional gender division of labor and patriarchal values.¹⁹⁵ Introduction into traditional gender roles takes place in early childhood. Girls are raised to "be submissive, considerate and ready to serve the needs of the family, while boys are socialized to interact in the public arena." A recent report notes that women in their 30s spend approximately 3 hours daily on housework, while men invest only 30 minutes. ¹⁹⁶ There is growing evidence of regression in attitudes of tolerance and respect of the other, whether directed at religious or gender affiliation. Sexual harassment is a growing phenomenon that has intensified, after it virtually disappeared during the Egyptian revolution. Sexual harassment is not just a phenomenon of hooliganism, but deeply rooted in present-day values; this becomes clear in the findings of the Egypt Adolescent study from 2010. Three-quarters of all adolescents (79.6% of male teens and 72.9% of females) agreed that when a woman dresses

provocatively, she deserves to be harassed; the highest level of agreement was in Upper Egypt and with young men having secondary vocational school education.¹⁹⁷

Over the past decade, until the popular uprising, woman's issues have been a government priority through institutional arrangements and legislative changes. Progress, however, is slow and women's rights have been a bargaining chip between the government and Islamic groups. Under the current military caretaker government, priority issues are the upcoming elections and the political party law; women's rights seem to have fallen by the wayside, despite announcements to the contrary. Not a single woman was included in the drafting committee for the constitutional amendments which will guide Egypt through the transitional period until a new constitution is in place; civil society organizations concerned with the representation of women and minorities were sidelined. Out of a 26-strong ministerial cabinet formed by Prime Minister Issam Sharaf, only one is a woman. The Supreme Council of the Armed Forces (SCAF) has announced that it will abolish the quota system for women in the upcoming parliamentary election¹⁹⁸ but will retain the quota, reserving at least half of the new Parliament, for "workers and farmers".¹⁹⁹

Women's role in agriculture

Agriculture is the backbone of Egypt's economy; women and girls greatly contribute. A significant 38 percent of the female labor force of Egypt is employed in agriculture, compared to only 28 percent of men.²⁰⁰

In the case of Egypt, it is important to add age to gender as analytical category. ILO estimates that 2.7 of children work in Egypt, two thirds in the agricultural sector. They are vulnerable to pesticide exposure, work long hours under extreme temperatures in the summertime, receive minimal or non-wages and are often verbally threatened or physically abused. Agricultural work often includes cotton harvesting, rice farming and pest control. Land ownership in the Nile valley has become increasingly fragmented; farms are small. Children from these small landowners often join children of landless families to work on larger farms and on new lands. A 2009 study National Council for Childhood and Motherhood (NCCM) estimates that three quarters of working children are boys, and one quarter girls. Even if the Egyptian Child Law prohibits the employment of children below the age of 12, children from 6 years upwards primarily work in cotton fields and during the summer holiday months of July and August. Each year, more than a million girls and boys between the ages of seven and twelve are hired by Egypt's agricultural cooperatives to manually remove the cotton leaf-worm from the plants and destroy the infected portions of leaves.²⁰¹ Female and male working children face the highest levels of discrimination. This is graphically illustrated in enumeration. Human Rights Watch cites wage figures from cotton farming in Daqahliya governorate. Adult men earned USD 1.63 per day, adult women USD 1.36 and children USD 1.08.²⁰²

Women's work in agriculture depends on the agricultural system, the socio-economic situation of the household, woman's age, family status, number of children under the age of 6, her place of residency and the level of education of household members. Female farmers play a different role in pastoralist farming than in the irrigated Nile Valley agriculture and the Delta. In general, women have significantly less access to land than men. Slightly more than 5 percent of landholdings are registered in a women's name. The percentage is higher in Lower than in Upper Egypt, and lowest in the border governorates. According to Dr. Kamla Mansour, Director of the Policy & Coordination

Unit for Women in Agriculture (PUCWA) at the Ministry of Agriculture in Egypt, poultry subsistence production is almost entirely in the hands of women; so is the entire production process of rice farming and food processing. Women are responsible for the post-harvest activities of most agricultural products and play a significant role in fish and dairy production.

Below, two case studies illustrate the role of women farmers and the challenges they face in the irrigated agriculture in Upper Egypt in selected crops.

Gender division of labor in sugar beet and sugar cane production

A field study in Kafr EL Sheikh in Lower Egypt and Quena in Upper Egypt illustrates the pattern of gender division of labor and decision-making in cash crop production; here, sugar cane and sugar beets.²⁰³

Table 8. Gender division of labor and participation in decision-making in sugar beet and sugar cane agriculture²⁰⁴

Operation	SUGAR BEETS (Lower& Middle Egypt)			SUGAR CANE (Upper Egypt)		
	% of women's work	% of male payment	Decision-making by women	% of women's work	% of male payment	Decision-making women
Land, seed preparation	-	-	Land cultivation 90%	25	80	Land cultivation 16%
Manure	18	67		25	80	
Sowing	85.7	100		30	80	
Irrigation	12.5	67		-	-	
Fertilizer	75	80	Method and quantity 44%	10	100	Method and quantity 10%
Thinning & replanting	80	100		-	-	
Pest control	25	67		10	53	
Harvest	40	80	Output use and marketing 10%	30	100	Output use and marketing 10%
Output cleaning & loading	50	67		75	80	
Burning dried leaves	-	-		10	80	
Total	54.5%			28 %	80%	

The study findings show that a woman's decision-making ability is not necessarily linked to the agricultural work she is performing. In general, women have significant less ability to make vital decisions than their husbands or other male family members; however women are involved in some level of joint decision-making.

The educational level of women involved in sugar beet and sugar cane agriculture is very low. Significantly more than half were illiterate, and a further quarter could read and write but had not continued beyond basic schooling. Higher education leads to a lower level of participation of women in agriculture. Most women in the case study were married but most sugar beet production is done by single women. When women lose their husbands, either through divorce or death, their

likelihood of entering the agricultural workforce increases. Despite the heavy physical work that the beet farming involves, girls from 13 years of age are involved.

Case Study: Masharga village- Upper Egypt

Introduction

As part of the field study to this report, focus group interviews were held with male and different type of female famers in a village in Upper Egypt. Like in Jordan, female farmers can be categorized along type of work into three categories:

1. Female heads of farms
2. Women working as unpaid labor on the family farm
3. Female daily or seasonal wage laborer in agriculture

The field study was conducted in the village of Masharga, Beni-Suef governorate in Upper Egypt. The governorate is framed by the governorates of Jeiza in the North, Menya in the South, the Red Sea in the East and Fayoum in the West. Bani-Suef covers 10954 sq Km and has a population of almost 2. 5 million inhabitants. The governorate encompasses 7 cities, 40 local rural units and 225 main villages, with their respective rural extensions. The total cultivated area is about 266,556 Feddan, with cotton, and irrigated wheat as main crops, but also producing herbal plants, onions, garlic and water melons. Masharga has 6871 inhabitants with an average of 7 persons per household.

Villagers practice agriculture on a commercial basis, including animal husbandry on the household level. Agriculture employs most of the villagers and provides almost 80 percent their income. Masharga close to the city of Ahnasia; its agricultural producers depend on its weekly central market for sales of their products. Masharga has an agricultural, a family planning unit, a youth center and a community development society.

1. Female heads of farms

The first focus group meeting was conducted with female heads of farm that had taken on the responsibility in the absence of their husbands, either temporarily or long-term, and farmed between half to 1 and a half feddan of land. Almost a quarter of women farmers in the village fell into that category, all of them between 20 and 50 years of age, with a very low financial status and clearly overworked. While the younger women were well-educated, the older women and widows had low levels of education or were illiterate. Without exception, women ran their own farms in the absence of a male relative not out of choice. Younger women depended on the support of their absent husband’s family for their farm work.

Table 9: Characteristics of female heads of farms (study-sample)

Name	Education	Farm size	Property	HH size	Husband
Um Ibrahim	Illiterate	½ feddan	Family Ownership	6	Passed away
Zainab Sa’ed	Diploma	½ feddan	Family Ownership	2	Travelled
Samia Moh’d	Illiterate	1 ½ feddan	Family	5	Passed away

			Ownership/rent		
Um Walid	Illiterate	1 feddan	Family Ownership	6	Passed away
Mervat	Diploma	1 ½ feddan	Family Ownership/rent	2	Travelled
Um Husam	Illiterate	½ feddan	Family Ownership	4	Passed away

The women farmers plant cereals (wheat, maize), animal fodder (alfalfa), cotton, tomato, sugar beet, and some vegetables in home gardens for their own household consumption. They also raise animals, goats and water buffalos (1-3 heads) and chicken for household consumption. The women farmers reported that average wheat production was 18 Ardab per feddan; maize 12-10 Ardab per feddan.

In small landholding, women are responsible for livestock, crops harvesting, weeding, packing, pesticides spraying, fertilizing, and planting. Irrigation is a male activity and for very hard physical labor, women rely on hired help.

Knowledge transfer

All women farmers reported contact with the agricultural extension agents that collect data on agricultural production and checks the insect traps that are set out by the extension service. Extension visits increase at the beginning of the cotton season and is primarily geared toward cotton, other weak other crops and animal husbandry. The women farmers reported to have learned their profession from their fathers and would resort to neighbors for advice when needed. The women clearly felt that cultural constraints prevent close cooperation between the primarily male extension agents and female farmers. The agents are seen frequently in contact with male farmers that go beyond purely professional interaction and involve sitting and discussing agricultural and village matters over numerous cups of tea.

The women felt clearly that they were left out of any knowledge transfer that could be potentially beneficial for them, as their families depend on the products from their fields for their livelihood. The reasons given were primarily cultural. Most female heads of farms were widows or single women and their communication with men from outside the village was frowned upon. Women also lacked the option that male farmers have when they are actively seeking out extension agents. Mobility restrictions do not allow women farmers to go to the cooperative and ask for advice. *“I might be alone in the farm and might be wearing the farm clothes and that makes me feel ashamed to talk to a man. We wonder why there are no female extension officers that could talk and communicate freely with us. This will avoid any embarrassment and increase our productivity. The government is interested in cotton crop only and we depend on our own experiences for other crops.”* Another farmer added *“Woman – man talking is not allowed even if the man is in our son age.”*

The women farmers were very clear what they needed as extension advice, primarily information on pesticide use, the timing of irrigation and knowledge and access on a variety of crops beyond cotton. *“We do not know from where to get good varieties. We buy them from ordinary groceries and this is unprofessional since the seeds might be good and might be not good. This affects our*

farm production." Animal husbandry and knowing how to protect their livestock from disease was a major concern for the women farmers; they agreed that female extension agents would significantly improve their access to information. "I would hire female extension officers to assure woman-to-woman communication without any barriers. We live in a conservative community and we should respect our rules and traditions." The women suggested seminars and field demonstrations for women farmers to be announced over loudspeakers of the local mosques. The technical content of extension information should be carefully reviewed to guarantee their validity in the local context. Awards could be given to female and male farmers that successfully implement the extension advice and achieve higher productivity.

Barriers in agriculture faced by females are also shared by male farmers in the same category of land-holding, such as:

1. Small-holding farmers are poor, and often need to seek employment to ensure the survival of the family
2. Rural families tend to have more children than urban and rural girls and are married off early
3. Agricultural productivity is low- seeds and transplants they access are frequently of low quality
4. Agricultural input prices are high; small-farmers often lack the access to cooperatives or the clout to bargain for better prices from private sector providers
5. Water is an increasing scarce commodity that arrives (especially at the tail end of the mesqa) in irregular intervals
6. Marketing channels are restricted and small-holdings often rely on middle men or markets close to their farm, reducing their profitability
7. Insufficient support from public extension

Women farmers face additional challenges that related to the patriarchal gender paradigm prevalent in Egypt.

1. They are responsible for the entire agricultural process, however cannot rely on the same support network than men
2. Women farmers have to pay higher prices for inputs such as fertilizer, seeds and pesticides because they have no or limited access to agricultural cooperatives
3. Men have more experience in pest management and access to cooperative know-how; women therefore have lower productivity, with less effective pest management
4. Cultural norms of what constitutes acceptable female behavior are a major barrier for women farmers. Women are expected to stay at home; their mobility is restricted and so is their ability to communicate freely with male extension officers, representatives from agri-businesses, wholesalers and credit institutions. Rural women's realm is the household. In agriculture, that implies social expectations focus on home production and food processing.

- In the presence of a male family member, women’s decision-making in agriculture is restricted. However, the further a women is in her life-cycle, the larger is her room for negotiations.

2. Women working as unpaid labor on the family farm

Table 10: Characteristics of female family farm laborers (study sample)

Name	Education	Farm size ¹¹	Property	HH size	Husband
Ne'ma Moh'd	Illiterate	2 feddan	Family Ownership	6	Farmer
Eiman Samir	Diploma	½ feddan	Family Ownership	4	Farmer
Ne'ma Ramdan	Illiterate	1 feddan	Rent	6	Farmer
Amal Khamis	Illiterate	¾ feddan	Rent	7	Farmer
Mahrousa	Illiterate	½ feddan	Rent	4	Farmer

Women farmers that work as unpaid family labor are the largest category of women in agriculture in Egypt. The participants of the focus group were between 20-35 years of age, all with small children in tow. Their appearance showed their poverty and their level of education was very low. Most women in this category are illiterate or functionally illiterate, although as one women noted “they are still young”. The women interviewed were motivated, enthusiastic and saw their roles as helping their husbands and saving costs for extra agricultural help. These women farmers have little decision-making power on matters of agriculture, but spend considerable time working in the fields in addition to shouldering the entire reproductive work of the household. Their small farms plant crops such as wheat, cotton, maize, alfalfa, onions, garlic, cucumber, tomato, and sugar beets; women work in planting, weeding, fertilizing crop harvesting, packing, and application of pesticides spraying.

Knowledge transfer

Like women that manage their own farms, this segment of female farmers has no contact to the public extension service that provides advice primarily on cotton crops to male farmers. The need of women famers for information on irrigation techniques, crop schedules, pesticide spraying, quality seed varieties, and on animal husbandry, are not met; women have to rely on neighborhood advice. Additional concerns are: the high cost for leasing land at 6000 LE/year, persistent crop pests, high labor costs and poor seed quality.

