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FAO REGIONAL CONFERENCE FOR THE NEAR EAST

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Rural transformation for youth employment and income

Executive Summary

There is a growing divide between the conditions of living in the region's urban and rural areas. The majority of poor people live in rural areas, with poor basic services (health, education, communications), low exposure to and opportunities for innovation, limited access to and investment in productive infrastructure, services and value chains, low access to social protection and limited long-term decent employment opportunities.

For many rural people, particularly the young, the pull of urban areas is far stronger than that of rural areas. The major forces driving this shift in the COVID-19 era revolves around the pre-existing issues of high demographic pressure on limited resources, weak infrastructure and services, lack of job opportunities, especially for youth, gender inequalities, climate change, water scarcity and resource degradation. In the Near East and North Africa, with 165 million people living in rural areas (41 percent of the region's total population), achieving the objectives of the 2030 Agenda means investing in rural areas, creating opportunities and reducing the inequalities between urban and rural areas, as well as tackling social and gender inequalities within rural areas. This process of rural transformation can be a driver for rural economic growth, increased production and consistent supply of healthy foods for rural, urban and territorial communities, and managing resources more effectively and sustainably.

This paper argues for an inclusive rural transformation framework aimed at reducing inequalities between urban and rural livelihoods starting with youth. Interventions must aim at improving livelihoods and wellbeing in rural areas through gender-responsive and inclusive programs and policies that favour economic inclusion and attract investments to increase agricultural productivity and profitability through sustainable intensification and diversification of crops, livestock, forestry and fish production, effective rural services and viable market linkages, combined with an innovative and vibrant rural off- and non-farm economy.

For this to be achieved, it is imperative that countries invest in the promotion of agricultural innovation (in particular, harnessing the power of digital innovation), empowerment of producers' organizations, and modern, market-oriented advisory and extension services, and improve access to education and job training for youth. Countries should also aim at promoting economic inclusion

Documents can be consulted at www.fao.org

pathways for increasing decent and green job opportunities that are attractive to youth and women by encouraging investments in human capital, infrastructure and services and leveraging public-private partnerships in the development of more efficient and inclusive value chains. Value chains geared towards new markets also need to be supported as they offer high potential for employment. Gender-transformative approaches are central to the achievement of this priority.

Suggested action by the Regional Conference

The Regional Conference is invited to call upon Members to:

- a) Mobilize public investments in local infrastructure including physical infrastructure like roads, electricity and sanitation as well as public services including healthcare, education and social protection, to catalyse private investment as well as ensure integrated rural development.
- b) Pursue integrated strategies for inclusive rural transformation to expand decent rural employment, especially for the diverse youth and women, prevent child labour in agriculture, and protect the livelihoods of the most economically and socially vulnerable groups. Such transformations should be based on the principles of territorial development, adopting multi-sectoral and multistakeholder approaches, and considering the priorities of the Regional Action Plan for the UN Decade of Family Farming.
- c) Consider mainstreaming of sustainable agriculture practices in national policies, strategies and investment plans to boost their adoption by farmers and enhance the productivity and income of small-scale farming in ways that are resource efficient, ecologically sound and responsive to climate change;
- d) Promote more inclusive and more sustainable agrifood value chains and provide technical, policy and investment support mechanisms to strengthen agri-entrepreneurships particularly among diverse youth and women. Additionally, the countries can support more regional trade and easier access to markets.
- e) Craft realistic, timebound and resource efficient action plans to improve rural infrastructure, services, digitalization and connectivity for small-scale producers (including fisherfolk and pastoralists), their organizations and value chain actors (including women and youth associations) to modernise extension and rural advisory services and support the establishment of a regional forum for rural advisory services.
- f) Strengthen gender-responsive social protection systems and the coverage of social insurance to agrifood systems workers and ensure universal access to social assistance for the rural poor.

The Conference is invited to call upon FAO to:

- a) Support countries in pursuing inclusive rural and agriculture transformation through sustainable intensification and value chain development with a focus on small-scale producers.
- b) Assist countries through the development of digital innovation strategies, technologies, and pilots to be implemented at the country level that are inclusive and responsive to small-scale producers' needs.
- c) Support countries in promoting collective action and strengthening producer organizations, including women and youth associations and cooperatives.
- d) Support the advancement of extension and advisory services as pluralistic and market-oriented systems with emphasis on inclusivity, gender-responsiveness, innovation and digitalization.

