Nexus of Climate Change and Food Security

Regional UNDG, Arab States/Middle East and North Africa

R/UNDG Guidance Note for UNCTs in Preparing CCA/UNDAFs

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Regional UNDG

List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AWR	Arab Water Report
CCA	Common Country Assessment
CEB	Chief Executives Board for Coordination
CFA	Comprehensive Framework for Action
CFSS	Comprehensive Food Security Survey
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CGIAR	Consultative Group on International Agricultural Research
CSO	Civil Society Organization
DRR	Disaster Risk Reduction
ECA	United Nations Economic Commission for Africa
ESCWA	United Nations Economic and Social Commission for Western Asia
Europe &CIS	UNDP in Europe and the Commonwealth of Independent States
FAO	Food and Agricultural Organization of the United Nations
GDP	Gross Domestic Product
GIEWS	Global Information and Early Warning System
HIV	Human immunodeficiency virus
HLTF	United Nations High-Level Task Force
ICARDA	International Center for Agricultural Research in Dry Areas
IFAD	International Fund for Agricultural Development
IIED	International Institute for Environment and Development
ILO	International Labour Organization
IMF	International Monetary Fund
LAS	League of Arab States
LDC	Least Developed Country
MDG	Millennium Development Goal
MENA	Middle East and North Africa
NENA	FAO Near East and North Africa region
R/UNDG	The Regional United Nations Development Group
SPF	Social Protection Floor
SWOP	State of the World Population (UNFPA)
SUN	Scaling-up Nutrition
UNCT	United Nations Country Team
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFPA	United Nations Population Fund
UNHRC	United Nations Human Rights Council
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WGP-AS	Water Governance Programme for Arab States
WHO	World Health Organization
WTO	World Trade Organization

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1.0 Introduction

The Regional United Nations Development Group (R/UNDG) for the Arab States/Middle East and North Africa Region has identified the climate change and food security nexus as a strategic priority for its work, including its provision of support to United Nations Country Teams (UNCTs). A position paper on the topic commissioned by the R/UNDG is at an advanced state of preparation. Pending completion of the paper, the R/UNDG recommended that an action-oriented guidance note should be prepared for use by UNCTs in the context of United Nations Development Assistance Framework (UNDAF) roll-outs and associated programming that are currently under way. The R/UNDG convened an inter-agency technical meeting in Cairo, from 18-19 October 2010, to discuss the food security-climate change nexus on the basis of the draft study, from which this guidance note derives. The final draft of the study itself will be submitted to the R/UNDG for endorsement in March 2011 and will be made available to UNCTs as a reference document soon thereafter.

The key message of this guidance note is that tackling the impacts of climate change on food security requires foresight and preparation in various policy domains. As argued below in the introductory part of section 4.0, there is no one-size-fits-all solution that can be recommended to UNCTs. Best response strategies will differ from country to country and need to be carefully developed in cooperation with local, regional and international stakeholders. What can be recommended though is that a process be initiated that facilitates the development of best practices within the region. This guidance note is written to provide a framework and stimuli for this process.

2.0 Situation Analysis

Unequivocal scientific evidence shows that greenhouse-gas emissions from human activity, especially burning fossil fuels for energy, are changing the earth's climate (IPCC, 2007). General consensus has emerged among scientists and policymakers that climate change is real and that it will become worse. The average global temperature is increasing. The expected increase ranges between two and five degrees if preventive actions are not taken. Three particular manifestations of climate change could have substantial implications and could threaten all aspects of human development:

(i) Intensification of natural disasters as a result of more erratic and severe weather patterns, (ii) Increasing scarcity and variability of water as a result of changes in rainfall patterns, and (iii) Coastal erosion and flooding as a result of rising sea levels.

The impact of global warming and climate change will affect negatively biodiversity, water availability, agriculture, and food security. Due to structural, economic, geographical and topographical factors, Arab countries are among the most vulnerable in the world. Weather patterns will become more erratic and severe. Summers will become longer and drier, and flash floods more frequent. In some areas, natural aquifers and water tables will recharge less, in others more. The exact nature of potential climate change risks depends on the assumptions one makes regarding the possible spectrum of global warming: Is the earth warming by two, three, four, or five degrees Celsius?

The challenges that the Arab countries are facing are sea water level rise, water scarcity, desertification, soil erosion, water and land salinity, biodiversity reduction, food insecurity, population pressure, urbanization and environmental stress. Coastal areas in Tunisia, Morocco, Qatar, UAE, Libya and Egypt, as well as Bahrain, are at high risk of coastal erosion, flooding, salination of soil and fresh water resources. A higher frequency of severe droughts, storms and flash floods has already been observed in many Arab countries in recent years. In Syria, droughts have resulted in the displacement of several hundred thousand people from rural areas

in the North-North-East to urban centers. Climate change will affect agriculture, forestry, fishing, tourism, and city planning.

These challenges and risks will be exacerbated by demographic trends. The Arab population is young, growing rapidly, and in urgent need of jobs. The population of the Arab countries is expected to increase from 359 million today to 598 million in 2050. Arab economies, however, are not yet sufficiently diversified to turn this population trend into a demographic gift.

Adaptation to climate change is therefore an urgent economic and social imperative for all the countries of the region. Adaptation is costly and the longer adaptation measures are postponed, the more costly and the less effective they will be.

A particularly severe consequence of climate change is its effect on food security. The climate change and food security nexus is multidimensional. A foretaste of an intensifying nexus was delivered in 2007-2008 by the Triple F (food, fuel, and financial) crisis. Higher food prices are disproportionately leveraged by poorly regulated global financial markets. Climate change-induced catastrophes like wildfires, floods and droughts trigger speculative ventures in commodity markets, leading to price fluctuations far beyond what would be justified by decreased availability. Similar problems result from trade restrictions put in place consequent to climate change-induced disasters.

In light of this, a better understanding of the complexity, dynamics, and causal relationships between climate change and food security is a matter of prime interest for the Arab world, and for the formulation of effective action planning and programming support by UNCTs.

What is the climate change-food security nexus and why is it important?

The nexus of climate change and food security has received a lot of attention within the UN. The 2008 FAO framework document "Climate Change and Food Security" is the first comprehensive assessment of this interrelationship (see Figure 1 of the Appendix). The FAO 2008 report applies a global perspective and provides valuable stimuli for regional assessments. This guidance note is the first such assessment for the Arab world.

The nexus of climate change and food security is complex. The 2008 FAO report identifies more than 100 links between climate change and food insecurity. Specifically, FAO examines the climate change impacts of CO_2 fertilization, increase in global mean temperature, precipitation changes, and more extreme weather events on food system assets, food system activities, food security outcomes, and well-being (FAO 2008, p. 14-19). The following is a selection of links between climate change and food security:

With regard to availability, climate change:

- Adversely affects rural livelihood bases through a decline in water availability, soil erosion, desertification and salination (particularly for coastal agricultural lands), droughts, floods, and wildfires
- Increases pest and disease problems (locusts, etc.)
- Likely reduces agricultural output
- Likely exacerbates the existing inequalities among marginalized populations
- Affects livestock health and productivity
- Negatively affects fish supply
- Decreases drinking water availability and quality (especially in countries like Yemen, Jordan and Libya).

With regard to access, climate change:

- Could reduce access to food of people whose livelihoods depend on agriculture, livestock, forestry, and fishery (especially smallholder, subsistence rain-fed farmers, pastoralists)
- Could lead to livelihood losses in urban populations (extreme weather conditions, coastal erosion and flooding) and, as a result, could reduce food access of vulnerable urban populations
- Could reduce access to drinking water
- Leads to an upward trend of food prices and increases their volatility
- Creates poverty in rural communities
- Can spur internal and external conflict that disrupts access to markets.

With regard to utilization, climate change:

- Undermines the availability and efficient utilization of food through factors like heat stress, disease, malnutrition and the deterioration of sanitary conditions
- Increases competition for scarce public health services
- Increases likelihood of diseases due to epidemics due to food and waterborne diseases such as cholera, malaria, dysentery, etc.

With regard to stability/continuity climate change:

- Disrupts continuous availability through trade restrictions in response to climate change-induced catastrophes
- Leads to the collapse of social safety nets like school feeding and social assistance programmes.

Although the nexus of climate change and food security is a threat, it is also an opportunity. Climate change is an accelerator of already existing structural problems in the region. Such structural deficits are water scarcity, inadequate regional economic integration, fast population growth, and limited economic diversification. Although the Arab world has a common heritage in terms of language, culture and traditions, it has never been confronted with a common economic threat comparable to the nexus of climate change and food security; and thus there is an opportunity for Arab countries to join forces in united action.

The nexus of climate change and food security is a major threat to the realization of the Millennium Development Goals. MDG1, the eradication of extreme poverty and hunger, is at stake as people's livelihoods erode. As a result of food, financial and fuel crises, child and maternal malnutrition is likely to be adversely impacted; consequently, more children are likely to attend school hungry or drop out completely, jeopardizing MDG2, the achievement of universal primary education. In rural communities, the burden of climate change is likely to fall disproportionately on women. Male heads of households are more likely to become labour migrants, leaving behind more women farmers with more household responsibilities and greater exposure to health hazards. This will put MDG3, gender equality and women's empowerment, at risk. The health status-related MDGs, namely, 4 to 6 -- reducing child mortality, improving maternal health, and combating HIV and AIDS, TB and malaria -- are directly challenged by factors such as reduced access to safe water, heat stress, malnutrition, overburdened women, and emergence of new diseases. The Arab States/MENA region is already water stressed and the quest for more energy, safe water and arable land, which is potentially accompanied by the emergence of conflict, will make attainment of MDG7, more difficult. Although the nexus between climate change and food security poses threats to MDG achievement, MDG8-- developing a global partnership for development -- offers opportunities in the areas of trade, finance, technology transfer and regional cooperation that can prove conducive to climate change adaptation and beyond.

3.0 Diagnosing the Nexus of Climate Change and Food Security

The exact nexus between climate change and food security is highly country-specific. Countries differ in terms of exposure, vulnerability and adaptation capacity. In order to diagnose the nexus between climate change and food insecurity, information is needed on several general questions, whose specific answers will then define the ingredients for the development of adaptation programs. These questions are:

Under a changing climate,

- What are the macro-vulnerabilities with regards to aspects such livelihood deterioration, conflict, public health and nutrition, and trade?
- Who are the most vulnerable - farming communities, the poor, women or children?
- What are the coping strategies of the most vulnerable – migration, selling-off assets, self-deprivation, child labor?
- How big is the governmental adaptation support capacity to the vulnerable groups?

Table 1 provides a more detailed list of specific questions that may be asked. FAO has identified various areas of possible adaptive response measures. These are basically: Governmental interventions, agricultural practices, food market developments, and household response strategies. The table below illustrates how the four climate change challenges "Responding to Macroeconomic Vulnerabilities", "Targeting Vulnerable groups," "Preventing Adverse Coping Strategies," and "Strengthening Governmental Adaptation Capacity" could be linked to adaptation options. A more detailed discussion of policy options follows in the next section.