3. Female daily or seasonal wage laborer in agriculture

Table 11: Characteristics of female seasonal wage laborers (study sample)

¹¹ 1 Feddan = 4,200.833 square meters = 1.038 acres, a feddan is divided into 24 Kirats (175 m²), (Arabic meaning: yoke of oxen - used in Syria, Egypt and Sudan)

Name	Education	Farm size	HH size	Husband
Gharam	Illiterate		4	Farmer
Anhar	Diploma	-	5	Farmer
Beer	Illiterate	-	6	Works in Cairo
Um el Hana	Illiterate	-	7	Works in Cairo
Raja'a	Illiterate	-	4	Works in Cairo

A significant percent of women in Masharga village (300-400 women out of 6871 residents) are hired by medium and large farms, through male contractors, for daily and seasonal wage labor. The women, between 18–35 years of age have all worked in agricultural wage labor since childhood; they usually work from 7–12 am, for an average of 10 LE (men receive a salary of 25 LE¹²). These female agricultural laborers conduct the same type of agricultural activities that women in unpaid work on their family farms, however for pay. Their appearance reflects this difference; they are better dressed and obviously better off economically than their unpaid sisters..

All agricultural laborers breed livestock at home to improve family nutrition. Female agricultural laborers have never received any extension advice, although they would appreciate information to improve their livestock herding and ease their labor. Women farmers are keen for micro-loans and access to cooperatives to market home production, something that is not available to them. Their main concerns are the high level of male unemployment that leads to girls being pulled out of school and hired for agricultural wage labor on neighboring farms.

Access to Resources

The Principal Bank of Development and Agriculture credit (PBDAC) is the main provider of agricultural credit in Egypt. In 2002, one third of PBDAC's short-term loans and 22.5 percent of medium-term loans went to women borrowers. Long-term loans primarily go to male farmers. The Central Administration of Agricultural Extension Services (CAAES) is the main provider of agricultural extension. Its program reflects the perceived traditional gender division of labor with extension advice provided primarily on "male" crops like maize, cotton, wheat, rice; women farmers provided home economics advice on food preservation and poultry raising. Extension on vegetable and fruit crops that are grown by women is minor, and advice on animal production is lacking.²⁰⁵

Agricultural research and knowledge transfer

The Ministry of Agriculture and Land Reclamation (MALR) is in charge of agricultural research and extension, land reclamation and agricultural, fisheries and animal wealth development. The Agricultural Research Center comprises 14 institutes and 11 central laboratories and is the scientific body of MALR for all aspects related to agricultural development.

MALR operates through two institutions:

1. Research is conducted through the **Agricultural Research Center** (ARC) that houses 16 research institutions; one of them is the Institute of Agricultural Extension Researches and Rural Development (AERRD). The institute houses a *Division for Women Development Research* that

¹² 1 LE - 0.12 Euro or 0.16 US\$

is tasked with ensuring women farmers receive extension services that fit their needs and matches their educational, cultural and social background. The institute transfers knowledge through home visits and training courses. Like other public extension institutions, the Division for Women Development Research is hampered by lack of funds, insufficiently qualified staff, and insufficient numbers of female extension agents and lack of transport.

2. Extension is provided through the **Central Administration for Agricultural Extension and Rural Development (CAES)**.

Extension messages are developed at the end of each of Egypt's two productive seasons based on farmers needs assessed through questionnaires and recommendations from researchers. The problems identified on the different agricultural fields are then submitted to the respective specialized technical research institutions under ARC. Joint extension programs for the respective crops are developed. Extension is delivered through field days, field demonstrations, open discussions and plenary dialogues.

According to the Director of the Extension Program at CAES, the extension messages are targeting male farmers only; women are seen as farming assistants and approach under rural development schemes. The focus on male farmers was also confirmed by the Director of the Animal Extension Division at CEAS, despite the fact that Egyptian women have a large role in animal husbandry. "We do provide some technical advices to the females. But the extension programs are designed and executed for men. No specific extension programs designed or executed with and for the women." He added "In animal husbandry there are no real differences between men's or women's needs in the field of extension services.

Timing and location of field days or other extension meetings are adapted to male farmers needs and no special provisions are taken to ensure women farmers are able to participate. The extension approach differs between the sexes. While men are provided with field days, farm visits and group discussions, women farmers are approached in large group meetings and seminars, with less attention to each individual farmers needs. Female independent farmers (largely widows and older women), are sometimes allowed to attend extension sessions for male farmers. The Director of Al Safnya Extension Center in the Qalubiya governorate explained how the center handles these sessions: "Off course we ask women to sit in the back... As everybody knows our rural villages are very conservative and communication with women should follow our traditional cultural norms."

In the words of the Director of the Extension Program, "Women's main needs are in the field of food processing and income from small projects. Men are the real farmers and work on commercial basis. We are a patriarchal society, where man is the basis for everything and the woman is not able to perform but through or in the shadow of the man. No one is considering the women to be the real farmers and everybody even well-educated professionals such as the researchers do not paying attention to women."

This gender stereotyping of women's role in agriculture also affects female extension agents. While they are the only ones that can reach out to rural women, they are neither fully accepted by male farmers nor by their colleagues. Female extension agents are pushed to work on rural development and perceived traditional women's concerns rather than in mainstream and male agricultural production. They also have less access to capacity development than their male colleagues.

The staff breakdown of CAES extension agents by gender and locality shows that while female extension agents on the village level are less than 20 percent, there is slightly less than gender parity on the governorate level. This reflects the fact that Egyptian women prefer employment in government positions, especially office work, which, despite its low pay, offers the flexibility to combine paid employment with their family responsibilities.

Table 11: Gender breakdown for CAES extension staff ¹³

Central Extension Services - CAES	Total	Female	Male
Total extension staff	6370	1115	5255
Staff Governorate level	599	237	362
Staff Village level	3266	531	2735

Only village and water basin extension workers are in direct contacts with the famers; due to cultural constraints, male extension officers cannot visit a female farmer in her garden or poultry farm, especially when male family members are absent. It is for this reason that female extension officers are required to transfer vital knowledge to rural women. However, “strong and active” women are able to break cultural constraints. The older and more experienced a rural woman is (and the more support she has from her family), the more she is able to cross the gender divide.

The table above shows that approximately 20 percent of extension staff on the village level are women. This shows a significantly larger percentage of economically active women employed in agriculture in Egypt, (28 percent for men versus 39 percent for women), particularly in Upper Egypt. Additionally, it shows that because of significant barriers of communication between the sexes, female farmers are underserved by public extension services.

The Institute of Agricultural Extension Researches and Rural Development (AERRD) was established to provide a link between general agricultural researches/researchers and CAES. AERRD’s mandate is to integrate the agricultural research findings from ARC into extension programs and cooperate with CAES for the implementation. In reality, this core knowledge transfer process is not working properly due to barriers and deficits on several levels. The Director General of AERRD notes the challenges that were also expressed by the director of the CEAS:

- Very limited budget allocations
- Shortage in means of transports to the field
- Limited secondary information sources (extension agents rely primarily on the internet and advice from large experienced farmers)
- Limited training opportunities, especially in the field of exchange of experience with other developed countries
- Limited participation in the international conferences due to budget constraints for male and female researchers

¹³ The tables on Egypt and Jordan are derived from the interviews conducted for this study

Women National Machinery on the Agricultural Sector

In the aftermath of the International Conference on Population Development (ICPD) and in recognition of the persistent discrimination against women in most sectors, the Policy and Coordination Unit for Women in Agriculture (PCUWA) was established in 1992 at the Ministry of Agriculture. The unit was set up to ensure the incorporation of rural women's concerns and needs into the policies and strategies of the ministry. Similar units were set up in other key ministries, largely with donor support. PCUWA's first task was to establish a solid database on the social-economic status quo of rural households and identify gender gaps in the agricultural sector. The data available at CAPMAS, the Egyptian Central Agency for Statistics, was insufficient for gender-responsive policy making.

PCUWA 's main tasks are:

- Conduct needs assessments of women farmers
- Integrate rural women's concerns into the agricultural sector strategy (the upcoming strategy is in 2030)
- Collecting data and information on female role/activities in agriculture
- Communicating with extension departments and extension fields to ensure effective knowledge transfer to women farmers
- Provide training to women farmers
- Follow up and monitoring the impact on women farmers

PCUWA's role in research and extension, the design of needs assessments, and extension messages (especially for women farmers) is crucial. PCUWA's steering committee includes members from the extension and research departments. This cooperation on the steering committee level has, however, not resulted in effective cooperation with both departments. While the unit provides relevant information to both departments, it does not have the mandate to enforce the implementation; its impact on the field level remains weak. The same fate awaited the input that was prepared by the unit for gender mainstreaming in the agricultural sector strategy.

PUCWAs staff shifted focus, and, to a certain extent, bypasses the extension and research department and works directly with rural women. The unit provides training on health, food processing and nutrition to rural women, but has reduced its effort in data collection and research. For this reason, data on rural women is very scarce and the study team has been unable to access any updated and detailed data on women in agriculture.

Under these conditions, PUCWA is not able to fulfill its mandate successfully. Its Director, Dr. Kamla Mansour summarized the urgent need for a strengthening of the unit as follows:

- PUCWA needs authority to ensure the inclusion of its recommendations into projects and policies.
- The unit requires a stronger presence in the national conference committee to ensure that no research is accepted that does not fulfill minimum standards of the inclusion of gender.

- Researchers in the Agricultural Research Institutions (males and females) require awareness on gender issues and technical knowledge how to incorporate gender into their research. Inclusion of gender as a quality criterion of research needs to be institutionalized.
- PUCWA needs to improve its linkages and cooperation with the extension bodies and especially with the field units.
- The unit should closer cooperate with private sector extension and establish respective linkages.
- Extension service for female farmers is insufficient and requires additional focus.

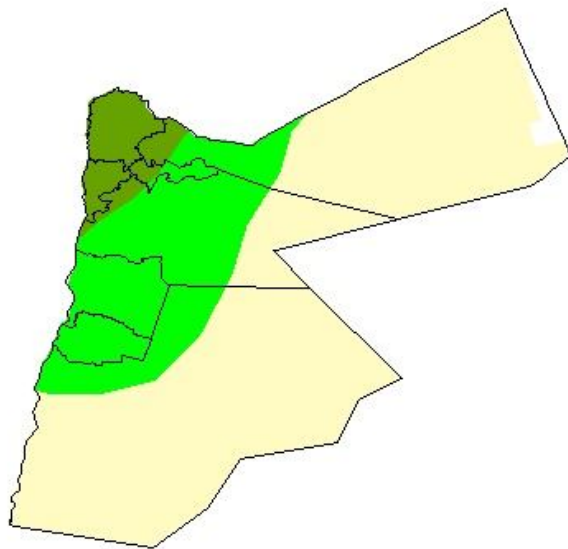
Another two units for the integration of women can be found in the structure of the Ministry of Agriculture and Land reclamation (MALR):

1. **Rural Women Development Administration (RWDA)** in CAES
2. **Division for Women Development Research** in the Institute for Agricultural Extension and Research

The **Rural Women Development Administration** provides support to rural women in the context of general rural development and with a clear focus on women's reproductive role within the rural household. RWDA provides training in food processing, on handicrafts, sewing, health and family planning; however, technical training in agriculture for women is not included into its training. The assumption is that women's work in agriculture is under the guidance of a male and common agricultural work of women such as planting, weeding, screening, pest management, harvesting and packing is undertaken from male instructions. How much the services provided by the RWDA are removed from rural women's tasks was illustrated when the Director of RWDA was asked by the researcher about the needs of rural women based on the gender division of labor in agriculture. *"I cannot tell you. I have no experience in women activities and tasks in agriculture."*

Provisions are, however, made to fit the meetings and training events into rural women's daily schedule. Feast days and the hours of the day right before the public schools close are avoided.

2.6.3 Jordan



The Hashemite Kingdom of Jordan, with a **population** of 6.091.813,²⁰⁶ is part of the Fertile Crescent in the Eastern Mediterranean. The country has a Mediterranean climate with hot and dry summers and a cool winter. Its 92,000 sq km landlocked territory has only a short shoreline along the Gulf of Aqaba. Its main geographical feature is a great geological rift that extends southward from the Jordan Valley and the Dead Sea through the Gulf of Aqaba and the Red Sea into Eastern Africa. Jordan is largely an arid and desert country, part of the Great Syrian Desert, with large expanses of sand, dunes and salt flats in the south and south east, constituting the least

populated part of the country. The desert rises gradually into the Jordanian Highlands, a 900 m high limestone plateau, steeply cut by gorges whose western edge consists of the eastern side of the Jordan River-Dead Sea depression that occupies 10 percent of the country. The northern part of the rift valley, from the Yarmuk River to the Dead Sea, is referred to Jordan Valley or Al Ghor, and is home to a significant part of Jordan's agriculture. The short Jordan River, a tributary of the Yarmuk River and Az Zarqa River, are Jordan's primary surface water sources. Jordan is home to three different farming systems:

1. The northwestern tip of Jordan is primarily dryland, cereal and livestock farming (5577.49504 sq Km)
2. The central region pastoral agriculture (22459.00967 sq Km) and the eastern desert area of (61253.45730 sq Km) is largely uninhabited.²⁰⁷

Most of the country receives less than 10cm rainfall with the exception of the highlands. Sustainable use of natural resources management therefore is a major challenge for the government

The World Bank classifies Jordan as a "lower middle income country with a per capita GDP of USD 4,700. Jordan has made significant progress in **education and health**. The mean years of schooling more than doubled from 3.8 in 1980 to 8.65 in 2010.²⁰⁸ Primary schooling is now compulsory (albeit gender segregated) and almost universal; young Jordanian women enjoy virtual equality with men in terms of developing their educational potential. Women even outpace men in secondary schooling and achieve their intermediate diplomas.²⁰⁹ Nevertheless, the quality of education, especially in government schools and colleges, and its appropriateness for a modern economy, remain a work in progress.