Queries on the content of this document may be addressed to:

RNE NERC Secretariat
FAO-RNE-NERC@fao.org

Introduction

1. The Near East and North Africa (NENA) region faces a myriad of interconnected environmental, social, economic and political challenges, which have slowed down structural transformation and negatively impacted rural economic development in many countries. The region suffers from high demographic growth, chronic water scarcity, impacts of climate change, land and environmental degradation, high rates of youth unemployment and underemployment, low rates of female labour force participation, conflicts and resultant migrations and social unrest and instability.
2. On average, about two-fifths of the population in the NENA region live in agricultural rural areas with very high water scarcity, and where droughts have frequent catastrophic impacts on agricultural production, food security and rural livelihoods. This proportion is much higher in countries like the Sudan, Yemen, and Mauritania. Climate change compounds this problem with increased frequency of water stress and recurring droughts, placing additional pressure on agricultural systems already stretched to satisfy rising demand from population growth and dietary changes. Depletion of soil as a non-renewable resource could become extremely critical for the region.¹ Over recent years, land degradation in the NENA region is thought to have reduced the potential productivity of soil by about a third.² The livelihoods and the food security and nutrition of rural and urban communities are at risk, with the rural poor being the most vulnerable due to their high dependence on natural resources, limited resilience and protection against climate-related risks and shocks, and power imbalances over access to natural resources such as water and land³.
3. Over the past decades, the NENA region has had one of the world's highest proportions of youth in its populations, with high rates of unemployment and job opportunities mainly provided by the informal sector. The proportion of youth employed in the informal sector is as high as 95 percent in Palestine, 92 percent in Egypt and 86 percent in Tunisia.⁴ Similarly, almost 62 percent of women workers in the NENA region are employed in the informal sector. Further, they are over-represented in the most at-risk categories of informal employment, with 33 percent working as contributing family workers compared to 6 percent for men.⁵ Labour force participation rates of young women in the region are by far the lowest in the world, reaching 15 percent, compared to 35 percent worldwide.⁶ The high rates of female and youth unemployment represent a missed demographic opportunity.
4. Technology and innovation are key drivers of the rural transformation process.⁷ Technological advancement, including the use of digital technologies in the last decade, has provided an excellent opportunity to help overcome some of the challenges faced in agriculture and rural transformation. However, as argued by the 2020 Human Development Report, there can be dangerous unintended consequences from any single seemingly promising solution including the widening of existing

¹ FAO and ITPS. 2015. Status of the World's Soil Resources (SWSR) – Main Report

² ESCWA and FAO (2017) Arab Horizon 2030: Prospects for Enhancing Food Security in the Arab Region. Technical Summary

³ FAO (2020), the State of Food and Agriculture [[Hyperlink](#)]

⁴ Ralitza Dimova, Sara Elder, and Karim Stephan, "Labour market transitions of young women and men in the Middle East and North Africa," International Labour Organization, November 2016, 39, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_536067.pdf.

⁵ Kabbani (2019), IFAD Investing in rural youth in the Near East, North Africa, Europe and Central Asia [[Hyperlink](#)]. Youth is defined as those between the ages of 15 and 24.

⁶ *ibid*

⁷ In this context innovation is defined as: the process whereby individuals or organisations bring new or existing products, processes or ways of organisation into use for the first time in a specific context in order to increase effectiveness, competitiveness, resilience to shocks or environmental sustainability and thereby contribute to food security and nutrition, economic development or sustainable natural resource management.

inequalities. Therefore, we must ensure inclusivity and sustainability in rural transformation, and reorient the development approach from solving discrete siloed problems to navigating multidimensional, interconnected and increasingly universal predicaments⁸. It is critical that technology and innovations are inclusive and gender sensitive.

5. This paper examines the opportunities and challenges facing rural transformation in the NENA region. It provides a brief overview of shifting economic, social and political contexts including the push towards digitalization due to the COVID-19 pandemic. Relevant policy and programmatic approaches that can help bring a holistic and inclusive rural transformation in the region are outlined.

6. SDG Targets guiding the work under this priority:

- SDG 2.3, 10.1: Increase productivity and income of smallholder food producers;
- SDG 1.4, 5a: Equal rights to economic resources for women and men;
- SDG 8.6: Create opportunities for youth employment;
- SDG 14.b, 15.9: Access of small-scale fishers to resources and integrate ecosystems approach in poverty reduction strategies.

I. Rural livelihood and poverty trends in the NENA region

7. Prior to the pandemic, the global poverty trend was slowing in pace in all regions except NENA, where it has been on a sharp upward trajectory (World Bank 2020). Conflict and instability are among the core drivers of this increase, affecting over one-third of countries in the region. Poverty is an overwhelming rural phenomenon with close to three quarters of the region's poor living in rural areas.

8. The COVID-19 pandemic has significantly exacerbated the socioeconomic constraints in the region, pushing more people into poverty, and setting back human development and rural transformation processes. At the start of the COVID-19 pandemic, initial estimates pointed to an increase of 8.3 million in the population below poverty, the elimination of 1.7 million jobs⁹ and a 2.8 percent contraction of real GDP.¹⁰ A few months into the crisis in 2020, these estimates were revised to an increase of 14.3 million in the population below poverty, a loss of the equivalent of 17 million full time jobs and a contraction of 4.1 percent in real GDP.¹¹ Limited data for 2020 shows that, so far, the average NENA GDP dropped by 3.8 percent¹² and an equivalent of 11 million full time jobs were lost.¹³ The full socio-economic impacts of the pandemic remain to be seen.