Table 1: Climate Change Challenges and Adaptation Policies

		Adaptation Opportunities			
	Climate Change Challenges	**Government Policies**	**Agricultural Practices**	**Food Market Developments**	**Household Response**
Managing Macro Vulnerabilities	Livelihood deterioration, conflict, public health risks, trade shocks	Improve regional integration, water governance reforms (national and international), research and development, land and financial market reforms	Invest in seeds, fertilizer, smallholder farming, women farmers, water management	Explore opportunities for bio-energy, solar energy water pumps,	Reproductive health measures, life-style changes
Targeting Vulnerable Groups	Rural communities, children, migrants, refugees	Develop monitoring- and early warning systems, assess funding situation of humanitarian agencies, establish comprehensive food insecurity vulnerability assessments, promote national reproductive health and nutrition plans, aid for trade	Invest in smallholder farming, women farmers, crop insurance, prevent child labor	Aggregation of output strategies to improve small farmers' access to markets	Improved nutrition and food security practices

Preventing Adverse Coping Strategies	Migration, selling-off assets, self-deprivation, child labor	Explore linkages between country social protection efforts and the UN system's Social Protection Floor Initiative	Create cooperatives of mutual assistance (credit unions)	Improve market efficiency through reduction of market power of, for example, middlemen and traders.	Acquiring of new skills like food conservation skills and household budgeting.
Strengthening Governmental Adaptation Capacity	Is data available? Crisis response plans available? Crisis response plans funded?	Move from disaster risk response to prevention, assess capacity needs of national humanitarian agencies	Promote agricultural trade unions and provide industry information relevant to public policy	Promote food retail trade unions and provide industry information relevant to public policy	Responses that reduce the social safety net burden of the state like education, family planning, life-style changes

4.0 Policy Options for Advocacy and Programming

Most Arab countries have adopted national policies and plans aimed at addressing or minimizing the challenge of ensuring food security in the context of climate change. Examples could be found in improving the management of water resources in the agricultural sector (water harvesting, drip irrigation) and in water supply (desalination), in disaster risk reduction management, and in climate change adaptation through drought-resistant crops and anti-desertification. The ability of Governments to implement existing policies and plans, however, remains a problem. Governments are constrained in this regard by inadequate technical capacities, issues of technological feasibility, and by insufficiencies in coherence, synergy and mutual reinforcement among sectoral policies and plans, including at sub-national levels. Financial constraints also come into play in many countries. It would be pertinent for a UNCT to work with national partners on mapping out existing policies and plans relevant to addressing the nexus, and identifying thereafter where and how the UN System could support their implementation.

Having carried out, in collaboration with national authorities and other national partners, a diagnosis of the country situation as discussed in section 3.0 and having also undertaken the aforementioned mapping of national policies and plans, a UNCT could recommend to the national authorities an appropriate package of options for policy development and/or policy implementation for purposes of the UNDAF or equivalent document and, as appropriate, other programming instruments. A menu of possible policy options is indicated below in respect of key focus areas, emphasizing that the menu is precisely that – a menu from which a selection will need to be made. No prescription is being offered. No one-size-fits-all package is being suggested. Different UNCTs in the region will need to make different choices for composing the policy advice they will wish to make to their respective partner governments. Needless to say, UNCTs will need to bolster their policy advice through appropriate advocacy and communication strategies geared to the relevant groups and institutions.

In his capacity as chair of the High-level Task Force on the Global Food Security Task Force, the UN Secretary-General wrote to all Resident Coordinators and Country Representatives of task force members on 10 December 2009 requesting their renewed attention to coordinated action for food security, keeping in mind that "the conditions that led to [2008's] dramatic rise in food energy prices could re-emerge at any time"[1] and that "the global food and nutrition situation is ever more treacherous as a result of the global economic slowdown and the growing impact of climate change". The Secretary-General underlined the importance of ensuring that the new UNDAFs "adopt a more comprehensive approach to food security in line with the CFA". A second point also emerged forcefully from the Secretary-General's guidance: he would like UNCTs to work closely with the World Bank as well as with other partners – from the donor community and from civil society. On 16 June 2010, the Secretary-General wrote again to RCs and Country Representatives reiterating his previous guidance and updating it in light of the L'Aquila G8 summit of July 2009, the Pittsburg G20 meeting of September 2009 and the launch of the Global Agriculture and Food Security Program (GAFSP). With global food prices again rising at the time of this writing, the need for the partnerships advocated by the Secretary-General – with the World Bank and others – is more compelling than ever, and UNCTs would be well advised to align their actions with his advice in formulating their policy recommendations to governments.

Taking into account the Arab States/MENA region's specificities, UNCTs' actions on partnerships must include sustained attention to collaboration with regional actors, within the UN system and outside it, including the League of Arab States and its system of agencies. "If one aggregates causes and impacts, then climate change is inescapably global" (Depledge, J. & F.Yamin, 2009). So is food security and so is the nexus between climate change and food security. Responses to the nexus must necessarily be international. An appropriate international response

[1] Recent events would seem to indicate that the Secretary-General was being prescient in suggesting that food price problems might re-emerge.

must at the same time include a regional component, in terms of both causes and impacts. The underlying factors are such that if they are to be effectively addressed, synergy between national and regional actors will be essential. Indeed, a "regional approach can identify a wide variety of adaptation options and opportunities that only become apparent when viewed at this spatial level" (Ingram et al, 2010, p. 219).

4.1 Food Production and Related Water and Energy Issues

4.1.1 Options for Agriculture

Given the Arab States/MENA region's food security needs in the context of climate change, its food production challenges are complex and difficult on account of the region's natural resource endowments – shortage of arable land and, even more importantly, lack of water. The same challenges must also respond to the global need for agriculture not only to produce more food "but to do it in a way that is more resilient, more sustainable and more equitable.[2]" This calls for more investment in knowledge and innovation, access to assets, linkage to markets, and better risk management.

A starting point for a comprehensive strategy could be based on the following foundation proposals,[3] which were approved in March 2008 by the Twenty-Ninth FAO Regional Conference for the Near East:

- **Promote agriculture as a key player that could be steered towards convergence between sustainable development and reduction of atmospheric greenhouse gases**[4];
- Increase resilience of production systems against current and future hazards;
- Improve adaptation through conservation agriculture, afforestation (where viable),[5]sustainable management of forests and rangelands, soil storage of carbon, improved fertilizer use and ruminant digestion, as well as non-structural measures such as crop insurance and the careful promotion of bio-energy as a substitute for fossil fuels in climatically suitable areas;
- Develop policies, legislation and activities in natural resource management in light of promoting sustainable livelihoods consistent with climate change mitigation and adaptation.

In carrying out initiatives and activities along the above lines, regional governments and UNCTs should keep in mind the following key entry points:

Promote smallholder farming above all. In keeping with the outcome document of the MDG review summit of September 2010, the declarations of the High-Level Conference on World Food Security (June 2008) and the World Summit on Food Security (November 2009) as well as the Updated CFA of the HLTF (Dublin draft), the greatest emphasis should be placed in countries where agriculture is an important GDP sector to the promotion of smallholder farming, given smallholder agriculture's vital significance for food security and for climate change mitigation and adaptation. The key message here is: Previously developed models should not be replicated or upscaled; from now on, smallholder farming systems must move towards greater resilience, less use of inputs and natural resources, and increased reliance on locally derived solutions.

- **Look for linkages between mitigation and adaptation and broad-based development within a framework of conserving or enhancing natural ecosystems**. There can be synergies between mitigation and adaptation, resilience to shocks, food security, and poverty reduction, and the need of the hour is to find win-win solutions intersecting all

[2] Parry et al, "Climate Change and Hunger: Responding to the Challenge", WFP, IFPRI, New York University Center on International Cooperation, Grantham Institute at Imperial College London, and Walker Institute, University of Reading (UK), 2009.

[3] See FAO document NERC/08/INF/5 (FAO 2008).

[4] Emphasis added.

[5] For good practice in afforestation and reclamation of desert areas using sewage water for irrigation, look to relevant experience in Kuwait, Oman, UAE and Egypt.

these. Give pride of place to conservation agriculture and other ecologically integrated approaches – e.g. integrated pest management, better water utilization (drip irrigation, sprinkler irrigation, water harvesting and storage, etc.), and integrated soil fertility management. Promote biomass energy systems, solar irrigation pumps, and low-emission livestock management. Reduce transportation's footprint through more emphasis on local production. The Dublin draft of the Updated CFA makes it clear that the modified Comprehensive Framework is on its way to providing more comprehensive guidance linking the sustaining of smallholder food production growth with the fostering of better managed ecosystems for food and nutrition security (UN 2010b, pp. 26-29). Pending the issuance of the fully updated CFA, UNCTs should make use of the Dublin draft,[6] keeping in mind the suggestions made in this paragraph and the previous one.

- **Invest in productivity through agricultural R&D and extension.** There being "little room for expansion of arable land or irrigation [in the Arab region], …the emphasis must be placed on increasing productivity in terms of yields and value per unit of land and water" (World Bank, FAO and IFAD, 2009). In addition to further improvement in irrigated agriculture, including use of treated wastewater, investment in productivity growth must focus on rain-fed agriculture, given Arab countries' dependence on such agriculture and the danger that climate change poses to it in the region. Arab countries have grossly under-invested in agriculture for many years and quite clearly this must change. While it is the public sector that should take the lead in investing in agricultural R&D, private sector investment and public-private partnerships will also need to be promoted. UNCTs should additionally encourage partner governments to promote a multilateral regional approach to agricultural research and development.[7] The above-cited World Bank, FAO and IFAD study has excellent ideas for research in the Arab region, at both national and regional levels, and for linking R&D investment with improvements in agricultural extension.[8] Attention also needs to be given to the call in the Dublin draft of the Updated CFA for research and technical assistance services to promote eco-agriculture innovations (UN 2010b, p.29).

- **Facilitate small farmers' access to risk management.** Another important pre-requisite is "access to risk management mechanisms that help farmers to cope with volatility brought about by climate change and other risks" (Parry et al, 2009, p.35). Given the high degree of uncertainty of likely impacts of climate change, including extreme climatic events such as drought, highlight attention to hazard risk management, such as early warning systems. It is crucial that scientific monitoring and assessment of carefully selected indicators be enhanced. Adequate crop storage systems could also reduce post-harvest losses and exposure to price volatility. Other measures "such as crop insurance or employment guarantee schemes cross the line into measures to reduce vulnerability, many of which can be used in various contexts and not just rural areas" (Ibid). UNCTs should in particular explore possibilities with regard to index insurance – a type of insurance that could help transform the outlooks for poor and vulnerable farmers, herders, fishermen and others

[6] The Dublin draft says, "Eco-agriculture strategies include using the spaces in and around productive areas for habitat networks, while also improving the habitat quality of productive areas themselves by reducing agrochemical pollution, modifying water, soil and vegetation management, or by modifying farming systems to mimic natural ecosystems."

[7] The main R/UNDG sponsored study from which this guidance note has been derived recommends to the R/UNDG that it foster a multilateral regional programme in agricultural R&D based on the capacities and potentials of the International Center for Agricultural Research in Dry Areas (ICARDA) and the Arab Centre for Studies of Arid Zones and Dry Lands as well as the support and participation of national research organizations. A League of Arab States-UNDP study on food security in Arab countries has called for a regional agricultural R&D fund (LAS/UNDP 2009b).