Jordan's greatest challenge lies in its **economy**, especially in the aftermath of the global economic crisis. Although the nation's GDP more than doubled from 4.2 percent in 2003 to 8.6 percent in 2004, it dropped during 2009 to a low of 2.3 percent.²¹⁰ As a result, the national debt increased to JD 12 billion or 65 percent of Jordan's GDP.²¹¹

Demography

Jordan is in the early stages of a demographic transition that includes declining fertility rates, increasing life expectancy, and decreasing under-five mortality. The country experienced a rapid fertility decline from 1983 to 2002; fertility has remained constant at 3.6. Fertility between urban and rural areas, as well as between education and income levels, varies significantly; poorer families have twice as many children as wealthier families and rural families more than urban. Under these conditions, Jordan is set to double its population in 30 years.²¹²

Employment

Because of Jordan's growing population, the labor market needs to annually absorb 50,000 new workers; with a looming economic crisis affecting the Gulf region, labor migration is much less an option than a decade ago. Jordan faces a distinct problem of a growing local economy that is not absorbing its local youth population. Nearly one in every three youth between ages 15 and 30 are unemployed; more than half of young Jordanian girls are inactive (neither in school nor in the labor force). At the core of this youth unemployment crisis in the country is the mismatch between the knowledge and skills taught in the school and the skills demanded by the private sector. More than 25 percent of firms in the region report a lack of skills among workers as a major constraint on business growth. Another factor is the high rate of foreign labor in Jordan. It is estimated that half a million workers or 24 percent of the total Jordanian labor force are foreigners.²¹³ Almost of third of the foreign workers (28 percent) are employed in agriculture.

It is also estimated that poverty, currently at 13.3 percent, will increase with a corresponding augmentation in the number of poverty pockets and a widening regional and urban-rural poverty gap.²¹⁴ Overall, Jordan has a low employment-to-population ratio, and the gender gap is very high for a country with such well-educated women: 40.1 percent of men and only 14.9 percent of women participate in the labor force (more than half in the public sector). This is a very low participation percentage in general, but even more so when compared against the female enrollment percentage at the University of Jordan, which stands at 63 percent. So many women pursue university studies, but do not join the workforce after graduation and do not build careers for themselves. Women receive approximately 80 percent of a man's salary for the same type of work.²¹⁵ Women face several barriers to employment- their family's objection and mobility restrictions being the most pronounced. Working women in Jordan are generally young and they drop out of work either after marriage or when the first child is born. In the formal agricultural sector, this pattern is different; women tend to be married, with children, and older.

Like in the rest of the WANA region, Jordan's **youth unemployment** is a major challenge- more than half of the unemployed are youth under 25. In 2007, 52.3 percent of youth were unemployed. The key factors underlying this persistently high unemployment rate and low labor force participation are the labor market's limited capacity to create jobs.²¹⁶ The Jordanian Department of Statistics gives unemployment figures as 21.7 percent for women and 10.4 for men, although

unofficial estimates are double that rate. Even though the country has achieved its MDGs for poverty reduction (reducing poverty of under 1 USD per day from 6.6% to under 1% since 1992),²¹⁷ under current socioeconomic conditions, these numbers could rise again. Jordan's biggest challenges are its very limited natural resources. Unlike many of the states in the region, Jordan has no oil; its **resources** are limited to phosphates and agricultural produce. The economy depends largely on services, tourism and foreign aid, for which the US is the main provider.

Agriculture

Agriculture has always been limited due to Jordan's scarce natural resources, primarily water. Only about 4.2 percent of Jordan's land is considered arable, from which 2.5 percent is cultivated and 84% is rain-fed; the remaining 16 percent is irrigated. Less than a quarter of Jordan's landmass received more than 200 millimeters of rainfall per year, the minimum required for rain-fed agriculture; the low per capita availability of renewable water (150 m³ in 2000) severely limits the potential for irrigation. Rainfall varies greatly from year to year, so crops are still at risk of draught. Over the last 50 years, a clear decline in ground-water base flow has been observed..²¹⁸

Jordan, like most of the countries of the WANA region, suffers from severe **water scarcity**. Having experienced declining rainfall for several decades, semi-arid Jordan is effectively mining its groundwater resources by over 200 MCM. Over pumping is not the only threat to water quality, which is also negatively impacted by insufficient management of domestic wastewater, illegal dumping of industrial and domestic waste, and excessive use of pesticides and agricultural fertilizers. Although the vast majority of Jordanians (97 percent in 2004),²¹⁹ have access to piped water, wastewater and solid waste management remain problematic. The water scarcity requires water conserving agricultural methods. Cropping patterns have changed in the last decade. Field crop farming (cereals, pulses, tobacco and vegetables) has declined, while fruit trees and olive agriculture increased. This trend is attributed to urbanization, the reduction of land suitable for field crops, and the increasing fragmentation of land holdings. The limited availability of water and land suitable for grain cultivation indicates that even with incentives and the best available farming technology, Jordan must continue to import the bulk of its grain. Under these conditions, there is a clear discrepancy between the 1999 Law of Agriculture that outlines the national goal for achieving food self sufficiency—implying meeting the country's needs for all food commodities and the current reality in the agricultural sector. A UNDP initiative concludes in 2009 "The threat of food insecurity promises to reverse progress made to date towards achieving the MDGs, by aggravating the already existing gaps and further affecting vulnerable groups."²²⁰ With the exception of olives, Jordan imports most of its staple food, primarily cereals, milk products and beef. In the last decades the agricultural sector has declines in terms of actual contribution to national income and actual arable land. Agriculture, including forestry and fisheries, currently contribute 3.1 percent to Jordan's GDP. However, with strong vertical linkages into other sectors, an estimated 28 percent of the GDP is considered agriculture-dependent. The sector provides livelihoods for about 20 percent of the population and employs about 2 percent of Jordan's labor force. Agriculture employment is dominated by migrant-workers; only 38 percent of paid employees in this sector are Jordanian. Rural-urban migration, an unfavorable working environment, and low wages make the sector unattractive for Jordanian employees.

Most agricultural activity is concentrated in the rain-fed northern and central highlands where

wheat, barley, tobacco, lentils, and chick-peas are cultivated next to olive trees. In the fertile Jordan River valley, 27,500 ha are cultivated primarily with fruits and vegetables, including cucumbers, tomatoes, eggplants, melons, bananas, and citrus crops. The Jordan River Valley received little rain, and irrigation water is provided by the East Ghor Canal. About 60 percent of those involved in agriculture are small farmers. On 1.25 m dunum irrigated and 1.57 m dunum rain-fed land, Jordan's farmers grow primarily tree crops (olives, almonds, apples, pears and apricots), field crops and vegetables (tomatoes, cucumbers, potatoes, eggplants, melons and others.)²²¹

The eastern desert area or "Badia" cover 91 percent of Jordan's landmass. Its population (5 percent of Jordan's overall population) is primarily Bedouin tribes; the vast majority (85 percent) settled. The Badia's scarce resources are under severe threats. They are challenged by continued agricultural expansion eastwards into the drier lands, population growth and unsupervised agricultural practices. The rangeland is severely degraded due to overgrazing, uprooting of range plants, off-road driving, improper land use and cropping pattern, and growing urbanization. Barley is the main rain-fed field crop and forage, vegetables, fruit orchards and wheat are under irrigation. Jordan has a significant livestock production, (contributing to about one half of the total agricultural GDP) primarily sheep, goat, 64 thousand heads of cattle and camels. 61 percent of Jordan's farm animals are located in the Badia and around 70 percent of Jordan's animal products are produced here. The traditional land tenure system has broken down, and in practice rangeland is available to those who can exploit it. The economic motivation to conserve the rangelands is minimal, as feed is trucked in for all but two months of the year when the natural vegetation can sustain the flock.²²²

Agricultural Credit

The Agricultural Credit Corporation (ACC), the sole institutional source of formal agricultural credit, does not service small-scale producers and marginalized women farmers who find it difficult to meet credit terms and conditions, particularly relating to collateral requirements.²²³ This void is being filled by some local and international Non Governmental Organizations who have been successful in operating micro-credit programs that benefit both urban and rural poor. The Ministry of Social Development has the productive families program, which targets some of the families taking repeated support funds from the National Aid Fund (NAF) with no-interest loans, and by offering grace periods of up to one year. During the grace period, the NAF support continues to the family, to make sure that the project is functioning properly.

The Ministry of Agriculture provides grants through livestock projects to families in the poverty pockets, in order to engage them in income generating activities. However, these interventions are limited, as the budget available for such projects is usually not sufficient to reach a sizable percentage of the poor.

Since 1994, the Microfund for Women (MFW) provides micro-credit (group and individual loans) and non-financial services primarily in the center and the North of the country. MFW targets female entrepreneurs who require financing to expand or improve their existing income-generating projects or businesses in urban and rural areas.²²⁴ Microfinance is especially important for rural women that have very limited access to credit through agricultural cooperatives and Banks however credit outreach to rural women still remains limited. Cash income is crucial too for women's empowerment. UNDP in Jordan found a clear link between cash income and women's increased decision-making role and authority in family matters.²²⁵

Gender issues and the role of women in agriculture in Jordan

As noted previously, only two percent of Jordan's labor force is employed in the agricultural sector. Approximately three quarters of this labor force are men and one quarter women. Women's involvement in agriculture varies widely across the country with Ajloun (31 percent), the Jordan Valley (30 percent), and only 17 percent in desert areas.²²⁶ A survey in the Al-Azraq area in the Zarqa governorate found that women's agricultural work was restricted to home gardening only. Labor statistics, however, must be reviewed with skepticism. Agricultural labor of women that is viewed as an extension of household responsibilities is not recorded in national statistics, and women's labor in agriculture might be underreported due to cultural constraints.

In irrigated agriculture, women have only a limited role primarily due to the fact that women farmers have serious constraints to access for the investment that this type of agriculture requires. In the Jordan Valley's irrigated agriculture, traditionally farmers are poor and own little land or work as agricultural laborers on the land of outside investors. However, independent small-holdings 0.5 – 3 dunums, still exist in the Jordan Valley. Rural women see themselves as assistants to their husband, primarily in planting and harvesting.

Rural women have a large role in subsistence farming and rain-fed agriculture, especially livestock breeding (up to 40-50 head of sheep or cows), where they are responsible for most tasks in animal care, feeding, watering, milking and dairy production. Rural women are also responsible for household and community dairy production, primarily yoghurt, cheese, Jamid and ghee. In protected agriculture (plastic tunnels for vegetable production), women take on delicate tasks such as threading beans in supporting structures.

A study of women in agriculture in Jordan found that the majority (83.7 percent) was married and a relatively high percentage (10 percent) was illiterate. The majority of women farmers run small farms with 15 Dunum as mean farm size.²²⁷

Women's participation in agriculture can be classified in three categories:

1. Independent female farmers that are make their own decisions and are responsible for all agricultural operations, irrespectively of the gender division of labor in the sector. This segment is very small, and declining, due to the heavy workload involved, cultural constraints and the increase in levels of education of girls and women. Independent women farmers are generally single, widowed and above 35-40 years of age.
2. The majority of rural women that provide unpaid labor in agriculture on family farms of medium and small size open field and plastic green-house farming. This is the largest segment of women in agriculture in Jordan; most of these women are not captured in labor statistics. They see themselves as "helpers" of male family members, even though they provide significant and meaningful labor. Also, this segment of female farmers is declining with the rise in levels of female education and the declining profitability of small and medium farms.
3. Women in paid agricultural work in commercial and medium size farms in daily and seasonal labor. Their work involves primarily crop harvesting, packing, weeding, planting, plant care in

greenhouses and pruning of fruit trees. A 2003 study on women in agriculture found that three quarters of women workers in agriculture received less than 100 JD per month.²²⁸

A recent study conducted by NCARE in three rural dry-land farming communities in Eastern Jordan's Mafraq governorate (growing wheat and barley) found that women have a role in animal husbandry and plant production. Women are exclusively responsible for all the tasks related to animal husbandry; milking, birthing of small ruminants, feeding and cleaning animal sheds, in addition to dairy production. Women contribute up to 55 percent of all labor required in plant production such as land preparation, planting and crop harvesting. A surprising find was that more than 70 percent of women over 40 years of age in all three villages were illiterate. The study found that a lack of education of rural women posed the main barrier to knowledge transfer in agriculture. Another factor noted by the study is the scarcity of information and reliable data of women's role in agriculture and rural development. The lack of information effectively renders rural women invisible for agricultural planners and policy makers.²²⁹

Case study: Women farmers in the Jordan Valley

For this study, focus group meetings were held with women farmers in the Jordan Valley where irrigated farming is practiced, as the area receives very little rainfall. Women in the conservative "ghor" (as the valley is called locally) primarily assist their husbands or fathers on farm work or agricultural wage labor. Their illiteracy rate is high (42percent, according to a 2003 study)²³⁰. Female-headed farms are very rare and usually are run by women that are widowed, single and with no male support, usually above 30 years of age. Vegetable production (beans, potato, cabbage, molokheieh, onions, cucumber, and tomatoes) in plastic houses and open fields dominate the agriculture of the "ghor" villages. Farming in the Jordan valley is characterized by a clear gender division of labor. Women are involved in weeding, planting, harvesting, packing, fertilizing, preparing the food for laborers and wiring the plants in plastic houses. Men's tasks in farming are irrigation, provision of agricultural inputs such as fertilizers and seeds, marketing of crops, dealing with pesticides, and contracting and supervision of day and seasonal laborers.

Access to agricultural extension

Women that provide unpaid family labor in small-holdings did not receive any public extension support directly, nor for that matter did their husbands. Agricultural companies did, in some instances, provide seeds and information, however always with a commercial interest. Most women farmers admit to "learning by doing" and women-to-women advice, the former a very inefficient way to knowledge transfer. However, women farmers were invited on personal initiative by independent women farmers that were visited by extension agents. In the words of Fedda Deyat, one of the few independent female farmers in the area: "Extension officers come to my farm to show their image and get others' satisfaction; I am an advanced and dedicated female farmer and because I am one of very few female farmers in the area. They also come to me to do some demonstrations in my farm. They also ask me to call other farmers to their activities. I usually, invite some female assisting farmers to share with me the experience. They also learn from me and ask me technical questions".²³¹ Women farmers like Fedda Deyat break the barriers imposed by the traditional gender paradigm by their sheer presence and experience. Local women confirm "We

learn from Fedda. Even our husbands come to her to get some information or to learn something. They might go with Fedda to the agricultural directorate.”