9. While the COVID-19 virus infects human populations equally, its health and economic ramifications are highly differential and has amplified existing inequalities across and within countries, gender, age and income strata. Governments in the NENA region took action to ensure the functioning of agriculture and food supply chains and, provided some measure of protection for those in the sector.

10. Almost all NENA countries have enhanced social protection coverage to respond to these labour market impacts of the pandemic, including the expansion of coverage to informal workers and ad-hoc stimulus payments. However, it is unclear how effective these programmes have been at

⁸ Human Development Report 2020 [\[Hyperlink\]](#)

⁹ UN-ESCWA (2020). Regional Emergency Response to Mitigate the Impact of COVID-19 [\[Hyperlink\]](#)

¹⁰ International Monetary Fund (2020). Confronting the COVID-19 Pandemic in the Middle East and Central Asia [\[Hyperlink\]](#)

¹¹ International Monetary Fund, Regional Economic Outlook Update [\[Hyperlink\]](#)

¹² World Bank (2021) MENA Economic Update [\[Hyperlink\]](#)

¹³ UNICEF (2020) Middle East & North Africa Region- COVID-19 Situation Report No. 13 [\[Hyperlink\]](#)

reaching rural populations and helping individuals and households to successfully recover from the economic downturn. Continued efforts to monitor the medium and long-term impacts of the pandemic are needed, especially in agriculture value chains because of their direct impact on food security and rural poverty.

11. The pandemic has also had clear impacts on rural youth, already facing high rates of unemployment, underemployment and decent work deficits prior to the crisis. In the absence of Information and Communications Technology (ICT) infrastructure for distance learning, school closures and lockdowns in rural areas have interrupted access to education across NENA countries. COVID-19 has led to longer school-to-work transitions for young people and an increased negative coping mechanisms such as child labour, early marriage and hazardous work.¹⁴ Even migration as a livelihood strategy is no longer an option for thousands of rural youth due to the wide-spread economic repercussions of the pandemic and continued restrictions on mobility. As a result, and without significant efforts to mitigate the impacts of the pandemic on education and employment, intergenerational cycles of rural poverty will continue to perpetuate.

12. Moreover, the COVID-19 crisis has not been gender-neutral. Women, including rural women, have felt its effects on both their productive and care roles. A recent survey implemented in five Arab countries by Arab Barometer found that women were more likely than men to have lost their jobs as a result of the economic downturn.¹⁵ A rapid gender analysis done by Care International found that women in the Middle East and North Africa region reported having a heavier domestic burden and experiencing substantial increases in domestic violence since the start of the pandemic.¹⁶

13. Overall, the pandemic has exacerbated the discriminatory norms and challenges faced by women in accessing key productive assets, resources and services, as well as their ability to participate in rural organizations, cooperatives and networks. These compounded challenges need to be better documented and systematically addressed in response policies and programmes. Other groups disproportionately affected by the pandemic were refugees and migrant agriculture workers. Migrant agriculture workers in many countries, especially in Gulf countries, were left stranded with less or no employment or forced to return home, often resulting in deterioration of the livelihoods of poor households dependant on remittances. In conflict affected countries refugees and displaced persons in rural areas, already facing high levels of food insecurity prior to COVID-19, faced heightened constraints in finding decent employment opportunities.

II. Impact of COVID-19 on agrifood value chains and country response

14. Agrifood systems were impacted to a lesser degree by COVID-19 than other sectors of the economy. This is due in large part to exemptions to movement restrictions initially, and as the crisis progressed, to efforts by NENA countries to facilitate domestic and international agrifood trade and bolster consumption through economic stimuli.

15. Although value chains largely maintained stability in terms of prices and volumes, value chain actors experienced disruptions that affected their incomes and business operations, with disproportionate impact on the most resource-poor women and men producers of crops, livestock and fish products and agribusinesses. The pandemic's impacts are mainly attributed to input and output market disruptions, higher production and transaction costs, and sudden shifts in demand and a longer-term decrease in purchasing power among consumers due to economic downturn.

¹⁴ UN-ESCWA (2020). Impact of COVID-19 on young people in the Arab region [[Hyperlink](#)]

¹⁵ Aseel Alayli (2020). "COVID-19 Magnifies Pre-Existing Gender Inequalities in MENA," Arab Barometer [[Hyperlink](#)]

¹⁶ CARE (2020) Rapid Gender Analysis – COVID-19 Middle East and North Africa Region [[Hyperlink](#)]

16. Among producers, the lockdown phase between March to roughly July 2020 signified the greatest period of disruption, and despite movement permission for essential agrifood sector actors, navigating curfew and roadblocks, coupled with barriers to movement for labourers, input suppliers, and value chain intermediaries remained a challenge. Many farms faced either labour shortages, rising labour wages or both. Difficulty in accessing inputs led to delays in production activities that negatively impacted the quality and quantity of production, particularly for crops sensitive to the quality and timeliness of inputs.