[8] The R&D programme outlined in the World Bank/FAO/IFAD report should be expanded to include promotion of a more integrated crop-rangeland-livestock production system, fostering indigenous breeds of small ruminants that are adaptable to environmental changes (more heat tolerant species/breeds), and promoting improved feed techniques and practices that better adapted to climate change (by using crop residues and agro-industrial by-products).

whose livelihoods are challenged by environmental pressures and uncertainties, including food security-impacting climate change-related distress.[9]

- **Promote governance reforms aimed at equitable natural resource management regimes, including regulation of large-scale land acquisitions.** The strategies discussed above will, in the main, require policy and legislative action in natural resources management that will most likely create a significant governance challenge in the region, given its previously-noted water and land assets scarcities. National capacity development will need to focus on measures aimed at giving a real voice to the poorer segments of society in natural resource regimes – through community participation and community management. Given the water sector's paramount importance in the region, these issues are additionally discussed in section 4.1.2 below. In countries that are attracting large-scale external farming investments, from both public sector and private sector entities, and from sources within the region and from other regions, national authorities may need policy advice and capacity development support in making sure that in regulating and facilitating such investments national interests are adequately furthered in conjunction with protecting the rights of small farmers and other poor rural people.[10] Attention will also need to be given, more broadly, to creating convergence and integration with the emerging sector of climate governance, since new climate change strategies and policies in the region will inevitably impact food security while creating opportunities for connecting to emerging global climate regimes and financing.

- **Provide small farmers with credit and market access.** Helping small farmers to access markets – national, regional and global – and enabling them to access credit are two other vitally important priorities. Access to credit will enable small farmers to compete with larger farms by accessing new technology and innovation. They need it also for coping with varying prices and for avoiding predatory lending. Access to markets means not only such infrastructure as rural roads but also communication technologies permitting farmers to access up-to-date price information. Moreover and most importantly, "to access markets, small farmers need mechanisms that help them aggregate their output for sale to purchasers such as supermarkets or large food companies; this function could be performed by organizations such as parastatal marketing boards, farmers' cooperatives, non-governmental organizations or corporations" (Parry et al, 2009, pp. 34-35). The choice of aggregating strategies will vary from country to country and local traditions and potentials will need to be carefully considered, keeping in mind the human rights dimension – the right to property plus the right to food. Also of importance here is the need to enhance the capacity of small farmers to meet food safety and phytosanitary requirements arising from international trade regimes. A focus on safe and hygienically sound production is likely to be especially important for the Arab States/MENA region, given its potential for producing fruits and vegetables for export consistent with imperatives arising from its water scarcity. The contribution that South-South cooperation could make to making smallholder farming more sustainable both economically and environmentally should also be taken into account.[11]

[9] For guidance on this innovation, see Hellmuth et al. 2009, a publication launched in June 2009 by Columbia University's International Research Institute for Climate and Society in partnership with UNDP, IFAD and WFP and others. To be sure, many remaining challenges will need to be overcome for index insurance to be scaled up to a significant degree in the developing world. But, that said, the innovation does appear promising and it does not seem to have been tried out in the Arab States/MENA region on any significant scale. UNCTs should note that UNEP has been leading efforts within the UN system for creating innovative mechanisms in this area through public-private partnerships. IFAD and WFP are collaborating on a Weather Risk Management Facility aimed at improving the rural poor's access to index-based weather insurance.

[10] Many international CSOs and development scholars are taking the view that agribusinesses are unlikely to give a fair deal to smallholders and that support to agribusiness expansion will likely result in dispossession of rural populations. Also pertinent here is a call by the Special Rapporteur on the Right to Food for a multilateral framework aimed at ensuring that "large-scale acquisitions or leases are balanced, conducive to sustainable development and comply with human rights" (UNHRC 2009, p.24). On this complex issue, an extremely worthwhile initial set of ideas, inclusive of proposals for international development agencies, has been advanced in a recent publication co-published by FAO, IIED and IFAD (Cotula et al, 2009).

[11] "Where countries have successfully developed agricultural technologies for small-scale farmers, and have designed and implemented the right policies to help raise investments in the rural sector, mechanisms need to be devised to share these

- **Support women farmers.** A most important aspect of the above-recommended strategies should be the provision of support to women farmers, given their critical role in the region's agricultural sector. Women need to be consulted in the formulation of agricultural and rural development policies. They need land rights and other controls over natural resources. They need access to credit, including micro-credit. Agricultural research needs to respond to women farmers' needs and reach back to them through extension services, which themselves need to be restructured and expanded to respond to women farmers. Improved labour and energy-saving technologies specifically geared to women farmers need to be identified and developed. Guidance for a comprehensive strategy is available in "Gender equity in agriculture and rural development: A quick guide to gender mainstreaming in FAO's new strategic framework."[12] Reference should also be made to a region-specific study, namely, the FAO and IFAD sponsored report on "The Status of Rural Poverty in the Near East and North Africa", which includes an analysis of the multiple and multifarious constraints impeding rural women in the region and points towards a need for a multi-sectoral broad-based response.[13]

- **Support regional integration for food security in the context of climate change.** There is in the Arab States region a powerful case for adopting a regional approach to food security, in line with the Riyadh Declaration to Enhance Arab Cooperation to Face World Food Crises, adopted in 2008, and a number of decisions taken by the Arab Economic and Social Development Summit held in Kuwait from 19 to 20 January 2009.[14] Similar political legitimacy will be found in the December 2007 Arab Ministerial Declaration on Climate Change. Consultations with the Arab League Secretariat, undertaken in preparing the R/UNDG report from which the present note has been derived, produced support for the idea of the UN system working closely with the League and the Arab Organization for Agricultural Development, a League specialized agency, in translating these decisions into a concrete regional programme. The report will recommend to the R/UNDG that it would be appropriate for it to consider this matter in consultation with the RCM and UNCTs. The Arab Human Development Report 2009 advanced some constructive ideas in support of integration of food production in the Arab region. "Efforts towards this end," it said, "should focus on taking advantage of the large tracts of arable land that are available in the region, notably in Sudan, which has the potential to become the Arab countries' bread basket, and in Iraq. Arab countries lack neither the financial resources for this project, some of which could be supplied by the oil-exporting states, nor the expertise and manpower" (UNDP 2009, pages 141-142). Progress in attaining the desired regional integration will not be easy. It will require political resolve and achievement of "political stability in such countries as Iraq and Sudan" (UNDP 2009, page 142).[15] This challenge notwithstanding,

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experiences with other developing countries. At the same time, South-South cooperation in agriculture can help promote a diversity of experiences that could well be the single most ingredient for achieving sustainable agriculture, particularly in small farmer settings" (UNCTAD 2009).

[12] http://www.fao.org/docrep/012/i1240e/i1240e00.htm

[13] The study says, "Gender inequity is a major hindrance to rural (and overall) development of the NENA region. While women are essential for their contribution to agricultural production activities (the share of women is much higher than men), sustaining rural livelihoods (cooking, water and wood collection), providing education to future generations, and careful management of household assets and financial resources…women in the NENA region suffer from a number of important constraints. These include: (i) excessive work load related to agricultural and domestic tasks, partly due to poor infrastructure, the increasing scarcity of natural resources (water, wood) and, more important, the high level of seasonal or permanent migration of men, not to mention the impact of conflicts and displacement; (ii) lower access to education than men…and (iii) difficult access to health services and relatively high maternal mortality rates, especially in rural areas. These constraints are exacerbated by the sustained population growth in the region" (FAO & IFAD, 2007).

[14] These decisions include the launching of an Emergency Program of Arab Food Security and relevant sections of the Kuwait Declaration Elevating the Standard of Living for Arab Citizens and the Action Program of the Arab Economic and Social Development Summit. Relevant, too, are decisions concerning an Arab Program for Poverty Eradication in Arab States and an Arab Program for Achievement of Millennium Development Goals.

[15] Also relevant to promoting a regionally integrated approach to Arab region food security is the virtual water concept, which has major impacts on global trade policy and research, especially in water-scarce regions, and has redefined discourse in water policy and management. The concept was first developed by Professor Anthony Allan, winner of the 2008 Stockholm Water Prize, while studying water scarcity in the Middle East. The report for the R/UNDG from which this guidance note is derived will

the R/UNDG could appropriately promote the idea of regional value chains consistent with these linkages embracing not only long-term private sector investments in agro-processing and agribusiness but also smallholder participation in expanding markets. Such value chains could catalyze inter-governmental progress in the Arab region in addressing institutional and other constraints to regional investment and trade. UNCTs should encourage national debate and discussion on the needed regional integration. They could also promote regional value chains as a desirable goal in itself even as the wider regional dialogue unfolds.

4.1.2 Options for Water and Energy

While water is the Arab States/MENA region's scarcest natural resource, 80 percent of the region's water budget is allocated to agriculture[16] (El-Quosy, 2009, p.76). The vulnerability for food security arising from this linkage is exacerbated by another vulnerability, namely, the region's dependence on sources outside the region for the origination of about 60 percent of its renewable water resources.[17]The large reliance on energy-intensive sea water desalination must also be noted; some estimates show that seawater desalination may become the single largest area for incremental energy use growth in the region by 2030. The water-energy connection thus is critical, as countries try to adapt to reduced freshwater by expanding energy-intensive desalination, thereby enlarging the region's already growing carbon footprint, which had a 88% GHG growth rate in past decades -- third largest among regions. Funding research in renewable energy technologies (particularly solar and tidal) for desalinization would be an opportune investment by Arab countries. UNCTs could support such research through advocacy and facilitating the link between governments, researchers and industry. Another salient point needs to be stressed: irrigation systems and practices currently in use in the region are inefficient and wasteful in their use of water. The water scarcity situation is critical even with climate change not being taken into account. If the impact of climate change is factored in, appropriate action in the water sector becomes a matter of the highest and most pressing urgency.

In undertaking initiatives and activities in the water sector, regional governments and UNCTs in the region need to give topmost priority to promoting implementation of General Assembly resolution 64/292 dated 3 August 2010, which recognized "the right to safe and clean drinking water as a human right for the full enjoyment of life and all human rights." In this regard and with reference to the climate change-food security nexus, the following three strategic entry points are suggested:

- **Promote modern irrigation management and water governance reform.** Due to the inefficient use of water in irrigation in the countries of the region, irrigation efficiency must be enhanced through policy review and capacity development in a comprehensive way, with emphasis on modernizing infrastructure and operation and management as well as enhancing extension and irrigation advisory services. Also necessary will be reviews of irrigation service costs and their recovery from farmers, which should be accompanied by such management measures as accurate water measurement and incentives for farmers to maximize efficient water use at the field level. Equally important will be the careful fostering of water management regimes supporting equitable access to water resources in rural areas.[18] A broad-based approach to water security aimed at meeting minimum

recommend to the R/UNDG that it needs to consider in-depth the possible application of the virtual water concept along lines discussed in AHDR 2009, which argues, "If Arab countries balance their food exports and imports in such a way as to concentrate imports on those goods whose production requires the most water and to concentrate exports on those goods whose production requires the least, they will be able to generate considerable savings in water through trade." The report says that the "concept is as applicable to inter-Arab agricultural trade as it is to agricultural trade between Arab and foreign countries" (UNDP 2009, pages 139-140).

[16] Industry takes up 12% of the regional water budget while the remaining 8% is allocated to domestic and potable use.

[17] Indeed, Egypt, Sudan, Iraq and Syria, the four Arab countries "largely dependant on river flows originating outside their boundaries are not only vulnerable to reduced or increased flows caused by climate change, they are also vulnerable to the actions taken by upstream riparian countries which may affect river flows downstream" (El-Quosy, 2009, p.78).