Other indecent female famers in the Jordan valley reported of contact with the extension service provided by the Ministry of Agriculture but to rely on information shared in international exhibitions, conferences, from discussions with competitors, and on their own field experience.

Challenges faced by women farmers

Female famers in the Jordan valley face several challenges:

1. In the conservative society of the Ghor, women’s mobility is restricted (“under binoculars”), gender roles are closely maintained, and their adherence monitored; this limits female farmers’ access to vital resources. Gossip is a powerful tool in conservative communities to ensure that the boundaries of social norms are not trespassed
2. Women farmers face the double burden of productive work in agriculture and the entire reproductive workload in the household
3. Women’s agriculture is less productive because they have less access to up-to-date information, technology and input
4. Women farmers’ access to local markets and specifically to whole-sale markets is restricted
5. Women have, only in rare cases, access to land; agricultural land is usually in the name of the male head of household
6. Access to financial resources and credit is a major challenge if women want to start or invest in their own businesses or expand their production
7. In rural families with an able-bodied man, decisions in matters of agriculture are made by him; women are seen as inferior and their agricultural labor as “assisting” men
8. Decision-making in agriculture is the domain of men and in most cases knowledge transfer is channeled through men.
9. Female farmers themselves listed marketing, high price for agricultural inputs (primarily seeds and fertilizers), the social, class and gender barriers that prevent women from approaching the extension directorate, the lack of extension advice and the “impatience” of their husbands as main barriers to a more productive role in farming.
10. Women independent farmers are in need of information on crops varieties that consume less water, water efficient use in agriculture and, knowledge on new date palm varieties. They request better educated extension staff with extensive field experience that provides needed technical information and is able to act as a conduit for agricultural innovation.

Self-perception of women famers

The interviews with the women farmers demonstrated that the women themselves, despite their significant work in agriculture did not perceive themselves as having a role in agriculture. The traditional gender division of labor clearly influenced their self-perception. This is graphically illustrated in one comment: *“Normally, we do not get extension services or in fact we are not exposed to such services. This is not our issue. This is our husbands’ issue!”*

The assumption of policy-makers and planners in agriculture that women do not play a significant role in the sector are reinforced by women’s self-perception as homemakers, irrespective of their

actual work-load and tasks in farming. There are preconceived notions on all levels which perpetuate a vicious-cycle that can only be broken by female role models that clearly prove the prevailing gender stereotyping in agriculture wrong – such as the few female heads of farms.

Independent women farmers need to be especially strong “physically” and “psychologically”; farm work is intensely backbreaking, women’s access to machines which could ease their labor is very limited and rural communities are often dismissive and obstructive to independent-minded women farmers. The support of male relatives, fathers, brothers and uncles is important for independent women farmers to overcome societal rejection. Work in agriculture is still seen as the work of men. It is for this reason that women in agriculture receive little social and community support and their work is either invisible or little valued. This unequal value, combined with the physically heavy workload, may be why women’s unpaid family labor is declining. In the words of one female farmer: “*Women left agriculture, since they are more educated and wish to have office work. Maybe the office work is not better but much more appreciated by the community.*”

Agricultural research and knowledge transfer

In Jordan, the Ministry of Agriculture is responsible for research and the provision of agricultural extension services. Public agricultural extension in Jordan is complemented by the private sector, the latter composed of Non Governmental Organization (NGOs), farmer organizations, suppliers of agricultural input and services. NGOs such as the Jordan Hashemite Fund for Human Development (JOHUD) provide also extension especially for rural women.

NCARE agricultural research

The National Center for Agricultural Research and Extension (NCARE) operates seven regional centers and 13 research stations representing different agro-ecological zones. The table below illustrates the gender composition of the researchers and the different levels of qualifications.

Figure 12: Staff breakdown of NCARE Research Department (*Source: field study*)

Total	Decision-makers		PhD		Master		Research Assistants	
	F	M	F	M	F	M	F	M
358	9	20	11	45	26	59	65	152

NCARE has a significant number of women in decision-making positions; almost half of the researchers with a master degree are women. The numbers of female researchers that participate in international conferences is less than 20 percent. Women are confronted with social barriers also in their field research. The difficulties that women face in conference participation, as well as promotion, are less due to discriminatory practices at NCARE than to social and mobility restrictions imposed by the researcher’s families.

NCAREs one year and five year plans, including research, are designed based on the current Agricultural strategy (2009-2014) priorities of the Higher Council for Science and Technology for the agricultural sector and field information.

NCARE’s researchers are in charge of determining the research topics based on field visits and feedback from extension officers. It is their research that is fed into the extension programs.

However, on the level of the farmers, extension officers do not cooperate with the research department and formulate their own messages.

For agricultural research to be need-driven from the farm level, cooperation and communication between NCARE's research and extension departments need to function efficiently. Here clearly lies a challenge. An unspoken hierarchy exists between the research and extension staff. Needs from the extension side for research does not always match the interest of the researcher; communication is characterized by frequent conflict. Extension staff relies on their own limited resources and internet research to answer questions related to innovative agriculture they receive from the farmers. This de-linking of research and extension has serious repercussions. The extension officers feel themselves in an institutional void, with no authorized references for advice and no institutional backing. This invariably negatively impacts their professional self-confidence, their value for the farmer, and the overall farmer-extension officer relationship.

Research is geared primarily towards the needs of small and medium farmers. The research department is aware that large commercial farmers rely on international sources and up to date knowhow. Also in the research department rural women's needs are visualized as focused on subsistence food production and home gardening.

University research-faculty of agriculture

Agricultural research is also conducted by the faculty of agriculture in the University of Jordan, where the faculty professors at the university put forward the research topics and available funding plays a role what research is undertaken. No mechanism is in place to link the research priorities of the faculty with either policy requirements or farmers needs. The latter can be brought in through students or by farmers that participate in university field days or seminars; however, institutional considerations of the university and the academic advancement of the student/researcher, in practice, are priority. Field research based on the needs of farmers is the exception rather than the rule. When researchers seek contact with famers, either for research or knowledge transfer, it is usually on a personal basis. One such relationship was established with the Date Palm Society in Jordan that received technical support from the faculty.

Research topics are priorities according to type of agriculture rather than the category of farmers or the respective diverging needs in the different agricultural systems in Jordan. With the focus on technical and scientific details rather than on human or socio-economic factors, gender as a category also falls by the wayside in research. Knowledge transfer and publication of research results takes place through traditional academic channels, primarily scientific publications, brochures and the faculty radio broadcast.

Cooperation between the faculty of agriculture and NCARE research department is active and good. The faculty of agriculture provides most of NCAREs researchers and the former students seek faculty help in research when needed. In some research projects, both institutions cooperate. However there has been a noticeable shift in the type of agricultural research in the last decades that adds little to the actual needs in the local agriculture. The dean of the faculty of Agriculture noted, *"Since 15 years students started to shift towards laboratory topics rather than field research.*

This is not a positive indicator since students get involved in great depth in a narrow field and ignore field research."

A similar assessment on research and recent development was given by the Dean of the Institute of Agricultural Research, Training, Extension and Education in the Jordan valley that is also associated with Jordan University. Research topics are put forward by the Scientific Research Fund and follow academic, rather than field, priorities. With the focus on pure science, socio-economic issues and gender are also of no concern in the research of the institute. A cooperation agreement with NCARE is not active. The institute has only male researchers but three female engineers.

Agricultural studies for a long time have been perceived as male domain and hardly any Jordanian women would study agriculture or pursue a career in the agricultural faculty. Cultural constraints were a major factor, as were the social difficulties female students faced in taking scholarships outside of Jordan, travel into the field and pursue post-graduate studies. There has, however, recently been a change and the faculty currently has 8 female researchers, including three with PhDs; this is still less than 10 percent out of 92 researchers and professors. While women have made inroads into the faculty of agriculture, female researchers still face cultural barriers in field work, especially transportation (i.e. a woman cannot ride by herself in a car without a male driver).

University-based agricultural research in Jordan, in general, faces limitations:

1. Budget constraints, field visits, and transportation are challenges
2. Access to secondary source information
3. Training opportunities, especially in the field of exchange of experience, in the region and beyond
4. Participation in international conferences that impacts the quality and distribution outreach of research publications.

NCARE agricultural extension

NCARE implements up to 45 extension programs yearly through its 13 decentralized extension units. That includes including on-farm advice on water use efficiency and irrigation systems.

While NCARE's extension department views farmer's needs and concerns as the basis for its extension programs, this bottom up approach is constrained by its limited extension staff and resource constraints. 58 extension officers (17 women and 41 men) cover the whole of Jordan. The extension department is managed by 3 female and 1 male directors. Participatory and innovative approaches to extension are known, but many extension officers in the field directors still work with traditional approaches, designing their own messages knowledge transfer through seminars and field days. Extension plans and messages for women farmers are developed by the female extension officers in cooperation with local NGOs and based on requests from the field. While interviews conducted with researchers do not indicate gender discrimination in the institution itself, female extension agents are constrained in their mobility and professional advancement by prevailing social norms and their household responsibilities that limit their time-flexibility at work.

The tight resources of NCARE's extension department have serious repercussions for the efficiency, appropriateness and applicability of the extension information provided.

An assessment study of the agricultural extension service provided by NCARE, that included interviews with farmers and MoA staff concluded that private extension had substantially more credibility with farmers than the public. The latter were seen as "poor quality and ineffective," an assessment that was shared also by representatives from the MoA itself. The Director of NCARE's extension department noted that the extension provided by his department focuses on "general aspects" and does not provide the in-depth information on application that farmers need. A female extension agent summarizes the challenges she faces in providing extension to women farmers: *"Our extension packets might be appropriate but not developed. It is fixed since ages and needs updating and improvement. We have been trained once in our life on dairy processing and we keep training on the same methods and techniques, despite the fact that life is progressing and new techniques are developing. We need to develop our skills and update our information. We keep repeating the same old information."*

A similar conclusion is drawn by the AED study: "The majority of farmers complained that the MoA extension staff lacked competency, rarely visited farms, and distributed limited and outdated information. Private sector extension agents/salesmen interviewed said that they never saw MoA extension agents visiting farms. Only the least sophisticated farmers believed they benefited from MoA extension services, and many of these employ out-dated farming practices."²³²

The list of challenges that the public extension service faces are compiled below from the AED study; the conclusions are from an IRWA/NCARE workshop²³³ and interviews with the director of extension at NCARE conducted during the study for this report:

- Low importance given to agricultural extension by policy makers and government
- Insufficient budget allocation and severe resource constraints
- Absence of clear guidance at the policy level
- Lack of vision and mission for agricultural extension
- Insufficient or absent cooperation between different actors in agricultural extension
- Insufficient linkages to donors
- Limited number of staff with insufficient technical know-how and communication skills
- Insufficient female extension officers
- Trained and experienced extension staff is transferred to other departments or leaves due to burnout
- Low motivation of extension staff (due to lack of financial or career incentives i.e. for farmers' visits)
- The current extension programs are planned from the top down, and involve little to no interaction with the farming community
- Farmer-extension offer relationship has declined due to inappropriate and outdated information provided
- The Extension Service has few cars; these are often used by the MoA for non-extension purposes. Transportation to the field is a constraint.

- Low-level of understanding by extension staff on how production must be linked to market demands

NCARE Extension messages and approach: gender differential

The extension support provided to male farmers significantly differs from that of female farmers. The extension for women, in the words of the Director of NCARE's Extension department, is based on the assumption that: "*Land ownership fragmentation, lack of land-ownership by women and other constraints lead to a decline of the role of women in agriculture. Their role does not exceed the limit of rural home-garden production, food processing, and cultivation of herbs and mushroom production...Working with women, from my position as decision-maker is more efficient and serves the community. Women are normally more humble look for practical information, are good listeners and have direct access to the real needs of the household.*"

Under this assumption NCARE's extension primarily targets rural women that provide unpaid agricultural labor, usually working with their husband or male relatives on their family farm. Female agricultural day and seasonal laborers do not constitute NCARE's target group; officially, neither do independent women farmers. While male farmers are provided with marketing oriented technical know-how aimed at improving farm productivity and income, their female "farm assistants" received extension (through primarily female extension agents) to improve the output of their (non-commercial) home gardens, in packaging, grading and animal husbandry.

NCARE's extension for women farmers also differs in its approach. While male farmers are approached directly, individually in field days and seminars and with technical matters, women farmers are taught in groups and in cooperation with NGOs or local civil-society organizations that do not necessarily have the know-how required to provide appropriate advice in agricultural matters. While men are provided with extension at any time during the day, the time-window for women is from 10 pm until 12 mid-day, due to their additional reproductive work responsibilities in the household. Small-holder male farmers face a similar time-constraint. With their farms no longer economically feasible, they take on work in the public sector or the armed forces; and their time for extension is severely limited.

Gender differentiation also comes into play in the location of extension meetings. Field days and demonstrations for men are held on-site and are directly linked to the farming process and products. Women farmers meet in local CBOs, school or community centers, removed from the field.

Private and other extension providers

Parallel to the public extension service, commercial companies have an important role in agricultural extension in Jordan; according to study findings, they have more credibility with farmers than their governmental counterparts. Approximately 100 companies in Jordan sell agricultural supplies and machinery and provide extension service to farmers. The six largest companies have extension specialists in the field that interact daily with farmers and provide advice on crop production, post-harvest management and markets. Large companies with strong technical support also test products under local conditions.

However, despite their credibility, there are clear drawbacks to private agricultural extension. The study confirms findings from a MoA study in the late 1990s: *“Their motive being profit, they concentrate on those activities where farmers spend the most money. Large and capital intensive farms are well-served in terms of information and support on inputs like planting materials, fertilizers, agro-chemicals and spraying equipment. Conversely, small-scale and poorer farmers, especially women farmers, and those farmers engaged in the less intensive rainfed agriculture receive limited to no attention from the private sector”*²³⁴ More environmentally sustainable technologies that reduce the level of inputs required for agriculture (e.g. IPM, organic farming, and efficient irrigation) are not included in private sector extension.²³⁵

Beyond the public and private sector, extension is also provided by individual consultants. Wealthy farmers have resources to gain information and advice from international trade shows or foreign experts. In general, Jordan’s farmers are not willing pay for extension services either because they are used to free services, are skeptical about extension value, or lack the required resources.