17. Many small-scale producers faced difficulties in marketing their products, particularly at the beginning of the pandemic, and for perishable goods this led to food damage and loss¹⁷. Farmers surveyed in various countries report discarding unsold products or trying to manage surpluses through storage or seeking alternative markets while incurring additional costs to maintain food safety and quality. Liquidity and cash flows were another challenge since even slight delays in marketing products meant no cash on hand to meet immediate needs.

18. Given that prices remained relatively stable, the added production, search and transaction have eroded the incomes and profits of producers which may hurt productivity and household wellbeing in the coming years. Producers across the region report lower incomes, to varying degrees. In Jordan, about 90 percent of crops farmers and about 70 percent of livestock farming systems sold some of the farms' assets. About 78 percent of the surveyed women in Egypt reported a decline in their work-related income in May 2020 compared to February, including 81 percent suffering from a decline of the overall household income¹⁸. Women bore the brunt of increased domestic responsibilities during the lockdown, managing household nutrition, education, and contributing to more labour in family farming while juggling less household incomes.

19. Fishery and aquaculture were among the most deeply affected sub-sectors. The main impact for the Gulf States and Yemen has been at the retail level. Following the outbreak of the disease, authorities closed or limited access to fish markets, hotels and restaurants. Noteworthy adaptations have been to develop the direct sale to consumers through e-commerce platforms and home delivery. Exports and imports of fresh fish from abroad were also impacted temporarily. In North Africa, fishery production decreased by almost 8 percent and aquaculture by about 34 percent in the first three quarters of 2020, compared to the same period in 2019. A quarter of producers surveyed attributed lower production to revenue loss of about 20 to 40 percent; and a third of respondents attributed it to 40 to 60 percent lower revenues¹⁹. Marine fisheries' production was impacted in part by social distancing requirements on vessels, and the fisheries and aquaculture sub-sector as a whole by rapid shift in consumer demand due to food service industry closures.

20. Among intermediary traders, transporters, processors, wholesalers and others along value chains, similar challenges were faced in navigating restrictive movements, labour shortages, and applying physical distancing measures that have pushed operational and transaction costs upwards. Among agribusiness surveyed in Iraq, there was a 21 percent reduction in average number of employees between February and September 2020; over 60 percent reported that production was negatively affected, on average by about 50 percent; 24 percent reported difficulty accessing inputs; and 52 percent reported lowered domestic sales to consumers²⁰. In Egypt, almost 68 percent of the traders reported a major challenge in transporting their products to the market, and about half claimed shortage of production inputs, problems in shipping, and lack of cash availability. This impact is echoed across the region with reports of agribusiness suspending operations at certain stages of the crisis.

¹⁷ See, for example, Rapid Assessment on the Impact of COVID-19 on Agriculture, Food & Nutrition Security in Egypt [\[Hyperlink\]](#)

¹⁸ Ibid

¹⁹ Impact de la crise COVID-19 sur les secteurs de la pêche et de l'aquaculture dans quatre pays du Maghreb [\[Hyperlink\]](#)

²⁰ IOM-FAO-ITC Panel Study II: Impact of COVID-19 on agrifood SMEs in Iraq (Fact sheet)

21. The disruptions caused by COVID-19 highlighted systemic lack of infrastructure investments, as well as weak post-harvest handling, processing and storage capacity which led to losses of perishable products. The pandemic also highlighted the untapped potential of innovation and digital solutions in the NENA agrifood sector, as COVID-19 pushed many value chain actors to adopt ICT-based solutions, such as advertising on social media, online customer service and e-commerce. Yet, many agribusinesses and service providers lack the skills to utilize digital technologies and there continues to be a significant gender gap in mobile ownership and access to internet. The ecosystem needs development to better foster more effective, inclusive, accessible digital agrifood services and marketing tools for the sector.

III. Response options

i. Adopt territorial approaches to rural transformation and development

22. At the heart of territorial approaches is bridging spatial inequalities and ensuring balanced growth across the rural-urban continuum. A targeted focus on a specific region or territory with the aim of capitalizing on local resources, assets and institutions while linking to external markets, technologies and sources of finance can ensure more sustainable, inclusive and multi-sectoral development that is responsive to community needs. At territorial scales, it is more likely to engage diverse actors including those who typically play a less significant role in decision-making processes and resource management structures. For example, location based approaches can be used to ensure rural youth, and in particular young women who face additional gender-based constraints are empowered to transform their communities and food systems through the building of more participatory local structures and processes.

23. Strong land administration and management systems are an important part of territorial approaches. The Voluntary Guidelines on the Responsible Governance of Tenure (VGGT) provide an important tool to achieve food security and sustainable development at local scales by ensuring equitable and secure access to land, fisheries, and forests, including among the poorest. Secure tenure is foundational for investment mobilization and sustainable resource management.