[18] A notable regional initiative aimed at improving long-term access to water by local communities is EMPOWERS (http://www.empowers.info/), a EU-supported regional partnership of 15 organizations spanning Egypt, Jordan and Occupied

standards for the provision of safe freshwater for drinking and the domestic use of future generations, inclusive of protecting natural groundwater reservoirs, will be required, too. All these issues will generate governance challenges and will not be easy to address. Policy support may accordingly need to be reinforced by patient awareness creation and multi-stakeholder dialogue. Decentralized approaches and revival of traditional water control systems may be also appropriate and desirable (LAS/UNDP, 2008). UNCTs might seek support from a UN initiative that is under way in the shape of a regional programme assisted by UNDP with the collaboration of a number of partners, including Japan, Finland and Sweden – namely, a Water Governance Programme for Arab States (WGP-AS).[19] ESCWA support should also be explored.[20] Such cooperation could not only reinforce national efforts; it could also create necessary linkages between national programmes and regional water sector cooperation strategies in a region where such cooperation is critical.

- **Link policy frameworks for water resources and climate change with mitigation-oriented energy strategies.**[21]The most important priority here is providing all communities, especially in rural and remote areas, with enhanced access to affordable energy services using a mix of available energy resources.[22] The spin-offs of energy access for both productivity and quality of life are particularly important for women. Country strategies should give special attention to developing renewable energy technologies and promoting their application.[23] Where relevant, attention should be given to applying renewable energy, especially solar, in improving irrigation efficiency. Another food security-climate change issue arises from seawater rise in some countries in the region. Desalination of seawater and brackish groundwater in coastal areas may prove an appropriate response in Djibouti and Arab countries located on the Mediterranean coast; to be sustainable environmentally and economically, such desalination will most likely need to be based on renewable energy (solar, wind, wave).[24] Indeed, in much of the region, desalination may become a key driver of adaptation-mitigation activity in the region. Breakthrough technologies, inclusive of solar desalination, are likely to avert a water insecurity-climate change vicious cycle entailing increased dependence on GHG-intensive desalination and could therefore become a critical mitigation and adaptation measure. On the question of the use of desalinated water for agriculture, the current FAO position is to recommend wastewater treatment and reuse over desalination, while recognizing that technological costs for water desalination will continue to decline.[25]To be sure, the region's contribution to greenhouse gases, especially carbon dioxide, is presently modest and is less than 5 percent of total world emissions (El-Quosy 2009, p. 83). Nonetheless, if the issue is looked at through a food security lens, the logic of incorporating mitigation-oriented energy strategies into action addressing the food security-climate change nexus becomes compelling.

- **Initiate an engagement with the R/UNDG on international river basin issues.** Consultations carried out for preparing the R/UNDG paper from which this guidance note is derived produced a suggestion made on behalf of one UNCT that the R/UNDG could add

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Palestinian Territory. The project has a human rights focus and addresses issues related to the right to water, accountability and participation.

[19] WGP-AS has commenced work on an Arab Water Report (AWR) with the aim of providing Arab countries with a close-up look at the region's water situation, moving beyond the traditional topics of availability, uses, accessibility, dependency, etc. to address also water governance issues, such as participation, transparency, equity, rule of law, and accountability. The AWR will be published late in 2011.

[20] Planned ESCWA activities for 2010-2011 include a report on the vulnerability of the water sector to climate change and adaptation measures to increase resilience of ESCWA countries, as well as a publication on "Adaptation Measures for Climate Change Impacts on Water Resources in the ESCWA region.

[21] On the global importance of this matter, see "Climate Change and Water Resource Policies Among Major Donor Organizations", a study carried out by the Swedish International Water Institute (Lindstrom et al. 2009).

[22] ESCWA 2007, p.1.

[23] Ibid, p.1.

[24] High desalination capacity established in Gulf Cooperation Council countries has already led to high rates of electricity consumption and corresponding rates of carbon dioxide emissions (ESCWA 2007).

[25] FAO 2006, p.4

value to country-level work by engaging more with critical international river basin issues affecting countries in the region. Progress with respect to the issue is likely to be slow and problematic, given the political difficulties that arise with respect to trans-boundary water issues. Nonetheless, the matter is important and the aforementioned paper calls upon the R/UNDG to commence an engagement with it, in consultation with sister R/UNDGs in the African and Europe and CIS regions. The advice of UN-Water's Task Force on Trans-boundary Waters might also be sought. Interested UNCTs, particularly those in Egypt, Iraq, Sudan and Syria, may wish to initiate dialogues between each other and with the R/UNDG on the issue. At the very least, even if countries sharing international watersheds and basins cannot readily agree on water apportionment arrangements, they could agree to share information on national plans so that all could take better decisions on the way forward. Within the region, appropriate capacity development could be fostered and provision made for it in both country and regional programming. Downstream Arab countries could be supported in better understanding, projecting and assessing the potential impacts of climate change on the region's trans-boundary water resources. Their capacity to undertake shared water resources management and water-related conflict resolution could also be enhanced.

4.2 Strategic Importance of Access Issues

The options for agriculture and for related actions with regard to water and energy, as discussed above, are likely to improve the food security outlook for the Arab States/MENA region with the climate change-food security nexus taken into account. Given, however, the region's structural constraints vis-à-vis agriculture, regional governments and UNCTs in the region must also give priority attention to food access, which would remain important in its own right even if regional food production could be greater. The key issues here are scaling up humanitarian assistance; moving from crisis response to crisis prevention, inclusive of bridging better the gap between traditional approaches to relief (or humanitarian response) and development; and scaling up social protection systems. Whilst for analytical reasons the three issues are discussed sequentially below, there is a horizontal linkage between the three. "Part of the food access challenge will be to increase capacity for humanitarian assistance, but crisis response will increasingly need to be matched by crisis prevention in terms of disaster risk reduction, particularly scaling up access to social protection systems" (Parry et al., 2009, p. 30).

4.2.1 Options for Humanitarian Assistance

The League of Arab States (LAS) and UNDP estimated in July 2008 that approximately 21 million people in the Arab region were receiving food relief at the time – in Somalia, Mauritania, Sudan, Iraq, and the Occupied Palestinian Territory. The two organizations also estimated that, excluding Iraq, an additional 6-8 million were possibly in need of such assistance. LAS and UNDP accordingly called for the creation of an Arab Food Security Fund to finance scale-up of food assistance – the estimated cost for 2008 being US$770 million. Secondly, pointing out that the Arab region lacked a regional food security monitoring system, the organizations recommended that such a system should be set up within a League framework through collaboration with FAO (LAS/UNDP, 2009b). The R/UNDG paper serving as a frame of reference for the present guidance note to UNCTs is recommending that the R/UNDG take up both proposals for consideration, keeping in mind that early warning instruments already exist and though they are global, not region-specific, they do include the MENA region. The primary mechanism here is the FAO-managed Global Information and Early Warning System (GIEWS). There is also the FAO/WFP Joint Commodity Price Bulletin that comes out every three months. For countries facing a serious food emergency, FAO/GIEWS and WFP carry out Joint Crop and Food Security Assessment Missions. To be kept in mind, too, is a proposal for an Arab Center for Drought Early Warning that is currently being discussed under ESCWA's umbrella.

Three issues stand out here. First, the impact of climate change on food security, globally and in the region, will likely increase the number of people needing humanitarian support by large

numbers.[26] Humanitarian actors will not only have to cope with larger numbers of people; they will also have to operate in unfamiliar contexts, as was demonstrated by the food price increases and other crises of 2008. Secondly, pending the taking of initiatives at the regional level and the fruition of regional initiatives, country-level actions must be taken by virtue of the precautionary principle. Third, the special issue of humanitarian funding of chronic emergencies needs to be faced, keeping in mind this matter's relevance to slow-onset humanitarian situations such as those likely to be set in motion by climate change impacts. The following entry points are therefore proposed:

- **Promote, where needed, national monitoring and early warning systems**. A consensus has been reached within the UNCT for Egypt on the UN system and the World Bank, focusing together on providing support to the Egyptian government in establishing long-term systems that would enable the country to address future 'shocks', including high food prices. To this end, a real time monitoring and early warning system is being proposed, in alignment with UN Global Pulse, which "will work closely with Member States and other development partners to improve evidence-based decision making and close the gap between the onset of a global crisis and the availability of actionable information to protect the vulnerable."[27] UNCTs in other regional countries might consider similar initiatives, keeping in mind the linkage between food security and climate change. Additionally, all regional UNCTs need to consider promoting through their national partners the establishment of a comprehensive early warning system at the regional level inclusive of both climate-related events and human-induced developments, keeping in mind that both sets of phenomena have regional spillover effects. The Stern Review on the Economics of Climate Change drew attention to the need for the international response to climate change being informed by a better understanding of the impacts of climate change on each region and country and to more research on key regional weather systems being required in this regard (Stern, 2007, p. 642). As indicated above, LAS and UNDP jointly recommended in 2008 that the Arab region should establish, with FAO collaboration, a regional food security monitoring system within a League framework. The report from which this guidance note is derived is recommending to the R/UNDG that these issues be placed on its agenda.

- **Assess capacity development needs of national humanitarian agencies and provide for appropriate programming.** The key here is to do two things. First, consider national humanitarian response capacities in relation to the projected impacts of climate change on food security, preferably in light of Comprehensive Food Security and Vulnerability Analyses (CFSVAs) – a matter discussed below. Secondly, review whether the national capacity is geared to dealing with unfamiliar humanitarian contexts. "Humanitarian assistance has historically been needed mainly in the aftermath of natural disasters or conflict, but the 2008 food price spike did not fit this pattern and caused changes in the composition of vulnerable groups in need of assistance" (Parry et al. 2009, pp.36-37). Also, while most past humanitarian assistance has focused more on rural areas, the 2008 crisis affected both the rural poor and the urban poor (Ibid.) In addressing national capacity development in the humanitarian sector, care must be taken to embrace not only public sector needs but also the civil society sector. It would be advisable also to mobilize the participation of private foundations and business sector bodies focused on corporate social responsibility.

[26] According to a recent Oxfam study, each year, in the world as a whole, almost 250 million people are on average affected by 'natural' disasters. In a typical year between 1998 and 2007, 98 per cent of the affected population suffered from climate-related disasters such as droughts and floods rather than, say, devastating but relatively rare events such as earthquakes. By 2015, this could grow by more than 50% to an average of over 375 million people affected by climate-related disasters each year. While Oxfam acknowledges that the projection for 2015 is "not an exact science", "it is clear that substantially more people may be affected by disasters in the very near…future, as climate change and environmental mismanagement create a proliferation of droughts, landslides, floods and other local disasters" (Oxfam, 2009). That this global assessment has important public policy implications for the Arab States/MENA region cannot be doubted.