3. Agricultural research and innovation in the WANA region

Over the past 50 years, approaches to agricultural research have evolved. Reviews of the International Center for Agricultural Research in the Dry Areas (ICARDA) have found that using participatory methods reduces varietal development and dissemination by half compared to traditional breeding programs. Findings such as the ones from ICARDA have led to a shift from the transfer-of-technology model to farming systems research and participatory and multi-stakeholder research approaches. As a consequence, many agricultural research organizations are adopting multi-stakeholder or participatory innovation.

In the mid 1990s, the recognition that smallholder farming communities need to take center stage in research and innovation led to the foundation of the Global Forum on Agricultural Research (GFAR)²³⁶ 1998. GFAR works with the National Agricultural Research Systems (NARS) to ensure that they represent, not only public-sector research institutes, but all stakeholders in agricultural research for development. The NGO Consortia for agricultural research for development is an initiative of GFAR, however only exists in Africa, Asia and the Pacific region. GFAR has also been instrumental in the establishment of Global Partnership Programs (GPP) such as Prolinnova,²³⁷ an NGO-initiated multi-stakeholder program to promote local innovation in ecologically oriented agriculture and natural resource management that currently does not operate in the WANA region.

The WANA region has, however, been active in other GPP however programs. A random review of GPP project documents however illustrates that participatory and farmer driven development does not automatically involve women farmers. This requires raising additional effort and awareness. A GPP initiative "Introducing Organic Farming System in Olive Production and Linking Small Farmers to Markets" was successfully implemented in Jordan through a consortium of seven Jordanian olive oil companies, in cooperation with local farmer organizations. The role and benefit of women that have a major role in olive agriculture, processing and in the production of olive oil soap and other products is, however, not mentioned in the project report. As the cooperation with farmers has been through local farmer organizations it can be assumed that women have been largely excluded from the planning and implementation.²³⁸ A second GPP initiative from the WANA region, "Revitalization Community Based Traditional Seed in Yemen: Experience of the outreach Seed Program AREA", treats farmers as a category; it is not clear whether female or male farmers benefitted or were even involved. Judging from the photos that accompany the report, the project has been an all-male affair.²³⁹

IFAD recently assessed the implementation of the 1990s paradigm shift in research. It concludes that the practical implementation in the WANA region remains slow, hampered by a fossilized government bureaucracy, lack of funds, and know how. The linkages with the private sector that are necessary to bring successful products and research know how to the majority of poor farmers also remain weak. "National research and extension systems have been notably weak and unproductive for many years and there has been a serious lack of systemic thinking about the nature of natural resources and how they might be managed more sustainably in order to reduce poverty."²⁴⁰ The report finds that much research remains focused on crops and livestock products that are not a priority for poor producers. Women farmers, despite progress, remain marginal players in participatory research approaches. Incentive and reward systems still place

and value primarily research publications, rather than participatory field research that involves women and men farmers and promotes participatory approaches to innovation.

AARINENA

One organization that aims to tackle the challenges noted in the IFAD report is *The Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA)* that was established in 1985 to strengthen cooperation among national, regional and international research institutions and centers through the dissemination and exchange of information, experiences and research results. Its mission is to contribute to the enhancement of agricultural and rural development in the WANA region by fostering agricultural research, technology development and strengthening collaboration within and outside the region. AARINENA aims to: achieve a greater degree of self-reliance in food and agriculture, improve the nutritional well-being and overall welfare of the people of the WANA region, while sustaining and further improving the productive capacity of the natural resources base. AARINENA is open to full membership of national agricultural research institutions, councils and organizations as well as agricultural universities and colleges and similar institutions of higher agricultural education. Associated members are regional and international agricultural research institutions, basic research centers, agricultural research oriented private sector institutions, NGOs and natural resources management institutions. AARINENA currently supports seven regional networks.

AARINENA in its constitution makes reference to the “problems and challenges facing the agricultural sector” and, in its 2008 conference, identified a priority area of action to improve the linkages of research and innovation to the needs of producers. Current challenges identified by the network are biotechnology, climate change, and bio-fuels.²⁴¹

The entry of women into the hierarchy of AARINENA which was observed in the research and knowledge transfer organizations in three study countries has only just begun. Two of its seven Steering Committee members are women, Mrs. Basma Al Manaseer, NAIS Project Manager in the Ministry of Agriculture and Mrs. Taraneh Ebrahimi from ASIDC in Iran. The Executive Committee is composed exclusively of men, a reflection of the society in the WANA region, where only 1.5 percent of board seats are occupied by women.²⁴²

A review of the newsletters since December 1999 shows the primary focus on scientific research and innovation also of AARINENAs regional networks. For reference to gender, a review of AARINENAs conference report is required; there is no reference on the website or in the newsletters.

Challenges in gender research in agriculture

Agricultural research can only provide relevant answers for policy makers if the human factor, the female and male agricultural producers, laborers, investors, consumers etc. is included. Several challenges face agricultural researchers in the WANA countries, including gender into their work.

The examples of gender division of labor and accesses to resources in agriculture in the WANA region have demonstrated a high-level of detailed information which needs to be provided for valid analysis. Generalizations such as “the farmers” do not provide the level of insight required

for a valid analysis. The following list of challenges reflects the current status quo of gender research (including agriculture) in the WANA region:²⁴³

1. Social relations and power structures are important determining factors in decision-making and access to resources; hence gender research requires a mix of expertise, specialists in the agricultural field under question as well as social scientists, sociologists, and anthropologists, all with solid gender know-how. It is a challenge to pull such a team together due to reasons including funding constraints and particularly a language barrier (Arabic is the common language).
2. Gender research in agriculture requires the use of quantitative and qualitative methods- this mix of methods is rarely used.
3. Success stories that could help to make the case for agricultural research with a gender lens are rare.
4. The analytical capacity of researchers is weak, in general.
5. There is a shortage of female researchers that can approach female farmers directly- a prerequisite for unbiased research. In many WANA countries, mobility restrictions and stigmatization hamper female researchers in their field work.
6. Women farmers and herders in marginal environments still often remain out of reach for researchers; cultural constraints can hamper unrestricted communication between the researcher and rural women.
7. Knowledge management networks that enable researchers to share experience are rare.
8. Guidelines for field collection and quality standards of data are missing; qualitative research often neither receives the credit it deserves nor is seen as valid.
9. Inclusion of gender into research and the allocation of the required resources is often only possible with support from the top of the organization.
10. The gender approach is still mostly associated with “women’s issues” and therefore suffers from the same patriarchal gender paradigm than the relations between the sexes. There is little prestige associated with gender expertise; it is hence difficult to find male gender experts for field work and institutional support.
11. Researchers still encounter a “negative mindset” of individuals on the different levels of research and extension institutions.
12. Linkages between researchers and activists in the field of women’s and rural women’s rights are weak or non-existent.
13. In a majority of projects, the social and gender ‘components’ of the research remains isolated and segregated from the overall project; gender analysis remains a significant gap in research.
14. Social science methodologies are employed in research, though otherwise solid, after still often not gendered such as in household surveys or participatory research methodologies.

15. Approaches to women in research remains generally through a WID-lens, focusing on traditional roles of rural women and men: researchers that have a solid knowledge of the gender concept in field research are in danger of slipping into a ‘focus on women’
16. In gender research, there is no common understanding of the concept among researchers and local communities.
17. In the conservative culture of the WANA region, gender topics and related questions encounter special resistance on the level of institutions and local communities. People sometimes refuse to discuss the topic, as they see it as against their religious beliefs and cultural values. A personal story highlights the popular perception of gender as an alien concept. “Three months ago I went to conduct an interview with a minister of religion. I had to listen to a 15 minute lecture against CEDAW.”²⁴⁴
18. There is also resistance by members of the local communities when it comes to reflecting on sensitive cultural issues. The culture of shame placed a taboo on certain topics.
19. The prevailing patriarchal gender paradigm and socio-cultural norms sets clear limits on which issues can be discussed and researched related to gender.
20. Researchers on gender issues in agriculture carry their own “cultural baggage” and need to regularly reflect with peers.

Agricultural extension in the WANA region

With the exception of the food importing, oil rich Gulf countries’ agriculture is of vital importance to the WANA region. Increased productivity, necessary shifts in crops, land and water management and increased employment in the agricultural sector depend on the transfer of technology and know-how to the farming community. In most WANA countries, women play an important role in agriculture. However, the research of web resources, as well as the interviews in the study countries Tunisia, Egypt and Jordan, shows that the paradigm shift from “male agriculture” to gender agriculture that includes women farmers has not happened as envisioned more than two decades ago.

The standard, public sector model of agricultural extension is based on technology transfer and delivery is slowly disappearing in most countries of the region. Extension is decentralizing, public extension agencies have dwindling resources at their disposal and a variety of alternative advisory services such as private extension organizations run by agribusiness companies, an assortment of advisory services and training provided by civil society organizations, services run by producer organizations, farmer-to-farmer knowledge transfer and mobile phone and Internet-based exchange of services. Poor farmers, marginal livestock producers and women farmers however are still largely underserved or left out of the array of extension services.

Most countries of the WANA regions have established a dual public extension system, one for agriculture (through the respective Ministry of Agriculture) and one for water (through the Ministry of Water). The consequence is often an overlap in responsibilities between the two extension services, conflicting messages on the farm level and inefficient use of resources. It is

not possible to separate advice on water use from other aspects of crop production; additionally, irrigation is intimately linked with integrated pest management and fertilizer application. The lack of synergies in knowledge transfer on the farm level affects male and female farmers; female farmers are hardest hit because they receive least support.

The key challenges for policy makers and extension institutions remains to adopt and scale up successful experiences and to ensure that services are accessible to and relevant for the groups of farmers that are still largely excluded. An IFAD report notes that there is now a growing interest in agricultural services by both governments and donors. *“The Global Forum for Rural Advisory Services, formed in early 2010, represents an effort to provide a voice for extension in global policy dialogue, support the development and synthesis of evidence-based approaches and policies on extension, facilitate networking for institutional and individual capacity-strengthening, and promote an enabling Environment for improved investment in extension. The involvement of smallholder farmers as partners in agricultural research and advisory services is necessary for a sustainable intensification agenda to take hold.”*²⁴⁵

Below excerpts from current studies on extension on the WANA region:

Pakistan: “Although women have prominent role in agriculture but in our country the agricultural extension services for them are almost non-existent, while on the other hand high emphasis is given to the education and training of men especially in public sector extension.”²⁴⁶

Sudan: a study in the Northern Kordofan state in western Sudan found that by far the biggest lack of rural women was extension (94 percent) followed by control on insects (91 percent), improved seeds (71 percent), education & credit (59 percent) and access to land (19 percent).²⁴⁷

The available studies showed that women are aware of the value of appropriate extension services and although the demand for knowledge transfer and access to technology is high, their needs are not met.

4. Analysis and Recommendations

The case for women's equal rights and access to resources in agriculture is clear cut and undisputed. This report and the recent studies cited provide ample evidence that the development prospects of the WANA countries are seriously compromised by persistent gender inequities. The missing link in the countries of region that have significant agriculture is policy adoption of recommendations made by international agricultural organizations such as FAO and their implementation.

The chapter below provides analysis and recommendations for action for AARINENA as commissioning agency of this study, its member organizations - research and extension agencies and institutions, government actors (here primarily the Ministry of Agriculture and Ministry of Labor) and finally donors. For AARINENA and the institutions of research and knowledge transfer the recommendations are quiet detailed. The study team hence has prioritized its recommendations. Recommendations with a high priority or highest short-term impact are highlighted with a green background.

4.1 Recommendations for AARINENA: Networking and knowledge exchange in research and knowledge transfer

This study did not have the scope to undertake a detailed document analysis of AARINENAs output, the project documents and conference papers reviewed provided little information on the role of women in the field under discussion. Figures were not gender-disaggregated and reports made reference "farmers" as single category. Research and projects documents under these conditions are of little or no value to lift women farmers in the region out of their shadow and to provide solid information to policy makers, research and extension planners, and local support stakeholders. There is a clearly a need for AARINENA to raise the awareness and skills of its member organizations in gender-responsive research, analysis, documentation, project planning and policy development.

Several pathways are recommended:

1. **AARINENA should propose the formation of a regional network that supports the integration of women farmers into the work and research of its member organizations across the region.** The network should focus specifically on women farmers; under a gender approach, rather than establish a unit for gender mainstreaming. The regional network could be the engine that drives the process to make women's role visible in agriculture in the region and put women's urgent needs on the agendas of its member organizations. The network coordinating unit should have a mandate to ensure that the work and needs of women farmer are made visible in AARINENAs conferences, publications and training sessions.

2. **AARINENAs Executive Committee needs to seriously consider encouraging qualified women to join the committee and play an active role.** It is recommended to analyze why women are not more represented in the hierarchy of the regional network and build a strategy accordingly. Research has shown that mixed gender boards and management teams are more efficient and cover a broader range of issues than since-sex governance entities.
3. **AARINENA offer its member organizations capacity building in gender responsive research, analysis and documentation.** Such an initiative could be hosted and provided by a member organization that has the required expertise in-house, or outsourced with potential support by FAO, ICARDA or other international/regional bodies. A similar initiative is currently supported by CIDAs Gender Social Fund in Amman for Jordanian researchers.

Additional recommendations

- AARINENA could open a webpage on its website that provides links to the rich pool of manuals, tools and guidelines for gender mainstreaming in agriculture and the inclusion of women farmers into project planning, extension and policy formulation. Most international organizations produce their manuals in Arabic, so there are no language problems for field staff. Such a webpage would need to be promoted through AARINENAs regional conferences and events.
- In the near future, AARINENA could host a conference or seminar series on women in agriculture. Its priority topics are recommended to be: biotechnology, climate change, and bio-fuels.
- The study found that the WANA region lags behind other regions of the world in with regards to farmers needs and in the incorporation of women in the field of agriculture. It is recommended to introduce the different initiatives that are currently under way in the agricultural sector worldwide to AARINENAs members for potential cooperation. This could be done in the framework of a conference, through web communication or via the proposed gender webpage on AARINENAs website.