24. A number of prerequisites underpin the successful implementation of territorial development. Access to and use of high-quality age- and sex-disaggregated data is needed to address and monitor local socioeconomic, geographical and environmental parameters in local planning and also to identify priority territories. Decentralization hinges upon strong local institutional capacities both among community organizations and local authorities and presence of inclusive, transparent and participatory mechanisms that can ensure no one is left behind and that trade-offs across diverse actors are addressed openly and fairly. Finally, public and private investment is essential to finance local infrastructure including physical infrastructure like roads, electricity and sanitation as well as public services including healthcare, education, rural advisory services and social protection – without which integrated development will not be possible.

25. Adopting a territorial approach in most cases requires a review of existing policies and moving towards the adoption of regional development or place-based policies aiming at reducing regional disparities. Such policies should focus on adapting to specific territorial assets, the development of territorial attractiveness and investment strategies. Market analyses need to be included and conducted to ensure viable local and territorial or regional markets.

26. Successful territorial development will also require the adoption of efficient and mutually reinforcing multi-level governance systems, and stakeholder involvement. Key to this is the development of regional partnerships that bring together central government, regional authorities, and all the stakeholders that play a role at territorial level, including private sector and civil society, as well as local or regional producers' organizations, chambers of commerce, and interest groups.

27. Inclusive consultations and decision-making processes based on local dialogue should be at the basis of territorial approaches. Open communication and engagement of all stakeholders are needed from the planning stages to ensure full representation of all groups, especially the vulnerable ones and to ensure long-term ownership of the proposed actions. Sharing and building upon good examples in the region as well as global experiences from countries like Brazil, China and Colombia can help improve the adoption and effectiveness of territorial approaches.

ii. Promote inclusive digital innovation

28. Digital innovation can fundamentally transform every part of the agrifood value chain. Digital agriculture can provide solutions to a whole range of agricultural challenges, from sourcing the best inputs, enabling planning based on weather information, to offering valuable extension advice or helping farmers to fetch the highest price for their products. Provided they are inclusive and gender responsive, digital solutions can lead to a change in generalized management of resources towards highly optimized, customized, smart and anticipatory management, in real time and driven by data.

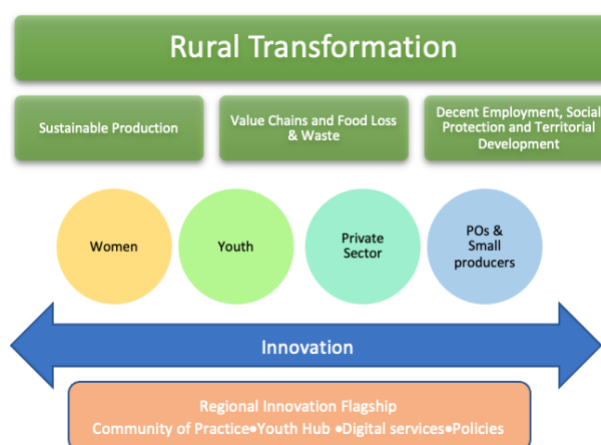
Box 1. Digital Innovation for Rural Transformation – Piloting FAO’s Digital Villages Initiative in the NENA Region

The FAO’s 1000 Digital Villages Initiative (DVI) aims to transform rural communities using digital technologies and make livelihood related information and services available and accessible to all. The NENA is considered the most diverse region in terms of digital development. The Gulf Cooperation Council countries (GCC) take the lead across many ICT indicators when compared to those of developed countries; while other countries of the region continue to struggle with digital development challenged with persistent economic impediments, social instability, political conflicts and climate change impacts, among other things.

Over the last years, the region witnessed slow growth in most areas of digital infrastructure, access and use. Recently, the COVID-19 pandemic provided an opportunity to illustrate the value of digital agriculture and innovation especially in the areas of e-marketing, e-finance and e-extension. The adaptation of digital technologies to local agricultural settings and needs of small-scale farmers offers greater opportunity for enhancing economic activity, job creation, and youth employment and creates pronounced impact within the agriculture value chain. For example, in Gulf countries, successful emergence of direct sale platforms during the health crisis gave new opportunities for small fishers to reach local consumers easily.

Increasingly, governments are looking at emerging digital technologies to help make food systems more sustainable, inclusive and efficient. Leadership, strategy, governance, investments and capacity are essential to foster a digital ecosystem. Developing, adopting and scaling up of digital innovation technologies in agriculture and food systems require new business models and partnerships, involving the public and private sectors, civil society, farmer organizations and policy-makers.

The objective of the DVI initiative in the NENA region is to support the development of agriculture digitalization strategies²¹ and pilot approaches for adoption of innovative solutions in a set of representative villages, across the region. Building on the NENA Regional Innovation Flagship (RIF) and the FAO Digital Village Portfolio, a four-pronged integrated approach will be



²¹ The E-agriculture Strategy Guide <http://www.fao.org/3/a-i5564e.pdf>

used to identify interventions to support countries and communities in achieving their agricultural goals, building ecosystems and strengthening livelihoods:



The 4As approach of Assess, Align, Apply and Amplify will help guide RNE's work on DVI.