[27] http://www.unglobalpulse.org/about

- **Promote CFSVAs.** More widespread use of CFSVAs, such as those spearheaded by WFP, is a clear necessity in the Arab States/MENA region. A CFSVA provides a pre-crisis, in-depth picture of the food security situation and the vulnerability of households in a given country. CFSVAs are also expected to analyze the impact of emerging challenges such as climate change on vulnerable groups. All CFSVAs have a partnership approach, involving both national and international partners, including UN agencies. In recent years, WFP has led the preparation of four CFSVAs in the Arab States/MENA region: in the Occupied Palestinian Territory in 2006, in Sudan in 2007,[28] in Iraq during 2007/2008, and in Yemen during 2009/2010.[29] A rapid scan of these assessments undertaken for the preparation of the current guidance note has yielded the following conclusion: While dealing comprehensively with food security issues, no CFSVA explicitly addressed the impact of climate change on food security. It is vitally important that future CFSVAs in the region include assessments of such impact. More CFSVAs, inclusive of climate change impact, should be undertaken in the region, and, where possible, recently completed assessments should be updated to take climate change into account.[30] For conceptual guidance on incorporation of climate change impact, reference should be made to FAO's framework document on the linkage between climate change and food security (FAO, 2008). In promoting CFSVAs, UNCTs should draw upon and create linkages with related UN system initiatives, such as food insecurity vulnerability assessments undertaken by UNICEF in Djibouti and Morocco, together with a regional summary, in the context of the 2008 food crisis. Attention should also be given to guidance being prepared by WHO for conducting assessments of health vulnerability and of public health and health care interventions addressing climate change. Of critical importance is the need for policy innovation for safety nets in the face of the climate-food security nexus and concomitant need for climate safety net mapping – a matter further discussed below. Actions along the above lines will likely promote not only the preparation of better national disaster and climate change adaptation frameworks but also contribute to transitioning better from disaster response to disaster prevention. A regional public good may additionally emerge as a result of comparable country-by-country assessments serving as a catalyst for more effective regional cooperation in addressing food security and the nexus between it and climate change.[31]

- **Address the problem of humanitarian funding for chronic emergencies**. An important issue deserving UNCTs' attention is the difficulty of mobilizing resources for chronic emergencies such as those induced by climate variability – a problem likely to become more acute as climate change impacts become deeper and more prolonged. A drought emergency in Syria that started in 2006 is a case in point. A 2008 Drought Appeal launched by the Syrian UNCT produced a mere 20 percent funding response, with two sectors – health, and coordination and support services – receiving nothing at all. What could the UN system and regional governments do to promote a better international response to chronic emergencies? This would be an appropriate issue for UNCTs to consider.[32] Three ideas

[28] Data collected in May 2006.

[29] The study for Yemen was entitled "Comprehensive Food Security Survey (CFSS)".

[30] Two ongoing assessments respectively covering Egypt and Syria do include attention to climate change.

[31] The study for the R/UNDG from which this guidance note is derived will recommend to the R/UNDG that it consider what lessons it could derive from the Southern African Development Community's Regional Project on Strengthening Vulnerability Assessments and Analysis. A number of the project's features are striking. It is providing guidelines to help SADC member states establish comparable national systems for vulnerability assessment and analysis systems, which include national vulnerability assessment committees. Through this instrumentality and other means, it is providing wide-ranging capacity development support at both national and regional levels. While assessments conducted in individual countries have aimed at providing timely and reliable information on food security situations and related conditions with a view to determining short-term emergency interventions, it has become increasingly clear that the responses need to go beyond short-term measures. Indeed, the information generated has begun to feed into longer-term development strategies, including poverty reduction strategies, agricultural development strategies, and health and nutrition programmes (SADC 2008). Would a similar regional programme be appropriate for the Arab States region? This may be a topic for the R/UNDG to explore in consultation with the League of Arab States and with UNCTs.

[32] A recent report by the UN Secretary-General on Africa says, "Although bilateral and multilateral donors have expanded budgets available for humanitarian purposes since the late 1990s, the annual appeals by the United Nations for humanitarian

could be advanced. One, UNCTs could discuss the problem with other external development partners in their respective countries. Two, well-prepared CFSVAs that include climate change impact analysis may produce a desirable change in the opinion environment within the international donor community. Three, UNCTs' national partners could spur appropriate regional action, possibly even generating support for the previously mentioned Arab Food Security Fund.

4.2.2 Moving from Disaster Response to Disaster Prevention

The new humanitarian contexts discussed above in connection with capacity development of national humanitarian actors have already had "the effect of blurring the lines between acute and chronic vulnerability, between emergency response and welfare provision, and between humanitarian assistance and long-term development" (Parry et al., 2009, p.37). Humanitarian and development agendas, both national and international, are accordingly reflecting increasing interest in a move from crisis response to crisis prevention. Pursuant to the Hyogo Framework of Action, adopted in 2005, interest in disaster risk reduction (DRR) has been rising – not as a stand-alone area of activity but as "a priority that must be mainstreamed in development programming" (Ibid. p.38). The same applies to climate change adaptation and, indeed, as understanding of climate change impacts grows, the importance given to DRR will also increase. Reciprocally, adaptation programming could raise the resilience of vulnerable people and reduce the risk of disasters in the face of not only extreme climate events, but also other drivers of vulnerability, including food insecurity. UNCTs should therefore consider the following entry point:

- **Respond to the food security-climate change nexus by taking an integrated approach to DRR frameworks and climate change adaptation frameworks.** UNCTs have at hand a set of three environmentally-related guidance issued by UNDG during 2009 and 2010: namely, Mainstreaming Environmental Sustainability in Country Analysis and the UNDAF (2009); Integrating Disaster Risk Reduction into the CCA and UNDAF (2009); and Integrating Climate Change Considerations in the Country Analysis and the UNDAF (2010). The last-mentioned document's executive summary says, "This set of guidance represents different substantive elements of an overall mainstreaming process. The commonalities demonstrate there are many possibilities for obtaining synergies if the three sets of guidance are applied in an integrated manner…" There does not appear to be any equivalent UNDG guidance for food security. Regional UNCTs could, however, draw upon the CFSVAs discussed above, it being ensured that these assessments include climate change impact analysis. More immediately, as an interim measure, UNCTs could draw upon the suggestions for country diagnosis made in the current guidance note. Practical actionable ideas will also be found in an E-Discussion Final Summary circulated by UNDP on 20 January 2010 with a view to disseminating the results of an e-discussion that engaged UNDP practitioners, UN system-wide partners and external experts in an exchange of views about an integrated approach to DRR and adaptation to climate change. This summary will alert UNCTs to similarities and differences between DRR and climate change adaptation and to challenges to integrated DRR-climate change adaptation. It also makes recommendations and points to emerging best practice in Asia.[33] For region-specific technical support, given the salience of drought and desertification in the region, UNCTs might turn to ICARDA, which could also act as a gateway to other CGIAR resources. They might also look at the previously cited Syria Drought Response Plan (UN 2009) for concrete ideas. The Plan provided for interventions building up resilience of populations at local level and linked these to wider poverty eradication policies and the building up of national capacity to mitigate drought and operate an early warning system, both with

assistance often fail to meet their targets, particularly with respect to early recovery initiatives. This is especially true for protracted humanitarian crises that no longer garner significant international attention" (UN, 2010 d). So, the problem is global, not region-specific. Nonetheless, region-by-region responses are likely to be worthwhile – as reinforcement to global action.

[33] The E-Discussion Final Summary draws attention to the Maldives UNCT having supported a Maldives Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation and says, "(This) is the first time DRR, CCA and development (integrated) clearly in a national strategy." Similar initiatives, the summary indicates, have commenced in Sri Lanka and Afghanistan. Regional UNCTs might draw upon these developments for programming and advocacy ideas.

reference to limiting the effects of climate change.[34] Keeping in mind guidance provided in the 2010 FAO-UNDP report on "The State of Food Insecurity in the World", which focuses on protracted crises but whose core lessons could be more broadly applied,[35] UNCTs should promote reforming the "architecture" of assistance with a view to closing the gap between relief or humanitarian response and development. This might include such measures as promoting long-term social protection (see below), incorporating DRR into social protection, giving more attention to sustainable agriculture, especially with reference to climate change (along lines discussed above), and fostering the funding of prevention and early action.

4.2.3 Options in Scaling Up Social Protection through Population Policy, Health Policy and Nutrition Policy

"There are strong linkages and correlation between population growth and emission of greenhouse gases that cause climate change, and…communities experiencing high population growth are most vulnerable to the negative effects of climate change, such as water scarcity, failed crops, rise in sea level, and the spread of infectious diseases."[36] That this statement highlighting the salience of the linkage between population growth, climate change and food security applies to the Arab States/MENA region can scarcely be doubted. This guidance note has previously noted that the Arab population is young and growing fast while Arab economies are not yet so diversified that they could turn this trend into a demographic gift. In light of this situation, UNCTs should consider giving priority to the following entry point:

- **Promote a broad-based approach to reproductive health as a top-level national development objective.** This means advocacy and programming aimed at intensifying the efforts of countries in the region to implement the 20-year action programme that the 1994 Cairo world population conference[37] adopted, keeping in mind, most of all, the programme's affirmation "that if needs for voluntary family planning and reproductive health are met, along with other basic health and education services, then population stabilization will occur naturally…" (UNFPA 2009, p.9). Foster, therefore, a multi-dimensional rights-based approach creating convergence between access to reproductive health within a continuum of care framework, improved education of girls, and gender equality, including economic opportunities for women.[38] Greater gender equality and access to reproductive health care will reinforce Arab countries' adaptation and resilience to climate change. The same things will help to address the food security problem by contributing to poverty alleviation and better natural resource and environmental management.

As confirmed by an important inter-governmental WHO decision[39] on climate change and health, climate change impact in countries of the Eastern Mediterranean region is likely to slow down and possibly reverse their progress towards the health-related MDGs. The same decision recognized climate change as a threat to countries' health security and endorsed a framework for health sector action in Member States to protect health from climate change. It also recognized a

[34] National strategies might include measures such as the following: (a) improving drought monitoring capacities of national meteorological departments through expanded rain-gauge networks spanning different geographic regions, e.g. range-lands and wadis; (b) upgrading the same departments' drought forecasting capabilities, inclusive of linking them to global centers; (c) enhancing drought warning capacities through more effective coordination at national level; (d) organizing drought contingency planning simulations prior to every rainy season (or in case of lack of rains) with participation of all national stakeholders; (e) improving rainwater harvesting systems at local level; and (f) promoting better livestock management practices.

[35] FAO 2010, pages 46-48.

[36] Asian Forum of Parliamentarians for Population and Development, 2008 – cited in UNFPA 2009, page 67.

[37] The International Conference on Population and Development, Cairo, Egypt, 1994.

[38] "The empowerment of girls and women has a direct impact on maternal and child health. Education, in particular, can lower the exposure of girls and women to maternity risks. Research shows that educated adolescents are more likely to wait until after their teenage years to start families … In addition to delaying pregnancy, studies show that educated mothers are more likely to immunize their children, be better informed about nutrition, and use improved birth spacing practices" (UNICEF 2009, pages 7 & 8 of Executive Summary).

[39] Resolution EM/RC55/R.8 of October 2008 adopted by the WHO Regional Committee for the Eastern Mediterranean at its fifty-fifth session.

range of other climate-change threats, including threats to food security and safety. It called for strengthening national "health systems' preparedness to cope with the additional burden of climate-sensitive health problems", including "malnutrition associated with food insecurity". Given the Framework's substantive importance and the political legitimacy arising from its endorsement by a large group of MENA region countries, UNCTs should consider the following entry point:

- **Provide multi-sectoral support to protecting regional health from climate change and promoting thereby regional food security in the context of climate change.** This would mean both advocacy and programming in support of the attainment of the afore-mentioned framework's objectives. These are four-fold and embrace (a) ensuring that public health concerns and health protection from climate change are at the centre of national, regional and international action on climate change; (b) implementing adaptive strategies at the local and national level to minimize climate change impacts on populations' health; (c) supporting 'healthy' development strategies in other sectors that protect and promote health and mitigate climate change; and (d) strengthening the institutional capacity of public health systems for providing guidance and leadership on health protection from climate change. While all four goals are deserving of UNCTs' support, such support might best buttress the attainment of goals (a) and (c).