4.2 Research institutions: Data availability and agricultural research

There is a serious scarcity of gender-disaggregated and socio-economic data for the agricultural sector. While this is a challenge in all sectors and countries, it is especially serious in the WANA region. The study team was surprised about how little case studies and up-to-date data information was available about the role and input of women in different farming systems in the region. This was even noted in the international studies of the FAO, the World Bank and IFAD. Africa, Asia and Latin-America have a much richer and up-to-date information base on gender in agriculture of the WANA region. The study findings, particularly from Egypt and Jordan, explained the cause for this malaise; the disconnect of knowledge transfer through extension

and ongoing agricultural research, the focus on technical and lab research in agriculture rather than field-work that actively involves local male and female farmers, and the absence of a vision for the agricultural sector as a whole that includes different types of farm-holdings and male and female farmers.

Without socio-economic research that details women have paid and unpaid work in the different farming systems and gender disaggregation in project documents, female farmers will remain invisible and underserved, their crucial role not well understood. Gender mainstreaming without compelling evidence that gender discrimination is a loss is not only detrimental to women, but to the country.

The scarcity of sex-disaggregated data in all sectors of work, specifically in agriculture, has to be acknowledged and addressed. Reliable data is a prerequisite for a gender-sensitive analysis of the agricultural sector and rural employment. The latter is mandatory for policy formulation that addresses the needs of female and male farmers, develop socio-gender sensitive investment strategies for rural areas, and design equitable rural employment policies.

Recommendations to ensure the needs of small farmers and women farmers addressed in agricultural research:

1. **Integrating rural women's and female farmer's needs into agricultural research requires a commitment from management and a strategy for implementation.** For this, agricultural research organizations need to put a premium on farmers' needs rather than academic and lab research; only when research becomes people-centered rather than focused on scientific innovation, can gender become a vital issue and the plight of women farmers can come into focus.
2. **For farmers (male and female) to benefit from agricultural research innovations, research findings need to be fed into knowledge transfer mechanisms at the farm level.** Research institutions need to develop strategic linkages and close cooperation with the extension services
3. **In most of the countries of the WANA region, it is vital to employ female researchers to work with rural women.** This has to be taken into consideration in personal policies; research institutions need to make sure they have qualified female researchers in their staff. To solicit the interests of women, the research institutions can conduct informational meetings, especially for female students, in cooperation with the agricultural faculties of local universities.
4. Researchers have significant weaknesses in gender research and analysis. This finding cuts across sectors, but is especially acute in agriculture. It is recommended to **include skills training in participatory research techniques and analysis into training plans, consistently integrating a gender perspective and field work into the training.**

5. Research priorities need to fall in line with agricultural sector priorities and farmers needs. The needs of local small-holder farmers, for know-how and innovation, should be included as priority criteria into annual research plans in all relevant agricultural research institutions. People-centered agricultural research can take place if the research organizations see it as their role to provide answers that stakeholders in national agriculture need to improve productivity, to maximize the use and protection of scarce resources, and to integrate marginalized farmers into the national economy.

Additional recommendations:

- Research institutions need to develop a clear strategy on the proportion of lab-based versus field-based research and allocate sufficient funds for all costs associated with field research. Incentive systems from support to conference attendance to public recognition could be introduced to encourage participatory field research and to raise the image of field research. Funds for transportation to the field need to be made available. In gender-segregated societies of the WANA region, it is especially important to encourage women researchers to conduct field studies with women farmers, as male researchers would invariably face communication barriers.
- Research institutions can initiate a task force of researchers on “women in agriculture” to support field-based research on women’s work and needs in the respective national farming systems. With encouragement from management and incentive schemes, such as conference attendance and publication in journals, the task force could attract researchers and their work could fill the current knowledge gaps on women’s role in agriculture.
- It is a challenge to maintain access to up-to-date innovation in the field of agriculture. It is recommended for research institutions to establish cooperation with the international and national agricultural organizations to access up-to-date secondary information and research results on women in agriculture.
- Research and field studies of women in agriculture are conducted by international development agencies, international and local NGOs and PhD students from international universities. However, little of these findings are shared and available for further analysis. Research institutions can take a lead in the establishment of a knowledge platform on women in agriculture. A dual approach is suggested, as is the establishment and marketing of a website and the integration of hardcopies into the institutions libraries.
- There are few established quality standards for research and analysis. Academic research institutions can take a lead in the formulation of quality criteria. Here, consistent gender disaggregation and a participatory, gender-sensitive approach to field-work could be introduced as quality criteria for data collection and research.
- Research organizations also have a role to play in the assessment of and the sharing of innovations. In close cooperation with extension institutions, relevant donor’s agencies and

NGO research institutions can identify successful initiatives of women farmers, assess their impact, prospects, and develop models for national scale up.

- Establish research partnerships with relevant civil society organizations that operate in rural areas and can innovate and test appropriate agricultural technology and production methods.
- Link agricultural research with water demands to ensure feasibility of research findings under conditions of extreme water scarcity. In the field studies of Jordan and Egypt, efficient water use was one of the most urgent concerns of female farmers.
- Several topics emerge as priority areas for research that would particularly benefit rural women and female farmers. These include research into:
 - Labor-saving technologies in line with the dominant farming systems in the country in which women play a role
 - Cost-effective and low-tech irrigation techniques
 - Animal health and care
 - Draught resistant seeds for subsistence agriculture
 - Innovative small business ideas for rural women to diversify income
- Investigate the constraints impeding the execution of the policy objectives on both the field and the institutional levels and investigate measures needed to overcome barriers.
- Reduce the risk especially small-holder farmers are facing in draught-prone areas; research in cost-effective irrigation is needed.
- Conduct research on intensification and diversification of agricultural production by small-holders.
- City authorities increasingly need to find innovative strategies to eradicate urban hunger and improve the livelihoods of the urban poor and open green spaces in the dense build up of cities. Here, agricultural research institutions have an important role to play in identifying local potentials for urban agriculture and use the grey-water potential of the cities. It is advisable to cooperate with established organizations such as the Resource Centre for Urban Agriculture, and Food Security of the RUAF Foundation, or other relevant national and international organizations.¹⁴

4.3 Extension and Knowledge transfer agencies and institutions

Extension services are increasingly decentralized and composed of numerous governmental and private actors that rarely coordinate their services and ensure that all needs are met; poor farmers, marginal livestock producers and women farmers are under-served.

The public extension service in the study countries is largely underfunded, understaffed, with insufficient female extension officers and without an incentive system for field and participatory work. The link between research and extension is weak to non-existent and there is little cooperation and division of roles between the different public and private extension providers. National policy often reflects the bias of research that is geared towards agricultural systems and non-producers.

¹⁴ Contact: <http://www.ruaf.org/>

The literature review and field study clearly showed that female farmers are largely seen through the patriarchal gender lens that allocates roles and responsibilities irrespective of the everyday reality. The public extension system largely fails women farmers in their role as agricultural producers, and ignores their large contributions as unpaid family laborers and in subsistence farming. Technical extension messages and demonstrations are towards male farmers; women are approached largely in their traditional role as home producers. Women are seen as “helpers” to the male farmers rather than farmers in their own rights.

To ensure women farmers and their needs are integrated into extension and knowledge transfer it is recommended to:

1. **Develop a knowledge transfer strategy that includes all stakeholders and partners in the sector and clarifies their role.** This includes the governmental extension services in the Ministries of Water and Agriculture, the private sector, the Agricultural Unions, Associations and Cooperatives as well as Civil Society Organizations.
2. **Design extension programs based on the needs of the different categories of female and male farmers (not only male head of households) and involve local independent female farmers, into the design of extension messages and approaches.** Creative solutions need to be identified to allow women farmers the same in communication with extension agents as male farmers, including one-to one support.
3. With the needs of female farmers identified, **appropriate extension messages for women farmers can be developed that include technical input and information, training on agricultural machinery, and especially access to labor-saving devices.**
4. **Employ more female extension agents to reach women farmers.** In many WANA countries, female extension agents are required to reach out to women farmers. The case of Egypt illustrates that their sheer numbers are insufficient to provide needed extension. An incentive system should be developed to encourage women to take on field work rather than desk jobs in the administration of the extension agencies. Incentives could be monetary or non-monetary through public recognition, flexible working hours, provision of child care or a career perspective. Recruiting rural women with secondary or university education and providing them with capacity building is another option. Cooperation with local NGOS or CBOs is also a possibility to reach women farmers.
5. **Independent female farmers can serve as role models for rural women. Extension services should establish strategic partnerships with these farmers to reach out to female farmers in their community and beyond.** In Jordan, the ‘women farmers’ to ‘women farmers’ knowledge transfer is already unofficially happening. Extension services could broaden their scope and provide extra support to women farmers in their role as knowledge transfer agents. Support could include assistance to attend conferences and field demonstrations, provision of up-to-date research know-how, market linkages and participation in strategic planning meetings and policy formulation in the agricultural sector.

Additional recommendations:

- Move beyond gender stereotypes of women farmers as helpers and housekeepers and identify women farmer's needs. All three categories of women farmers have clear needs for agricultural input, machinery and know-how that goes well beyond food processing and home production. Public extension agents, private companies and civil society organizations need to recognize this fact and have to move away from the narrow picture of women as "agricultural helpers". For this paradigm shift to happen, the needs of women farmers must be identified and made visible. This can happen in agricultural research and in the planning phase of annual extension plans. Female extension officers can keep a log of their interaction with female farmers that are assessed quarterly and feed into the extension planning. Finally, civil society organizations that are active in rural areas can conduct needs assessments of female farmers and provide the results to policy makers and extension planners as well as conceptualize their own initiatives around them.
- Field extension staff needs to be provided with up-to-date information and support from other departments in the agency in the design of extension messages and approaches.
- A disconnect or hierarchical relationship between the research and extension departments often exists, as in the case of NCARE Jordan. This can be overcome in partnering extension agents with researchers during participatory field studies and involving extension agents in conferences to provide case studies from the field.
- Women farmers often cannot rely on the same support networks than male farmers. Assisting women to either organize their own farmers groups or to enter rural cooperatives and unions is crucial. Extension officers here can play the role of facilitators and networkers and link female farmers to relevant governmental programs, local NGOs, women's rights groups and donor programs. Extension officers can also play an intermediate role in facilitating women's membership in agricultural cooperatives and unions.
- Extension programs for women farmers should be designed based on the most efficient and culturally appropriate way to provide appropriate knowledge and practical demonstrations. This also involves innovative methods of knowledge transfer, one to one advice, field demonstrations, a range of information and communication technologies and farmer field schools for experiential learning.
- Develop an appropriate media strategy to reach out to female farmers and break gender stereotypes in agriculture; this could be done in cooperation with the women's machinery, local rural NGOs, the private sector and agricultural unions.
- Women farmers have less access into the hierarchy of the extension service than men. This barrier can be broken through the initiation of quarterly or monthly "open house" meetings with women in the extension directorates. This is an opportunity for women farmers to make their concerns heard and increase their self-confidence. This is also a tool to increase the accountability of the extension staff in the respective governorate.

- Such an “open house” could involve relevant NGOs, producer and marketing organizations, unions and local women’s groups.
- Women farmers face challenges in resource access, but also barriers in general awareness and confidence to engage in all relevant fields of agriculture. To overcome gender stereotypes requires their recognition and awareness of their personal rights. Extension planners that set out to serve rural women need to be aware of the complexity of women farmer’s needs and challenges, integrate appropriate services into the extension work and link up with other relevant stakeholders to meet the rest. That requires extension agents to move out of the role as advisors and take on a facilitator and networker role. Relevant services for women farmers include: legal literacy, especially in land and inheritance rights; adult literacy programs (in rural areas with a high rate of illiteracy); basic nutritional advice (especially in countries with high rates of malnutrition); linkages to marketing channels, contacts to rural and micro-credit providers and entrepreneurship training for rural business start-ups.
 - Develop gender training that is appropriate for the gender roles in the country’s farming systems and sustainable agricultural development that is based on solid and recent research results. Gender training should be provided for male and female extension staff because both have an important role to play to increase resource access to female farmers. Monthly feedback sessions with male and female extension agents on experience and progress in knowledge transfer to female and male farmers could remove the stigma of “women’s business” and enable a better understanding of the complexity of rural farming systems.
 - Integrate gender analysis of the prevailing farming systems and gender training into the training for agricultural extension officers. It is important that such training is tailored to the local context and involves practical training with local female farmers and rural communities.
 - Female farmers in the WANA region face social restrictions and control from their local community. Extension officers can play the role of a change agent and enter into a dialogue with community leaders to allow women farmers more room to expand their roles. Male extension agents (as confirmed in the study in Jordan and Egypt) often socialize with the local farming community. This is an opportunity to negotiate community support for female farmers. Female extension agents should establish a similar close contact with local female farmers and take the time to unofficially socialize with their constituency.
 - Identify independent women farmers and female local leaders as role models for other women farmers and actively involve them into extension work with female subsistence farmers.
 - Extension services can only provide high quality service when they assess their work. It is recommended to develop a monitoring system to assess the benefit of knowledge transfer to female and male farmers.
 - In countries with expanding mega cities, urban agriculture is increasingly important; here women have a major role to play. Extension agencies should consider including

knowledge transfer to urban women into their portfolio. This could be undertaken in cooperation with environmental and social urban civil society organizations.

4.4 Closing the gender gap: recommendations to national governments

The countries of the WANA region are very diverse along key indicators of human development such as health, education and living standards. However, with the exception of Malta and Cyprus, all WANA countries fall below 100 on the Gender Gap index of the World Economic Forum. A closer look at the underlying factors reveals that the traditional patriarchal paradigm, prevalent across most of the region, allocates access to vital resources and development potentials along gender lines instead of needs and potentials. Such a “policy” effectively curtails the development of half of the region’s people, hampers population policies and slows down economic and social development. The traditional patriarchal paradigm has proved resistant to change due to the theocratic and authoritarian character of most of the WANA region states. The region since the beginning of 2011 is in a rapid process of change. How the prevalent gender paradigm can be transformed to fully harness the potential of the region’s women will depend on the social and political systems that will emerge from the upheaval of the Arab Spring and the progress of the reform measures in other countries of the WANA region.