Advocate and support countries to develop digital agriculture strategies to ensure inclusivity of the digital transformation and to bridge the digital divide.

29. There are three elements that should be considered to ensure successful digital transformation: capacity, content and connectivity. Strengthening capacities will help build literacy as well as digital literacy, especially among small producers, and service providers and extensionists. Content is critical as it should meet the needs of target groups and the information should be actionable. Development of content with an aim of delivering it through multiple media as appropriate (including mobile phones, radio, television, village knowledge centres and face-to-face extension) is important. Engagement of rural agricultural communities in developing and improving the content through effective feedback mechanisms helps sustain digital solutions. Finally, connectivity is the key enabler for digital transformation as it improves access to online services in various areas such as health, education, extension, finance, livelihoods as well as in providing actionable insights into various public and private digital services. Notably, access and affordability of internet connection remain a challenge. Addressing gender related barriers in all three elements is vital including ensuring digital literacy among women, addressing norms that prevent women to own mobile phones and ICT devices and raising awareness to enhance women's safety and security online. Together with increased investment in these three key building blocks, efficient partnership mechanisms involving the public, private and rural communities, and exploring opportunities for institutionalizing effective digitized solutions as part of public services portfolio will help significantly in realizing the rural digital transformation agenda.

30. Through the Regional Innovation Flagship, FAO is also playing an important role in collection and dissemination of data and evidence and fostering collaboration across diverse stakeholders. The flagship aims to provide a platform for stakeholders to access information and build effective partnerships to advance innovation and digitalization.

iii. Promote sustainable intensification of agricultural production

31. Food production systems in the NENA region are vulnerable not only because of water scarcity, degraded land and marine ecosystems, and climate change impacts but also due to low productivity of crop, fish, forest products and animal production. There is a significant gap between potential yields and those actually produced by farmers that reaches four-fold in the production of rainfed wheat in the NENA region. Recent challenges such as conflicts and COVID-19 pandemic add to the problem. Traditional and unsustainable practices are still predominant especially in the rainfed farming systems in the region with about 68 percent of the region's cropland rainfed. Water scarcity is an immense challenge facing small producers exasperated by the growing food demand, climate change and unsustainable practices.

32. Transforming production systems calls for location-based and context-specific approaches for sustainable intensification of agricultural production, as means for producing enough food for the ever-growing population of the NENA region while, at the same time decreasing adverse impacts on the ecosystem services, protecting biodiversity and adapting to climate change. Most must be made of scarce resources, in particular water, by developing strategies and policies for sustainable water management developing, and promoting efficient and sustainable management practices, including use

of treated wastewater, desalination, and integrating aquaculture with crops and livestock production whenever possible. The need for a blue transformation of the capture fisheries sector has become critical and countries must implement sustainable fisheries management plans. More broadly, a systems perspective that captures the water-food-energy nexus needs to be better integrated in programme and policy setting processes.

33. The sustainable intensification of food production should embrace the five principles for sustainable food and agriculture²². These include efficient use of inputs and resources, and the adoption of sustainable practices and technologies to protect ecosystems, enhancing productivity of small producers and safeguarding livelihoods, increasing resilience to climate change and other shocks and good governance of natural and human systems²³. These goals can be achieved through approaches like Climate Smart Agriculture (CSA), a concept that addresses three targets: increasing productivity, supporting resilience to climate change, and reducing greenhouse gas emissions²⁴.

34. Sustainable agricultural intensification programs, agroecology, regenerative agriculture, recirculated aquaculture, and climate-smart agriculture practices represent effective strategies for enhancing sustainable production of small-scale farmers while addressing climate change challenges at various territorial scales. To realize rural transformation in the NENA region, there is need for redesigning the existing farming and food production systems to respond to the present and expected challenging changes in an innovative way benefiting from the global momentum created by tackling impact of COVID-19 and the lessons learned.

iv. Support producer organizations, extension and advisory services

35. FAO has developed the Pluralistic and Market-Oriented services framework that focuses on the advisory, business and market support services needed for smallholders to improve productivity, gain access to markets and increase their income. It is based on understanding the diversity of smallholders and their capacities, needs, constraints and challenges; the plurality of actors involved; as well as the policy environment, institutional setting and dynamics that influence their interactions.

36. Efforts are being made in the region to inform and guide the formulation and implementation of targeted scalable interventions for strengthening institutions and enhancing market-oriented rural services. This includes in-country assessment of extension and advisory service systems from a pluralistic and market-oriented perspective to initiate dialogue and inform policy-making and investment planning at national and regional level. To be effective, service systems should be responsive to the wide diversity of agricultural producers, whose needs for and access to services often vary based on their gender, age, assets, natural resource base, farm size, expertise and cultural heritage, technology use, proximity to markets and service providers, level of organization and the types of products they produce. Greater impact is marked on smallholder farmers themselves, with women, youth and other vulnerable groups often being at a greater disadvantage.