From the point of view of improving food security, education about nutrition and measures such as food fortification are likely to form essential elements of a multi-pronged strategy for countries of the region. Families need to be educated about the importance of a well-balanced diet, which would reduce the region's present heavy reliance on cereal consumption. Other measures are also needed to combat micronutrient malnutrition, it being kept in mind that iron, iodine and vitamin A deficiencies are prevalent in the Arab region. These and other possible interventions are discussed in the previously cited World Bank/FAO/IFAD report on "Improving Food Security in Arab Countries". When it comes to addressing nutrition effectively, as advocated by UNFPA, UNICEF and WHO, non-food issues are also important. These include protecting children from early marriage, girls' education, Food for Education interventions, immunization, and greater access to safe water and sanitation. All in all, the nutrition strategy must be a comprehensive one embracing the recommendations of the World Bank/FAO/IFAD report but going well beyond them as well. To this end, regional UNCTs might address the following entry point:

- **Promote comprehensive national nutrition strategies.** For this purpose, UNCTs might appropriately draw upon three instruments, two regional and one global. The first global reference document is the updated CFA of the HLTF, a document still being finalized, as previously noted. Its Dublin draft of May 2010 (UN 2010b) draws attention to, among other things, a SUN Policy Brief that spells out a range of actions for a global campaign spanning "Scaling-up Nutrition (SUN): A Framework for Action" – the second global instrument indicated above. Three features of SUN should be highlighted. It focuses on nutrition-specific interventions that directly address pregnant women and children aged less than two years and include the promotion of good nutritional practices, micronutrients (vitamins and minerals), and complementary feeding. SUN also embraces a broader multi-sectoral nutrition-sensitive approach to development geared to the determinants of under-nutrition.[40] Thirdly, it points out that nutrition-sensitive development programmes have been effectively designed by a number of countries – Mexico, Brazil, China, South Africa, Nepal, Thailand, Viet Nam and Senegal, for example (UN 2010c[41]). Consistent with the updated CFA (Dublin draft) and SUN is a *Regional Nutrition Strategy for the Eastern Mediterranean* developed in 2009 by WHO in consultation with Member States and with the support of WFP, FAO and UNICEF. The strategy addresses a number of key health and

[40] This brings into play agricultural and food security policies aimed at improving availability, access to and consumption of nutritious foods; the improvement of social protection, inclusive of emergency relief; and ensuring access to health care, including maternal and child health care, water and sanitation, immunization, and reproductive health.

[41] See also the accompanying introduction by David Nabarro, Special Representative of the UN Secretary-General for Food Security and Nutrition (UN online).

nutrition challenges, namely, under-nutrition, micronutrient deficiencies, overweight and obesity, and non-communicable diseases.[42] Given its comprehensiveness and the regional legitimacy it already possesses, let this strategy serve as the primary framework for UNCTs' programming advice to governments. That said, it may be desirable, simply to achieve strategic impact, for the UNCTs to consider focusing that guidance on the two substantively salient aspects of SUN, namely, its emphasis on pregnant women and children under two years of age and its espousal of a nutrition-sensitive approach to development strategy.

It is generally accepted in the development literature for the region that most existing safety nets are unnecessarily costly, wasteful, inflexible and untargeted or ineffectively targeted, resulting in benefits being captured very substantially by the non-poor. So, it is not surprising that the previously discussed World Bank/FAO/IFAD report recommends that the design of safety nets be improved not only "to dampen the effects of food-price shocks [but also] prevent them from doing permanent damage". Accordingly, it calls for replacing a currently prevalent system of targeting benefits by categories that "are not limited to the poor, and do not necessarily cover the poorest sectors of the population." A better targeting strategy would use a proxy-means test and couple this with geographical targeting. The above cited goes on to make a range of recommendations clustered around three additional themes: (a) "Employ cash transfers, because they may be more cost-effective than in-kind subsidies"; (b) "Strengthen program coordination and enhance payment mechanisms to improve resource efficiency"; and (c) "Implement safety nets that are flexible enough to be scaled up when shocks strike and scaled down when they recede." All in all, the report's recommendations provide a solid basis for advocacy and programming and, accordingly, regional UNCTs should consider the following entry point:

- **Promote coherent policy frameworks for safety nets in the region,** drawing upon the World Bank/FAO/IFAD report along the lines discussed above. In doing so, UNCTs might pay particular regard to three recommendations that appear in the Dublin draft of the updated CFA. There is, first, a clear need to strengthen national capacity to design and implement social protection policies and programmes. Secondly, special care has to be taken to identify and address the needs of the most vulnerable. Thirdly, a balance has to be struck between effective coverage of the vulnerable and efficient use of resources. "There is no universal blue-print to ensure adequate coverage of vulnerable populations. In some cases (e.g. micronutrient fortification of basis foods), universal coverage may well meet the needs of both effectiveness and efficiency. In other cases, there might be a need to develop appropriate targeting criteria and mechanisms…" (UN, 2010).

Two other issues need to be highlighted. First, it would appear essential for UNCTs to encourage their governmental partners to construct safety nets in such a way that they are embedded from the outset in social protection systems linked to inclusive broad-based development policies. Such policies must keep in mind that the reduction of hunger and under-nutrition in the context of climate change requires not only socially targeted programmes, but also broad-based investments in greater economic opportunities and social mobility. The socio-economic empowerment of women, including the reduction or elimination of gender inequalities in matters of access and coverage, will be particularly crucial. In light of these considerations, the following entry point is suggested:

- **Explore linkages between country social protection efforts and the UN system's Social Protection Floor Initiative**, one of the CEB's joint crisis initiatives – a matter calling for a

[42]It includes action plans aimed at the following health related outcomes: decreasing child and maternal mortality; reducing the prevalence of wasting and stunting among children, especially those aged under five; reducing low birth weight prevalence; reducing the prevalence of under-nutrition among women; reversing the obesity trend in children and adolescents and adults; reducing the prevalence of micronutrient deficiencies in populations, reducing the prevalence of diet-related non-communicable diseases; and developing capacity for normal and emergency preparedness in nutrition.

focused dialogue with ILO and WHO, the Initiative's lead agencies.[43] The Initiative aims to provide national strategies that protect a minimum level of access to essential services and income security for all. A national Social Protection Floor would guarantee access to essential services and supports throughout the life cycle for children, people in economically active age and older persons, paying particular attention to vulnerable groups. Ensuring a SPF for the entire population of a country will in most developing country situations represent a huge challenge but it is feasible to implement all or some basic elements even in low-income countries.

The second issue is that climate adaptation policies have so far given inadequate attention to social protection systems. That they have an important contribution to make to the reduction of vulnerability to climate change has not been appropriately recognized (Parry et al. 2009, pp. 41-42). The R/UNDG paper from which this guidance note has been derived will propose to the R/UNDG that it consider initiating a regional analysis on the matter, linking the analysis to another recommended regional study on the impact of climate change on the status of nutrition in the region. Meanwhile, UNCTs should also consider the following entry point:

- **Foster a national debate on using social protection as a "major element in the policy arsenal for effective adaptation to climate change".[44]** On this, promote also the incorporation of social protection in the previously recommended integrated approach to DRR frameworks and climate change adaptation frameworks. There is scope for 'climate safety nets' that address issues of general social safety concern while adding to such concern a strong climate layer. Given the geo-physical nature of climate impacts, climate safety nets can be geographically and seasonally tailored to buffer climate shocks. Such measures could pinpoint needs in specific population sub-sets, including groups such as rainfed farmers and recurrent coastal storm victims. As with social safety nets, a climate safety net mapping exercise could support this process, identifying hotspots of vulnerability along the climate-social safety net interface. Such mapping should be incorporated into the previously discussed CFSVAs or taken up separately, depending upon country circumstances.

4.3 Migration and Conflict

UNFPA's State of World Population (SWOP) report for 2009 points out that "National and international policies are needed to address environmentally induced population movements. National Adaptation Programmes of Action do not yet include provisions for migration, and national migration management policies do not yet incorporate environment and climate-change considerations" (UNFPA 2009 a, page 37). These policy gaps are critical and need to be addressed. Regional UNCTs should accordingly consider the following entry point:

- **Promote a policy dialogue with national authorities on introducing migration-related interventions into national climate adaptation frameworks and modifying national migration management programmes to include attention to climate change impacts.** These considerations should also influence action with regard to the previously recommended integrated approach to DRR frameworks and climate change adaptation frameworks. The following advice should be kept in mind: "Development and adaptation policies in potential source countries of forced climate migrants need to focus on reducing people's vulnerability to climate change, moving people away from marginal areas and supporting livelihoods that are more resilient. In particular more efficient use of existing resources would offset some of the predicted impacts of climate change" (Brown 2008,

[43] A South-South dialogue on the Social Protection Initiative took place in UN Headquarters in New York on 2 February 2010. Social protection is an area where there is good scope for South-South knowledge transfer and capacity development. An interesting idea being discussed is the creation of a consortium of member states from the South in supporting efforts to establish and expand social protection floors.

[44] Parry et al. 2009, p.41.

pages 41-42).[45] More broadly, job creation and economic diversification will need to be given top priority policy attention.

In dealing with the food security-climate change issue in the region, there is another important consideration, which is often linked to migration. In parts of the region, the problem of human conflict may also have to be taken into account, for such conflict is being fueled by climate change impact with ever increasing negative consequences for food security. A recent analysis cited in an Oxfam report estimated that, in the world as a whole, 46 countries would likely face a "high risk of violent conflict" with climate change exacerbating traditional security threats (Smith and Vivekananda 2007). Within the Arab States/MENA region, a highly visible case in point is the Darfur crisis, wherein a chronic local conflict entailing competition between pastoralists and farmers has been overlaid by a wider political problem. But Darfur is not the only locus of possible conflict arising from climate change and food security concerns. An UNEP assessment of 2007 indicated that other Sudanese regions (e.g. Southern Kordofan) could experience resumption of past inter-group conflicts on account of new environmental and household food security pressures (UNEP 2007). A recent ESCWA report on food security and conflict in the Commission's region not only identifies the Middle East as the region with the world's longest continuous conflict history, but also one that keeps on adding new ones. The region is subject to both complex inter- and intra state conflicts. All conflicts have high regional spillover potentials. The report highlights as threats to peace the Arab-Israeli conflict, climate change, unequal socio-economic development, water scarcity, state fragility, intra-societal tensions, fast population growth, and youth unemployment. While rentier state behavior and generous social safety nets have helped in the past to contain the explosiveness of these challenges, with the supply of basic needs under threat, the minimum insurance against the outbreak of more conflict is disappearing. The ESCWA report highlights food security as a regional challenge that calls out for regional cooperation. As the Arab region is among the least integrated in the world and previous integration efforts tended to be ideological rather than economic, regional cooperation to promote food security is an opportunity to break with this past and to initiate meaningful economic deepening (ESCWA 2010). SWOP 2009 warns against sweeping conclusions about the relationship between climate change and conflict. It says nonetheless that "the point still holds: conflict and its ancillary impacts are among those impacts of climate change to which we should apply the precautionary principle and anticipate even if we cannot predict." And so it calls for further research and for "targeted constructive interventions" (UNFPA 2009a, page 47). The following entry point is suggested for UNCTs' consideration:

Promote multi-stakeholder discussions on links between migration and conflict, on the one hand, and the food security-climate change nexus on the other. In consultation with UNEP and ESCWA, promote also, as appropriate, the incorporation of the human conflict dimension into the previously recommended integrated approach to DRR and climate change adaptation frameworks. If needed, targeted interventions should be explored and provided for. For the reasons indicated in the above-cited ESCWA report, UNCTs should also promote regional cooperation in this critical field in concert with the R/UNDG, taking into account recommendations made in this paper with regard to such cooperation.