The vital importance to eliminate the socio-cultural and legal barriers that hold women’s potential back in the interest of national and regional development is undisputed. The fact that the less hierarchical and socially stratified, the more equitable and democratic citizen-led political systems offer both sexes (and their country’s) better development potential. Equitable policies are setting the framework for equitable development of a country.

1. **Promote political reform that strengthens citizen and civic right and reduces socio-economic and gender disparities.**
2. **Initiate legal reform that eliminates the gender discrimination in economic, agricultural, labor and family (personal status) laws and ensure equality of women and men under the law and in the constitution.**
3. **Reform Civil society laws to unleash the potential of rural and umbrella NGOS to service women farmers and actively involve relevant civil society organization in policy making and strategy development for rural areas and agriculture.**

- Several general recommendations for policy makers can be derived from the analysis:
- Assess the impact of the national women machinery in the agricultural sector. When the government makes a commitment to gender equality as cornerstone of development the women machinery needs to have its mandate revised and need to be given more clout.
- Continue to invest in education, health and transport infrastructure in rural areas and ensure women and girls have access to vital services and markets.
- Prioritize primary and secondary education in rural areas and in the framework of rural development provide incentives for parents to send their boys and girls to school.

- Address prevailing gender stereotypes in primary, secondary and university education (curricula, teaching material, and teachers training) and in the media.
- Develop a strategy to support employment of women and to reduce the large gender gap in unemployment in the countries of the region.
- Include key socio-economic and gender disaggregated indicators into the national statistics of the agricultural sector.

4.5 Gender disparities in Agriculture and agricultural employment: recommendations to policy makers

The study clearly illustrates the significant barriers rural women and female farmers face in the WANA region. The reasons are manifold, as we have seen ranging from the limiting impact of the prevailing patriarchal gender paradigm on rural women, to gender-blind agricultural policies, insufficient human resources, lack of skills and know-how in agricultural institutions and organizations, to shortage of funds, weak commitment, to gender equity on all levels and persistent gender stereotyping. The chapter below lists the recommendations to policy makers, research and extension agencies that were derived from the study. Civil society organizations and other stakeholders also have an important role. Interested readers are referred to the recent FAO study “The State of Food and Agriculture 2010-11, Women in Agriculture- closing the gender gap for Development” for detailed recommendations for action.

4.5.1 Ministry of Agriculture

1. **Conduct a review of relevant policies on their impact of gender disparities in agricultural development and rural employment and assess the mandate and impact of women machinery in the agricultural sector.**
2. **Formulate agricultural and water policies that consider the needs and development prospects of small and large farm-holdings and of the different categories of female farmers.**
3. **Allocate needed budgetary resources for resource-sustainable agriculture and combine economically feasible small-scale and commercial agriculture to ensure maximum resource protection.** This is especially important because most WANA countries will rely on food imports. Under these conditions, agriculture that protects existing natural resources, rather than continues their depletion, is mandatory, as is the development of non-agricultural rural employment opportunities for women and men.
4. **Agricultural policies should ensure that the needs of the different types of farmers are reflected in agricultural research and integrated into knowledge transfer.** The ministry could assist the agricultural research and extension agencies in the development of a vision that is in line with agricultural policies, supported by all relevant stakeholders and involving both female and male farmers as partners in rural development.

Additional recommendations:

- Agricultural investment must take into consideration existing land rights, protection of natural resources and the environment, and also benefit marginalized local communities and rural women.
- Rural poverty alleviation programs are often designed through the Ministries of Planning or Social Affairs. It is crucial to include the Ministry of Agriculture, and relevant private sector and civil society organizations, into planning and execution. Agricultural policies need to be in-line with policies for rural poverty alleviation and the needs of marginalized women farmers must be addressed.
- Establish mechanisms for the participation of rural communities in policy and program design and legislate a role for local male and female representatives.
- Civil society organizations are crucial for outreach into rural areas, especially to women. The Ministry of Agriculture should establish partnerships with relevant rural and umbrella NGOs to extend service provision to marginalized rural communities and women.
- Rural women in seasonal agricultural labor are very vulnerable. Public social security schemes for agricultural workers to which women have equal access can reduce their vulnerability and provide an incentive for women to seek employment.
- Address the lack of enforcement of existing equitable laws over statutory law and customary practice especially in rural areas in cooperation with local leaders, civil society and the judiciary.
- Design rural safety-nets mechanisms in consultation with marginalized and vulnerable rural women and men to buffer the negative effects of price volatility and globalization.
- Establish public social security schemes for agricultural workers and ensure women have equal access and benefit.

4.5.2 Ministry of Agriculture and Ministry of Labor¹⁵

Rural employment is an important coping mechanism of female and male small-holder and landless farmers. To strengthen rural employment of women, “packages systems” for capacity development should be implemented rather than individual measures. This requires taking a longer view and broader approach that includes the development of human and social capital. The aim is to foster an enabling environment for rural women that reduce barriers in access to land, credit, work opportunities and guarantees equality in wages.

¹⁵ For detailed recommendations also refer to FAO, IFD & ILO, Gender dimension of agricultural and rural employment, status, trends and gaps, Rome 2010, http://www.ilo.org/wcmsp5/groups/public/-ed_emp/documents/publication/wcms_150558.pdf page 104 ff

1. **Ratify ILO conventions relevant to female agricultural workers and ensure implementation of international labor standards for rural work.**
2. **Streamline national labor legislation in agriculture and agro-industries in compliance with international labor standards; monitor compliance also in rural areas.**
3. **Enforce ethical standards, codes of conduct, decent work conditions and provisions for working mothers in the agro-industry.**
4. **In cooperation with civil society, raise the awareness of rural women on employment rights, collective bargaining and provide access to legal and other forms of support for rural women.**

Additional recommendations:

- Establish dialogue mechanisms for policy development with female and male farmers on the community, governorate and national level.
- Reform labor legislation related to the right to collective bargaining and freedom of association for agricultural laborers
- Provide established women's cooperatives with links to national and international marketing channels for agricultural and rural production.
- Support women in rural communities to organize and represent their interests through labor unions, agricultural cooperatives, water boards, CBOs and NONGOs, women cooperatives, producers and marketing organizations. In strong gender-segregated societies, increasingly "women's-only cooperatives" and organizations can be an alternative.
- Promote the role of women as leaders in agricultural unions, councils, boards, associations and legislative bodies (potentially through affirmative action).
- Improve rural women's access to land in land reform programs.
- Promote vocational training for women in rural areas.
- In cooperation with civil society organization, the private sector and VTCs, extend technical and entrepreneurship education to rural women to build skills and confidence for self-employment and wage labor.
- Introduce innovative ideas for income generation, artisan, home and agricultural production to women in rural areas.
- Raise awareness on women's legal rights to land ownership.
- Encourage the extension of credit infrastructure into rural areas and to women (i.e. through support for existing micro-credit institutions).
- Include rural women into public works programs.
- Develop policies and programs to tackle child labor in agriculture and monitor public works programs in rural areas.

4.6 Donors

Bilateral donors, international development organizations and international NGOs, and philanthropic organizations have played a major role in the establishment of a women's machinery in the countries of the WANA region and in gender mainstreaming. While the National Machinery in Tunisia has played a significant role in reaching out and bringing vital services to rural women, the example of Egypt illustrates the failure to establish women's units in key ministries as successful advocates for equitable policies, knowledge transfer and service provision to rural women. It is doubtful how much the national women machinery can achieve under the auspice of the patriarchal autocratic state without a mandate that is has the power to enforce.

While gender mainstreaming is officially mandatory in all development projects, the consistent gender disaggregation of assessments, the integration of gender gaps into project strategies, plans and monitoring is still lacking. Gender mainstreaming is often seen as adding gender training to project mix or counting the number of women in project activities without going into an in-depth analysis of gender inequities and their causes already in the baseline study and building strategies around these findings.

Donor projects are still largely conceptualized short term, in two or three year project cycles, with a focus on deliverables rather than impact. Most donors enter into development cooperation with the sector (and often the program framework and strategy) predetermined, leaving little room for a multi-sectoral integrated approach and flexible planning in cooperation with the beneficiaries. Under these conditions, the change in mindset that is required to tackle the root causes of gender inequalities is rarely possible.

Recommendations

- 1. Integrate agricultural initiatives into a broader development vision for the sector and the country that includes developing the potentials of smallholders and women farmers alongside the large-scale commercial agriculture.** Overexploitation of available natural resources and growing population pressure are major challenges in the region. These can only be overcome with a development vision that is multi-sectoral and builds on the needs and capacities of all actors in society, including rural women and marginalized farmers.
- 2. In development initiatives, move away from purely agriculturally-based development initiatives that often leave out the diverse needs of smallholders and women farmers.** Under the conditions of climate change and growing resource scarcity in the region, small-holder and women farmers need to diversify their income sources beyond agriculture. Development initiatives should combine increase in agriculture productivity, an efficient use of water, and income diversification for small farmers and rural women. This implies technical support through extension, linkage to micro-credit providers, capacity building in entrepreneurship skills, processing, marketing and access to non-agricultural sources of income.

3. **National women's machinery requires a mandate that comes with certain power to enforce the implementation of recommendations to policy makers and public institutions.** Donors need to provide support to horizontally and vertically anchor women and gender units within the respective institutions and to integrate them into the regulatory framework.
4. Development initiatives often focus either on the macro- or micro (community) level. **A holistic analysis of the agricultural sector is needed that is based on detailed gender-disaggregated socio-economic studies of different farming systems of a country.** Donor agencies could play a role in the research phase and assist policy makers and other stakeholders in rural development, the analysis process, and policy formulation.
5. **Build development initiatives on local resources, heritage and knowledge.** In rural areas, traditional knowledge in resource-protective agriculture and processing is being lost. Rural women can play a major role in preserving agricultural heritage and turning it into a successful local business for marketing in city centers and for low-impact tourism development.

Additional recommendations:

- Development projects need to take on a stronger networking and facilitator role between the different stakeholders in the agricultural sector rather than working on a small institutional island. This involves including local institutions, civil society and the private sector to integrate smallholders and female farmers into the local economy. Partnerships and local networking would also encourage local women farmers and smallholders to take on a larger role in community management.
- Greater flexibility in program design, planning, implementation and in institutional cooperation would allow better involvement of smallholder farmers and rural women into development initiatives. This is especially important under climate change conditions and in dryland mixed farming systems. Under the prevailing gender paradigm integration of rural women, farming is a process that requires adaptation of project measures along with emerging needs and the ability of women farmers to develop their technical and personal capacities.
- Development projects in agriculture must be viewed as a learning process over time in which adjustments can be made built upon experience, lessons learned, changing needs and emerging opportunities. This requires the integration of development initiatives into the overall development process of a country and a longer time horizon than merely a 2-3 year project phase.
- Over the last decade, excellent tools and approaches have been developed for gender mainstreaming and the inclusion of women into agricultural development. The Agriculture sourcebook of IFAD, FAO and The World Bank used for this report is just one good example. Donor agencies should compile available tools in an online toolbox in Arabic and widely use appropriate tools developed by other agencies.

5. Annexes

5.1 Gender concepts

Gender equality

Gender equality has evolved as the central theme in all major international conventions and statutes. Gender equality implies that the rights, responsibilities and opportunities of individuals will not depend on whether they are born as a boy or girls. It rejects discrimination based on the sex of an individual. Equality involves ensuring that the perceptions, interests, needs and priorities of women and men (which can be very different because of the differing roles and responsibilities of women and men) will be given equal weight in planning and decision-making. It implies that women and men are provided with equal conditions, opportunities, resources and voice for realizing their full human rights and potential.

The concept of gender equality is based on the recognition that:

1. the current social, economic, cultural, and political systems are not gender-neutral, but based on male values and norms
2. women's unequal status is systemic and that this pattern is further affected by race, ethnicity and other human characteristics.

One cannot assume that there is one model of gender equality for all societies and cultures. Women and men should have equal opportunities to make choices about what gender equality means for them and how relations between the sexes and citizen/state are constructed. Millennium Development Goals No. 3 set out to "*promote Gender equality and empower women*".

Gender equality is the preferred terminology within the United Nations. Gender equity (see below) includes an element of social justice that can be interpreted based on tradition, custom, religion or culture that might be justified as institutionalized gender discrimination.

Gender equity

The Gender equity concept underlies the 1975-85 UN Women's Decade. Women found that legal equality, as demanded under the concept of gender equality, does not guarantee equal benefits. It recognizes that women and men have different needs, preferences, and interests and that equality of outcomes may necessitate different treatment of both. Within a framework that is biased towards men and the powerful, equal treatment of both sexes might actually lead to a perpetuation of disparities. While equal means same (i.e. in terms of treatment) equity means fair. To ensure fairness, measures might be introduced to compensate for historical or social disadvantages that prevent both sexes from operating on a level playing field.

Women's empowerment

The 1990s saw an increasing recognition of the centrality of women's empowerment to the success of development. This is reflected in the agendas and statements of most UN conferences in the 90s. The Program of Action of the International Conference on Population and Development stressed that the empowerment and autonomy of women and the improvement of their political, social, economic and health status is both highly important and

necessary for the achievement of sustainable human development. In this context, women's empowerment was defined as:

*"Women's empowerment has five components: women's sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally."*²⁴⁸

Gender justice

Gender justice is similar to women's empowerment, but adds an element of redress and restitution that is not always present in discussions of women's empowerment. How the concept of gender justice is ultimately understood is very context-specific. Gender justice can be defined as the ending of—and, if necessary, the provision of redress for—inequalities between women and men that result in women's subordination to men. Gender justice refers to fair treatment of women and men, where fairness is assessed based on outcomes and not on the basis of a notion of formal equality based on 'sameness'. Justice and fairness is evaluated at the level of inter-personal relations as well as institutions. Gender justice establishes the link between gender, social justice and the need to address both, as they are closely related. As an outcome, gender justice implies access to and control over resources, combined with agency and accountability. Gender justice requires that women are able to ensure that power-holders—whether in the household, the community, the market, or the state—can be held accountable for actions that limit, on the grounds of gender, women's access to resources or their capacity to make choices.²⁴⁹ A formalized attempt to establish principles of gender justice is found in the 1999 *Convention on the Elimination of all forms of Discrimination Against Women (CEDAW)*, which makes the absence of gender-based discrimination as the indicator of gender justice. CEDAW's legal definition of 'discrimination against women' in Article 1 of the Convention is:

"The term 'discrimination against women' shall mean any distinction, exclusion, or restriction made on the basis of sex which has the effect of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field."