37. Pluralistic services – encompassing a broad range of services provided by multiple actors from public agencies, private firms, producers' organizations (POs) and civil society and funded by different sources²⁵ - have the potential to cater for this diversity. In this context, a conducive environment is needed to encourage public-private collaboration, enhance coordination and incentivize non-traditional service providers to engage in the provision of market-oriented extension and advisory services. For example, small and medium enterprises (SMEs) provide a variety of services in rural areas, such as input supply, machinery hire or post-harvest handling, often embedded

²² <http://www.fao.org/3/i3940e/i3940e.pdf>

²³ Hualin Xie, Yingqian Huang, Qianru Chen, Yanwei Zhang and Qing Wu (2019) Prospects for Agricultural Sustainable Intensification: A Review of Research. *Land* 2019, 8, 157; doi:10.3390/land8110157.

²⁴ Claya, N and K. Zimmerer (2020). Who is resilient in Africa's Green Revolution? Sustainable intensification and Climate Smart Agriculture in Rwanda. *Land Use Policy* 97 (2020) 104558.

²⁵ FAO. 2017. Towards inclusive pluralistic service systems: insights for innovative action.

with technical advice and know how. Also, producer organizations play a critical role in extending services to their members, while mediating with market actors and other service providers, and advocating for improved services in their communities. Strengthened capacities of SMEs and POs has the potential to improve access to services, while creating new employment opportunities in rural areas. It is important to establish coordination mechanisms and functional links between this plurality of service providers and the network of public extension and research institutes to ensure the provision of updated and sound information, and technical and business advice. In addition, strong linkages between extension and advisory service providers and academia are needed to ensure transmission of the latest knowledge and technology.

38. Development of human and social capital and strengthening of organizational capacity of producers and their organizations pave the way for inclusive rural transformation and more sustainable agrifood systems. For this to happen, support should be provided to develop capacities of POs to effectively engage in service provision, participate in markets, take part in policy dialogue and make their voice heard, while revisiting and improving cooperatives' institutional and legal frameworks. Strengthening social capital will include tools and participatory methodologies to support producers' organizations in the region to enhance cooperation through the development of three important types of relations: bonding, bridging and linking that are key for strengthening horizontal and vertical linkages. Simultaneously, building their managerial and technical capacities on relevant topics, including climate-smart technologies, green agriculture, finance and management, business development, market links and ownership of digital solutions.

v. Develop competitive and inclusive value chains and agribusiness

39. About 50 to 80 percent of agrifood systems across the region consist of transitional value chains, dominated by small-scale and labour-intensive agribusinesses, large informal sectors, with low adoption of digital and advanced post-harvest technologies and infrastructure²⁶. Only about 20 percent of agricultural production is processed in the region, and local markets tend to neglect food quality and safety standards that can likewise add value to agrifood products. About 11 percent of food produced for human consumption is lost from the farm up to the retail stage. Poor horizontal coordination, especially among producer organizations, impedes better access to input and output markets, services and decision-making for rural food producers and agribusinesses. Weak vertical coordination along the value chain prevents the flow of market information, investment, technology and capacity that stimulates market-oriented production and upgrades along the value chain as a whole.

40. Sustainable agrifood value chain development is critical for rural transformation that unlocks job and income opportunities for rural women and youth, while supplying affordable, safe and nutritious foods to local and a growing regional consumer base. The relative resilience of value chains in the NENA region during COVID-19 has brought renewed focus on how strengthening agrifood value chains can support economic growth to drive real transformation of agrifood systems in the region.

41. Measures to develop competitive and inclusive value chains include prioritizing value chains based on criteria of sustainability, inclusivity and growth potential and conducting quality analysis through multistakeholder engagement (employing for example, the FAO-UNIDO 3ADI+ approach,) to inform market-oriented upgrade strategies with associated investment plans. Key to this is ensuring there are viable and stable end-markets. Territorial approaches offer a powerful strategy for enhancing sustainable rural transformation and agribusiness competitiveness that creates off-farm employment and strengthens urban-rural linkages. COVID-19 disruptions have highlighted the need for localizing food security through territorial strategies. This includes shorter supply chains and more robust linkages to local markets.

²⁶ Thomas Reardon, Marc F. Bellemare, and David Zilberman (2021). How COVID-19 may disrupt food supply chains in developing countries, in "COVID-19 GLOBAL FOOD SECURITY" eds. Johan Swinnen & John McDermott, pp. 78-83.