[45] Some concrete ideas in this regard could be taken from the previously discussed Syria Drought Response Plan. In the Syrian situation, a chronic drought emergency induced by climate variability has led to migration expanding from being seasonal to semi-permanent and to including entire families. "Children have been withdrawn from schools due to migration, because the family can no longer afford the cost of education or because they are needed to contribute to the family's income, and are sometimes even moved out of the country" (UN 2009 b, p.8). An agriculture and livelihoods intervention foreseen in the Plan will involve IOM's participation and will include measures to assist migrants to re-start livelihoods in areas of origin.

4.4 International Trade and Macro-Economic Policy

If a single conclusion of over-riding policy importance could be drawn from the preceding analysis and accompanying recommendations, it is the following: countries of the Arab States/MENA region need to promote economic diversification not only as a matter of economic and social development policy in pursuance of the MDGs, but also specifically as a means of reducing vulnerability to food insecurity and climate change. It is only through such diversification that regional countries' resilience to food insecurity and climate impacts could be firmly established on a long-term basis. Options for international trade policy and macro-economic policy arising from this basic consideration are presented below.

4.4.1 Options for International Trade

Globally, four issues are critically important for international cooperation in the international trade area: promoting the conclusion of the Doha Development Round, monitoring trade and investment measures to counter protectionism, monitoring trade finance markets, and rapid delivery of Aid for Trade. Seen from the perspective of UNCTs, scope for trade-related UN system operational activities for development at country level would lie most of all in the Aid for Trade area. The World Summit on Food Security supported "the Aid for Trade Initiative to enable farmers and producers in developing countries to overcome their supply-side constraints in agriculture and improve their capacity to produce, process, and trade in agricultural products." Climate change-related implications for international trade must also be taken into account, for action at both regional and country levels - the regional-country interface calling for commensurate interaction between UNCTs and the R/UNDG. The following entry points are suggested to UNCTs in the region:

- **In relation to the trade sector, give highest priority to Aid for Trade, not only with reference to food security but also because of climate change.** Here, attention should be given to embedding agricultural sector interventions in broader export promotion strategies aimed at making sure that the trade sector becomes more effectively integrated into national development plans and strategies. If national export strategies are well designed, they can serve as a powerful pro-poor development mechanism even as food security and environmental protection goals are pursued. There should be a focus on "exports that are compatible with meeting food security goals" and an emphasis also on "exports that are less detrimental or, even better, beneficial to the natural environment through the production and consumption stages" (Browne, 2008). This will also call for innovative action aimed at expanding trade in low-emission products and services. Attention must be focused as well on an action area already highlighted in this note, namely, providing small farmers with access to regional and global markets. The economic empowerment of women through trade needs to be another priority. A focus on small to medium women's businesses, including SMEs bringing together small women farmers, will not only be good for inclusive economic growth; it will also fortify adaptation to climate change.

- **In respect of the Arab States/MENA region's least developed countries (LDCs), give attention to the Expanded Integrated Framework for Trade-related Technical Assistance.** This is the only dedicated global initiative that the international community has launched for LDCs' trade development. With the Fourth United Nations Conference on the Least Developed Countries taking place in May 2011, increased attention to LDCs' trade and development needs, especially in the context of economic diversification stemming from productive sector development, is again being seen as an international policy priority.

- **Foster national policy debates and analysis on linking trade policy to food security policy and climate change policy.** UNCTs would be well advised to mobilize for this broad intervention the contribution of the three Geneva-based trade-related international agencies, namely, WTO, UNCTAD and ITC. Since region-wide thinking and action will be particularly appropriate here, the R/UNDG paper from which this guidance note is derived

will recommend action at the regional level, and convergence between UNCTs and the R/UNDG will be key to regional and country-level effectiveness. In addition to the proposals above with regard to small farmers and women's businesses, two matters stand out. These are the application of the virtual water concept as a driver of trade policy and the promotion of regional integration for food security. Another important issue is policy advisory and capacity development support for regional countries participating more effectively in international negotiations for a range of global matters: developed country agricultural liberalization; integration of security of supply into global trade rules, especially on the matter of export suspensions of food; and the linkage of trade liberalization with mitigation of and adaptation to climate change. The last-mentioned matter is especially important for developing countries, for currently trade and climate change negotiations are being managed at global level through separate legal regimes. Convergence and coordination in this regard, inclusive of food security concerns, is likely better to serve developing countries' interests and those of the international community as a whole.

4.4.2 Macroeconomic Policy Issues

The HLTF's progress report for April 2008-October 2009 discusses action taken in this CFA sector primarily in terms of support to governments provided by the IMF and the World Bank. Rising food prices having reduced fiscal space and diminished currency reserves in many poor countries, the IMF responded by sharply increasing concessional lending and by relaxing inflation targets and fiscal targets in applicable countries. "Greater emphasis was placed in both programme situations and in general policy advice on protecting and expanding where possible expenditures for social protection to mitigate the impact on the most vulnerable". World Bank assistance consisted of "operations designed to increase fiscal space, develop and scale-up priority programmes (such as social assistance programmes and agricultural productivity interventions) and maintain macroeconomic stability". One UN system organization is also mentioned. "UNDP helped affected countries assess the macroeconomic impacts of the crisis and identify policy options" (UN 2009, p. 14).

Information obtained in the context of preparing the R/UNDG paper serving as a frame of reference for this guidance note indicates that, in the Arab States region, UNDP provided analytical macroeconomic support to Yemen, a pilot country for the HLTF, and to Syria. Also noteworthy is the previously cited LAS-UNDP report, which argued, inter alia, that, with food and fuel prices having declined in 2008's second half, "Arab countries now have more leeway to address the food security challenge by enacting macroeconomic policies that would increase the fiscal space available for financing investment in agriculture and rural investment" (LAS/UNDP 2009b). With global food prices having increased sharply once again in recent months, however, that window of opportunity may again be contracting, if not closing. According to FAO's latest Food Outlook, the global food import bill may pass the $1 trillion mark in 2010, a level not seen since food prices peaked in 2008. At the same time, again according to FAO, nearly 10 per cent of the Near East and North Africa region's population, or about 37 million people, remain hungry and malnourished. It is clear that regional countries must give renewed and reinforced attention to targeted social safety nets and social protection programmes and to agricultural investment, especially small-scale farming systems. Linked investments and policy reforms in the water and energy sectors will also be essential.

At the time of this writing, the United Nations Climate Change Conference scheduled to take place for a two-week period during November-December 2010 had just started. Also of importance was the submission to the Secretary-General on 5 November 2010 of the report of the Secretary-General's High-level Advisory Group on Climate Change Financing. The Group concluded that it is "challenging but feasible" to reach the Copenhagen Accord's goal of mobilizing $100 billion annually for climate actions in developing countries by the year 2020. This would need to come from "a variety of sources, public and private, bilateral and multilateral, including alternative sources of finance, the scaling up of existing sources and increased private flows (UN 2010e, p.5).

"The regional development banks, the World Bank, the United Nations system, other multilateral institutions and coordinated bilateral programmes will be crucial in scaling up appropriate national climate actions," the Group also noted (Ibid, p.7). An important regional initiative should be noted as well. At the request of the League of Arab States, UNEP's Regional Office for West Asia is providing substantive support to the preparation of an Arab Framework of Action on Climate Change. It is expected that Arab Governments will approve the framework in 2011.

The aforementioned R/UNDG paper will recommend to the R/UNDG that it examine how UNDP and its partners in the UN system could better support UNCTs in keeping Arab countries' fiscal space open in light of the above issues. It would be clear also from this guidance note's discussion on diagnosing the nexus between climate change and food insecurity (see section 3.0) that this is an enormously important matter. Accordingly, the following submission is made to regional UNCTs:

- **Engage with national authorities and the Bretton Woods institutions on the question of fiscal space and see how UNDAF programming could facilitate policy dialogue and reform in this area.** Consider also if multi-stakeholder interaction bringing together the public sector with the private sector and civil society organizations as well as academic institutions and think tanks could not make a much-needed contribution. Maximize your convening power. While the content of actual interventions will depend upon the country diagnosis suggested above in this note, it may be worth mentioning here that in many countries of the region the current high level of subsidies, such as those for fossil fuel consumption, will make efforts to shift to low-emission and climate resilience approaches very difficult. The high dependence of some countries on oil imports also takes away from public expenditures on social protection programmes. As previously discussed in this guidance note, a regional approach to the climate change-food security nexus, inclusive of focused intra-regional fiscal support and regional FDI, needs to be fostered not only at the regional level but also through country-level support. For selected countries in the region, access to new sources of international funding, such as the World-Bank-administered Global Agriculture and Food Security program (GAFSP), should moreover be explored.[46] UNCTs are already giving attention to the GEF and the funds the GEF is administering as the funding mechanism of the UNFCC, namely, the Special Climate Change Fund, the Least Developed Countries' Fund and the Adaptation Fund. Pending concrete progress in translating the Copenhagen Accord into a legal agreement, inclusive of progress on the issues discussed in the report of the Advisory Group on Climate Change Financing, it would be prudent for UNCTs also to give renewed attention to other existing mechanisms – e.g., UN-REDD and two trust funds that are managed by the World Bank jointly with the regional development banks, namely, the Strategic Climate Fund and the Clean Technology Fund.[47]

[46] As of the time of writing, only one regional country, Yemen, had submitted a proposal for GAFSP funding.

[47] The Strategic Climate Fund has three windows: the Pilot Program for Climate Resilience, the Forest Investment Program, and the Scaling Up renewable Energy in Low Income Countries Program.

5.0 Ongoing Gaps in UNCT Actions

Reviews of country level interventions and interaction with UNCTs undertaken in preparing the R/UNDG paper for which the present guidance note is a frame of reference have yielded the impression that while country teams have been addressing both food security and climate change and doing so in laudable ways, the two sets of activities seem to be proceeding on parallel tracks with insufficient attention given to creating needed intersections. A complete merger of programming food security activities with programming climate change interventions is likely to be too difficult. Yet, because of the strong nexus that exists between food security and climate change, programming links are essential and need to be aggressively forged.

The HLTF progress report for April 2008-October 2009 as well as the Dublin Draft of the Updated CFA draws attention to another important issue. As advocated by the Secretary-General in a 2009 statement, while the CFA's twin track approach of meeting "urgent hunger and humanitarian needs by providing food and nutrition assistance and safety nets, while focusing on improving food production and smallholder agriculture", have proved effective, we need now "to add a third track – the right to food – as a basis for analysis, action and accountability" (UN 2009, 4). In the Arab States/MENA region, not enough seems to have been done, at both country and regional levels, explicitly and systematically, to promote the right to food and to link such action to the climate change-food security nexus. Greater attention to mainstreaming the right to food is clearly needed.[48] It must be kept in mind that the recent MDG Review Summit Outcome document affirmed this right in the most robust terms. It recognized "the right of everyone to have access to safe, sufficient and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger, so as to be able to fully develop and maintain his or her physical and mental capacities." This guidance note has drawn attention to a governance issues arising in particular from the need to ensure equitable access to scarce natural resources and to public goods in the sphere of social protection and social empowerment. A rights-based programming approach will reinforce the attainment of these basic goals.