Gender gap

This report uses the concept of gender gap to illustrate disparities in gender systems. Gender gap refers to a measureable gap in almost any sphere of life, concerning attitudes, aptitudes, behaviors, access to resources and benefits from services between the sexes. The gender gap refers to all spheres of life that are NOT related to women and men's biological characteristics but to socio-cultural determinants. A gender gap cannot be established, for example, by the number of gynecologists available for women and men, as the latter have no need for such medical speciality. An example where a gender gap is applicable is aptitude tests. A 2008 cross-cultural study on math and reading found that the worldwide average reading scores for girls were 6.6 percent higher than for boys, ranging from 5.4 percent higher in Turkey to 12.7 percent higher in Iceland.²⁵⁰

The Global Gender Gap Index was introduced by the World Economic Forum in 2006. It is a framework that assesses gender-based gaps in access to resources and opportunities in most of world countries and tracks progress in closing the gap. It measures the gap between women and men in four categories: economic participation and opportunity, educational attainment, political empowerment and health and survival.

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5.3 Field study plans (Egypt, Jordan and Tunisia)

List of Interviewees in Jordan (Interviews conducted by Ruby Assad)

1. Dr. Samia Akroush – Director of Socio-economic Studies on 18 October 2011
2. Dr. Omar Kafawin – Dean faculty of Agriculture – University of Jordan on 18, October 2011
3. Dr. Jamal Sawwan – Dean Institute of Agricultural Research Training, Extension and Education- Jordan Valley – University of Jordan on 18, October 2011
4. Focus Group Meeting with Female Farmers: on 22 October 2011
 - Fedda Deyat, Female **farmer**, widow, 60 years old, illiterate, farmer since 1984, open field (20 donum) and 27 plastic houses, vegetables, Dair Allah
 - Nasra: **Assisting farmer**, married, 40 years old, illiterate, farmer all of her life, Open field (23 donum) and 7 plastic houses, vegetables, Dair Allah.
 - Nijmeh: **Assisting farmer** married, 51 years old, illiterate, farmer since 3 years ago, open field (15 donum) and 6 plastic houses, vegetables, Dair Allah.
 - Amineh: **Assisting farmer**, married, 45 years old, illiterate, farmer since 4 years ago, open field and plastic houses, vegetables, Dair Allah.
 - Rasmeieh: **Assisting farmer**, married, 60 years old, illiterate, 7 years in agriculture, open field (6 donum), vegetables, Dair Allah.
 - Kholoud & Hedaya (sisters): **Assisting farmers**, Single, 33 & 21 years old, Secondary education level, 5 years in agriculture, open field (30 donum), vegetables, Dair Allah.
5. Eng. Mawia Mufti – Agricultural Mass-media Director – Extension Department – NCARE on 24, October 2011
6. Interview with a Female Farmer: Miss. Najwa Sha'sha'a on 24 October 2011
7. Eng. Yusra Musa – Extension Department Director – NCARE on 24, October 2011
8. Interview with a Female Farmer: Mrs. Nadin Naber on 24 October 2011
9. Eng. Rana Muhaisen – Horticulture Researcher – NCARE on 25 October 2011
10. Dr. Muna Traikhem – Researcher – NCARE on 25 October 2011
11. Dr. Faisal Baraka: NCARE G.D. Assistant for Research and Agricultural Extension – NCARE on 25, October 2011
12. Eng. Maysa Hadaddin – Plant Production Researcher – NCARE – Karak on 26 October 2011
13. Dr. Faisal Awawdeh – Director General of the NCARE: on 26 October 2011
14. Focus Group – Extension Officers - Males: Eng. Yahia Abu-Sneineh – Extension Officer in Wadi El-Seir and Eng. Amer Zeiadin – Extension Officer in Amman on 27, October 2011
15. Focus Group – Female Extension Officers : Eng. Ranya Ghonmeiyein – Extension Officer in Sahab and Eng. Heba Muhairat – Extension Officer in Wadi El-Seir and Samah Dmour – Extension Officer in Amman on 27, October 2011

List of Interviewees in Egypt (Interviews conducted by Ruby Assad)

1. Dr. Kamla Mohammed Mansour – Director of the Policy & Coordination Unit for Women in Agriculture – MOA on 30th October 2011
2. Dr. Hasan Sharshar – Director General - Institute of Agricultural Extension Researches & Rural Development (AERRD) on 30th October 2011
3. Three focus group meetings were conducted in Egypt; each represents one of the different agricultural categories and women relationships in agriculture. First group represents females that are decision makers in agriculture, second group represents females that help the males in agricultural activities and could replace them in their absence, and the third group represents female waged labors , 30 & 31 October 2011
4. Dr. Mervat Sedqui – Rural Women Researches Division – Researcher - Institute of Agricultural Extension Researches & Rural Development (AERRD) on 1st November 2011
5. Dr. Aziza Awadallah Sayed - Rural Women Researches Division – Division Director - Institute of Agricultural Extension Researches & Rural Development (AERRD) on 1st November 2011
6. Eng. Radwan Ali Rakha' – Director of Extension Programs – Central Administration for Agricultural Researches & Rural Development on 2nd November 2011
7. Eng. Mujjeda Sa'eid Ahmad – Director General of Rural Women Development – Central Administration for Agricultural Researches & Rural Development on 2nd November 2011
8. Eng. Mesa'ad Izat Ali – Director of the Animal Extension Division – Central Administration for Agricultural Researches & Rural Development on 2nd November 2011
9. Eng. Shaker Atteyeh – Director of Al Safnya Extension Center – Alyoubia Governorate - Central Administration for Agricultural Researches & Rural Development on 2nd November 2011
10. Dr. Ahmad Muhsen – Director of the Vegetables Pests Researches - Institute of Plant Protection – Agricultural Researches Center on 2nd November 2011

List of Interviewees in Tunisia (Interviews conducted by Dalila Jaziri)

AVFA

1. Mme Hamrouni Narjes , sous directeur de la communication et de l'audio-visuel chargée de la vulgarisation féminine
2. Mme Kammoun Sondes, sous directeur d'expérimentation et de l'exploitation des acquis de la recherche

IRESA

1. Ben Ryana Aniss, directeur de la planification, du suivi et de l'évaluation des programmes de recherche
2. Raboudi Lotfi, enseignant chercheur

Project coordinator

1. Ben Toumia Lamine, project coordinator DG/FIOP
2. Ben Haha Nawfel, project coordinator DG/ACTA

Office

Hajlaoui Naziha, directeur de l'évaluation et du suivi du secteur de l'élevage ; OEP

DG/PA

Mme Mezghueni Sahla directeur de l'unité de mise à niveau des exploitations agricoles et de promotion de la qualité

UTAP

1. Mme Marzoukhi Salima Ben Azizi ; agricultrice ; secrétaire générale de la fédération des apiculteurs since 2007 ; Areneena member
2. Mme Lamia Guem ingénieure chef de section de l'unité de l'agricultrice au sein de l'UTAP
3. Mme Trabelsi Souad vulgarisatrice, formatrice au sein de l'unité de l'agricultrice

ONG

Houman Boubaker secrétaire général du club UNESCO/ALEXO pour le projet l'agriculture urbaine pour la ville de la Soukra

5.4 Research questionnaire Women in Agriculture, research, innovation and extension in WANA region (Egypt, Jordan, Tunisia)

Questions for female and male farmers (key informants and focus groups)	Extension officers (males and females) – department	Researchers / male – females and decision makers	Decision makers n Research institutions
<ol style="list-style-type: none"> 1. Predominant type of agriculture? 2. Do women farmers share specific characteristics? (i.e. single women headed households)? 3. What type of agriculture women are most involved in? 4. What are the services agricultural extension services provided to you? 5. How do you receive ext. services? 6. Do you prefer female or male ext. officer or it does not matter? Why? 7. Are female and male farmers advised together or separate? 8. What is good about the extension service you get? 9. How do you benefit from the extension service? 10. What is not good about the extension service? 11. What do you need but do not receive? 12. If you would be the manager of the extension service, what 	<p><i>Outreach to farmer questions</i></p> <ol style="list-style-type: none"> 1. Have female and male farmers been consulted in the development of the extension messages and approach? If so how? Which type of farmers do you think you serve best? Which least? 2. Do you have different extension approaches for women and male famers? If so why? 3. Do you also serve female farmers? If yes, which female farmers? If no- why? 4. Do the farmers have different needs in extension than women farmers? 5. How do the ext. messages been delivered to the target group? 6. In organizing extension meetings do you make (or need to make) special times or meeting spaces for women? 7. Do you think the content of extension and the approach are appropriate for female farmers? 	<p><i>Priority setting in research</i></p> <ol style="list-style-type: none"> 1. Who decides on the topic of research? (Ministries, farmers, extension agencies...?) 2. How are needs from the farmers fed into research? 3. How do you communicate with farmers regarding their needs? 4. What are key criteria for the prioritization of research topics? 5. Whose needs are you mostly fulfilling with your research? (large, medium, small farmers, male, female farmers?) 6. Do farmers (women/men, small, medium, large, different farming systems) have a say in determining the research topics? 7. Are you aware for which type of agriculture and which type of farmers your research work is relevant? 8. Is the gender division of labor in agriculture a criteria or an issue in the selection of research topics and in the research methodology? 9. Have you in the last decade seen shifts in research topics or trends? 	<ol style="list-style-type: none"> 1. How many female researchers in your institute? Males? Why? 2. Do you a difference between female and male researchers in your institutions? Do you make any specific arrangements for female or male researchers? 3. How many female researchers participating in international conferences during 2011? Males? Why? 4. How many female researcher are in decision making position? 5. Are there obstacles that stand between female researcher and being in a decision making position? Why? 6. How many female researchers those are member in technical / organizational committees? Why? 7. How could we improve female researchers performance and status within the research body?

Questions for female and male farmers (key informants and focus groups)	Extension officers (males and females) – department	Researchers / male – females and decision makers	Decision makers n Research institutions
<p>would you do differently (content, approach, communication etc.?)</p> <p>13. Have you ever made suggestions for new technology, agricultural input or information to the extension officer?</p> <p>14. Has it been taken up by the officer?</p> <p>15. Have you ever asked a question that the extension officer did not know?</p> <p>16. Has he/she come back to you later?</p> <p>17. Is there any female farmer close to your farm? Why?</p> <p>18. (To female farmers): do you provide support to each other? And if so what type of support?</p> <p>19. What are the agricultural tasks that are usually specifically done by female farmers and by male farmers?</p> <p>20. Do you feel male and female farmers are treated differently by the extension service or the same?</p> <p>21. What are female farmer’s main obstacles and limitations in getting the most out of their land and labor? Have you had</p>	<p>8. In your experience do female and male farmers have different needs?</p> <p>9. In your experience what are the main limitation for women farmers?</p> <p>10. What are the main limitations for farmers with a small landholding?</p> <p>11. In your experience how could the extension service be improved in general How could it be improved specifically for women farmers?</p> <p>12. Do male extension agents face difficulties when advising female farmers or the gender of the extension agent is not an issue? What is the challenges male and female extension agents face in their work- in the field, in the extension department?</p> <p>Inner institutional questions</p> <p>13. If you compare the numbers of male and female extension agents in your department- which gender is the majority and how much?</p> <p>14. Do female and male extension agents receive the same</p>	<p>Disseminating innovation</p> <p>10. Do you as researchers have a say how the research results are disseminated and to whom?</p> <p>11. What channels are used for the dissemination of research results?</p> <p>12. What is your relationship with extension agencies? What challenges do agricultural researchers face in their work?</p> <p>Inner institutional questions</p> <p>13. Is gender a factor that influences the research work of researchers and the relationships in a research institution?</p> <p>14. Do female and male researchers have an equal access to promotion, interesting research topics, capacity building etc?</p> <p>15. In terms of numbers what is the % of female to male researchers?</p> <p>21. How is the relationship between female and male researchers?</p> <p>16. Are your family responsibilities or societal expectations affecting your work as a researcher?</p> <p>17. Do you have role in decision making process?</p> <p>18. How many female researchers in the decision making positions? How many males?</p>	

Questions for female and male farmers (key informants and focus groups)	Extension officers (males and females) – department	Researchers / male – females and decision makers	Decision makers n Research institutions
<p>any help from extension staff to overcome these obstacles?</p> <p>22. How do your family obligations affect your work in agriculture?</p> <p>23. Which other institutions, individuals could you turn for advice and support in your agricultural work?</p> <p>24. How could women that work in agriculture be better assisted?</p>	<p>support and capacity building in the extension department?</p> <p>15. If you would be the manager of the extension department, what would you change (in terms of operation, capacity development, outreach to the field etc.?)</p> <p>16. How is the relationship between female and male extension agents?</p> <p>17. Is there a mechanisms in place that requests and information needs from the field are fed into the extension department and influence the extension curricula?</p> <p>18. Who decides on the content of the extension messages and the approach?</p> <p>19. Have you seen request from the field being responded to (by women/men?)</p> <p>20. If you have a request from the field (for information/technology etc.) from where do you get the needed input? How long does it take you until you are able to give the farmer in the field feedback?</p>	<p>19. Does other researchers (males/female) take into consideration your opinion and decisions?</p> <p>20. Are you able to reflect female famers in the research development process?</p> <p>21. Do you conduct field research? And if so are you able to do research with female farmers? Do you face any challenges including female farmers into your research?</p> <p>22. If you could allocate a percentage, which type of farmers does your research benefit most (large, medium small, male or female)</p> <p>23. Are you provided with necessary facilities for your research purposes?</p>	

5.5 Endnotes

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