42. Within agribusiness, there is a need to promote sustainable business models and encourage rural youth and women to engage in downstream food handling, packing and processing activities that meet demand for higher quality products in local and export markets. Strengthening horizontal and vertical coordination along the value chain can help accelerate technological and operational innovation, through producer organizations, industry associations, entrepreneurship hubs, chambers of commerce, etc. The COVID-19 crisis has highlighted the need to connect the large informal sector to higher-value, integrated value chains to boost incomes as well as mitigate risks and assure social protection coverage.

43. Women's capacity to engage in agrifood value chains can be built by promoting inclusive business models, strengthening their access to digital, labour-saving and women-friendly technologies and market-oriented services (financial, advisory, business and market support) and fostering a policy and legal framework conducive to women's decent employment and entrepreneurship. FAO has several guidelines and tools to support these goals and help counteract domestic pressures and socio-cultural norms around gender.²⁷

44. Finally, fostering adoption of technologies, innovations and investment in agrifood infrastructure can boost productivity and make value chains more efficient with less food loss and waste. Upgrading post-harvest handling, processing, storage, cold chains, market infrastructure, and modernizing logistics and services will make value chains resilient and adaptable when facing shocks.

vi. Promote decent rural employment and economic inclusion for youth and women

45. Unemployment, underemployment and decent work deficits have been persistent challenges facing the NENA countries and are especially marked among rural youth and women. Prior to the COVID-19 pandemic, the NENA region had youth unemployment rates of 22.5 percent (2019 ILO modelled estimates), nearly double the global youth unemployment rate. Young women in rural areas are even more likely to be unemployed or underemployed due to the specific challenges they face in balancing domestic roles, mobility constraints and limitations in access to training and education opportunities. On the other hand, there are 7.2 million children in situation of child labour in the NENA region, 70 percent of which are working in the agriculture sector.²⁸

46. Key priorities moving forward include upgrading and reforming agriculture education and Technical and Vocational Education and Training (TVET) systems to ensure responsiveness to market needs and the demands of a modernized agrifood system. This includes an increased emphasis on innovation, locally appropriate technologies, climate smart practices, post-harvest processes, the use of ICT in agriculture and soft skills needed to foster entrepreneurial abilities of women and youth in agriculture and food systems, both on farm and off farm activities. Dedicated vocational training on agriculture and aquaculture as well as agripreneurship and school-to-work transition to wage employment should be developed and made available through academic and specialised training institutions.

47. A second area of focus is the facilitation of youth and women's engagement in rural institutions and networks and supporting governments in the design and implementation of strategies that more effectively target rural youth. By actively engaging in existing producer organizations, cooperatives, local councils and committees or creating new youth-led and women-led organizations, rural youth and in particular young women, can collectively increase their access to markets, inputs and services (including financial services, extension services and social protection), as well as influence decision-making processes that impact the decency and quality of livelihoods.

²⁷ FAO's gender sensitive value chain framework (2016); <http://www.fao.org/3/a-i6462e.pdf>; FAO. Guidelines for practitioners (2018) <https://www.fao.org/3/i9212en/i9212en.pdf>; FAO. Gender sensitive value chains and food loss (2018) <http://www.fao.org/3/I8620EN/i8620en.pdf>

²⁸ ILO & UNICEF, 2020. Global estimates on child labour

48. Third, investing in inclusive innovation and entrepreneurship ecosystems in rural areas is a vital catalyst for rural transformation that builds on the productive potential of youth and women. Entrepreneurship Support Organizations (ESOs) that offer training, mentorship, matchmaking, business networks and finance to micro, small and medium enterprises (MSMEs) have tremendous potential to create decent jobs and innovation in the agrifood sector while changing the narrative associated with employment in agriculture. Entrepreneurship support is also necessary to diversify livelihoods where agriculture is no longer viable. Rural women and youth including migrants and the most vulnerable need to be connected to and made aware of these opportunities.

49. Finally, reducing poverty among the most vulnerable rural women and youth demands more effective social protection systems. Access to social protection especially among the poorest rural women and youth is low. Social registries and more gender- and age-responsive social protection schemes linked to decent work and economic inclusion programmes are necessary to enable women and youth to overcome short-term setbacks as well as build resilience against broader shocks and crisis in a way that ensures no one left behind in the process of rural transformation.

IV. Conclusion

50. This paper argues for an inclusive rural transformation framework aimed at reducing inequalities between urban and rural livelihoods starting with youth. There is a critical need to upgrade and enhance life, in all aspects, of rural communities, making them also attractive to youth. Meaningful economic opportunities and attractive rural environments may reduce the negative drivers of migration and over-urbanization of cities and provide youth with incentives to live and work in the rural areas.

51. Six axes of intervention are proposed to help bring a holistic and inclusive rural transformation in the region. Interventions must aim at improving livelihoods and wellbeing in rural areas through gender-responsive and inclusive programs and policies that favour economic inclusion and attracting investments to increase agricultural productivity and profitability through sustainable intensification and diversification of crops, livestock, forestry and fish production, effective rural services and viable market linkages, combined with an innovative and vibrant rural off- and non-farm economy.