That programming gaps are indeed real would seem to be confirmed by an April 2009 global UNDG study of "Climate Change Actions Undertaken by United Nations Country Teams". This study found "a few examples of UNCTs working together in a coordinated and integrated fashion" indicating "progress toward 'Delivering as One' on climate change." That said, overall, "joint Country Team initiatives, projects or programmes on climate change…still seem to be the exception rather than the rule, and the majority of the cases studied show activities that tend to be single agency driven, disparate and ad-hoc." Note, these are statements on climate change only. They do not take into account the nexus between climate change and food insecurity. If the climate change-food security nexus is to be effectively addressed, renewed attention to coordinated and joint programming must clearly be given.

One more area that needs UNCTs' sustained attention is the linking of country initiatives and programmes to regional cooperation. This guidance note has drawn attention to a number of strategically important regional cooperation possibilities, and the R/UNDG report from which the note is derived will expand on these opportunities. Also, many regional initiatives are already under way and it would be important for UNCTs to capitalize upon these, keeping in mind a basic thesis of this guidance note: if the Arab States/MENA region is to effectively address the climate change-food security nexus, actions at the country level must be reinforced by regional strategies and by action at the global level.

[48] The Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security, adopted by FAO Council in 2004, offer policies and practical guidance for this approach. They provide a reference framework for civil society, private sector and government institutions in the development of their programmes.

6.0 The UN System's Comparative Advantages

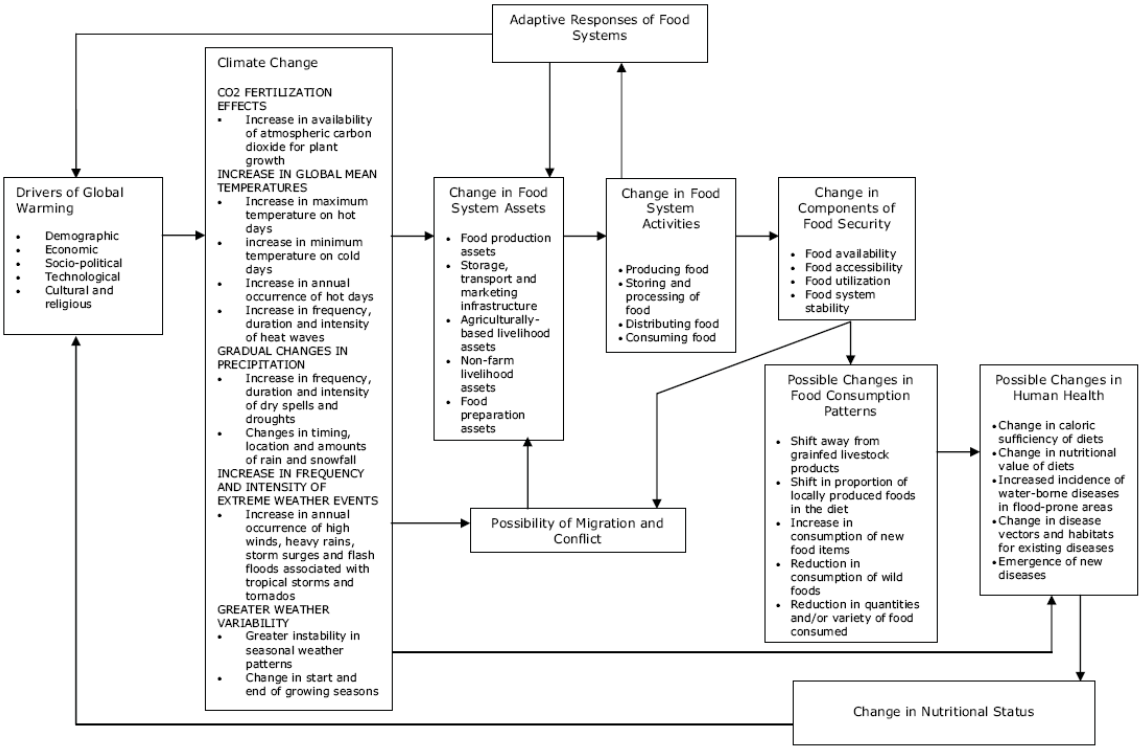
United Nations Country Teams are well placed to support governments in the region in addressing the multi-faceted challenges arising from the climate change-food security nexus for a variety of reasons, including:

- The universality, legitimacy and impartiality of the UN that is unique.
- The wide-ranging spectrum and synergies among agency mandates, embracing social, economic and environmentally sustainable development, crisis prevention and recovery, humanitarian assistance, good governance and human rights.
- Arising from the breadth of the UN system's mandates is the diversity and range of its technical and capacity development expertise and evidence-based policy advisory capacities.
- Related to this is the UN system's access to a range of financing sources stretching from core budgets to special purpose funds, including resources emanating from programme countries.
- The UN system is not value neutral, being wedded to the principles and purposes of the UN Charter and subsidiary Agency instruments; nonetheless, it is politically neutral in its support to Member State goals at country level.
- The system has a unique convening power and is able therefore to promote multi-stakeholder dialogues at all levels – global, regional and national.
- It is well positioned to reinforce country actions with initiatives at sub-regional, regional and global levels.
- It can create synergy between global and regional norm setting and standard setting and the forging of regional and global agreements on the one hand, and national policies and programmes on the other.
- UNCTs have access to national decision makers and other national partners and enjoy the confidence and trust of governments in their countries of assignment.
- The system can help marry North-South cooperation with South-South cooperation.
- More specifically, with reference to the climate change-food security nexus, the UN system has collaborated closely with regional governments and other partners in the region with respect to both climate change and food security issues for decades. The system is well placed to link regional needs and priorities to global action on food security and climate change.

Based on the above, two things stand out most of all. **The food security-climate change nexus calls for multi-sectoral joint programming and reinforcing country programming with regional cooperation. Both matters need UNCTs' concerted and sustained attention with the support of the R/UNDG.**

Appendix I: Relevant Questions in Diagnosing the Climate Change-Food Insecurity Nexus

Figure 1: Climate Change and Food Security



Source: FAO 2008, Climate Change and Food Security: A Framework Document, Rome, p. 13.

With regard to macro-vulnerabilities pertaining to climate change, the following questions are important to ask:

- How does climate change affect livelihoods of vulnerable sectors of the economy (agriculture, fisheries, pastoralists, water, and energy)?
- Is there conflict potential within the country that is sensitive to climate change (regional distribution of water and other resources, desertification, migration)?
- What is the country's profile of risk from climate change (soil erosion, sea water intrusion, ground water problems, droughts, floods)?
- How does climate change affect public health and nutrition (if average temperatures increase by 5 degrees Celsius, heat stress, dehydration, new diseases, productivity, climatically appropriate housing and working environments will all become public health issues)?
- Who are the country's major import partners? How shock-resistant are these import partners?
- Is there a nationally owned governance assessment database or an attempt to create one which could complement any analysis on climate change and food security to assess country's governance preparedness to deal with climate change? (Note of clarification: some countries in the region are establishing governance indicators units inside line ministries or in national development observatories or statistical offices)
- Does the national development plan already include a chapter (situation analysis, targets, and milestones) on climate change or food security and is there a chapter on governance

features of the country? (e.g. Iraq's most recent national development plan includes a short chapter on governance)

- Has any national, regional or international think tank produced any governance assessments (e.g. of civil society, or of local governance, or of anti corruption) whose results may shed light on country preparedness to deal with CC and food security risks?
- Which laws and regulations affect CC adaptation and mitigation as well as affect the country's food security regime?
- Which institutions / agencies are mandated to deal with those issues, how do they relate to each other and where is the chain of command / responsibility?
- Which societal values influence most the CC challenges and food security public debate in the country?
- Is there a youth strategy in the country and does it take into account CC and food security risks? Do those risks affect the ability to implement youth strategy targets (e.g. job creation, education, health targets)?
- Which economic interests (public and private) are most relevant to the main CC challenges and how to characterize those interests (e.g. monopolies, cartels, others) and their relation to the political establishment?
- Do the country's reports and recommendations on social and economic rights to the ESCR treaty body or Universal Periodic Review cover issues of importance to CC and food security?
- Who owns national data and how free flowing and coordinated are the different sources of data inside and among state institutions? How informed is the attentive public (e.g. media and CSOs) to CC issues and nexus with food security?

Much of this information is often already available. What is not provided, however, is a coherent summary of the various macro-vulnerabilities in a multi-dimensional risk profile.

After the macroeconomic vulnerabilities are assessed, a further assessment is necessary in order to identify the population segments that are the most vulnerable. Questions to be answered in this respect are:

- What are the likely food security impacts of climate change in the short, medium and long term?
- How has poverty evolved over time?
- What are the equity issues at national and sub-national levels?
- Which regions and populations will likely be at the highest risk?
- What are vulnerable groups' coping strategies?
- What are vulnerable groups' food expenditures shares and what are the price elasticities of demand for major food groups?
- Are regular household surveys being conducted? Do these surveys include questions on food security and coping mechanisms?
- What voice and representation mechanisms exist in the country to channel needs, concerns and preferences of those most vulnerable (strong tribal spokespeople, labor unions, political parties, investigative media coverage, civil society advocates etc.)?
- What accountability mechanisms exist and do they channel concerns from the sub-national levels (e.g. parliament, ombudsmen offices, national human rights institutes etc.)
- Can the identification of vulnerable groups be disaggregated by gender as much as by region and income group?

Again, much of the information on food-insecure vulnerable groups and their coping strategies is available, but not necessarily contextualized under climate change. Such a discussion at the country level will be important, however, for successful long-term planning.

Adapting to the nexus between climate change and food security will be costly. As the fight against the adverse effects of climate change often takes the form of a public good (information, monitoring, R&D, disaster prevention, infrastructure development, market reforms, social safety nets), fiscal space assessment and planning is another crucial component. Important questions about fiscal space are:

- To what extent does climate change affect public finances (reduction in commodity exports, implementation of drought and disaster risk prevention and response plans consistent with resiliency and sustainability enhancement, crop insurance schemes, social assistance programs for vulnerable segments of society)?
- Is the introduction of crisis prevention plans being postponed due to fiscal distress?
- What is the composition of governmental revenue (commodity exports, taxation)?
- What are the levels of public debt and budget deficits?
- What is the structure of expenditure (subsidies, social policy, agricultural development, infrastructure, education, nutrition and health)?
- Do public budgets already reserve funds geared to addressing the nexus between climate change and food security?
- Does the country have a long-term budget plan to address the nexus between climate change and food security?
- What are the estimated costs and benefits of such expenditures?
- How are these expenditures to be financed?
- What is the intra governmental arrangements in the country and nature / degree of fiscal and administrative decentralization? How does that affect the ability of the state to implement national policies and the ability of local communities to see the implied benefits?
- What are the power, mandate, and coordination relationships between line ministries implicated in CC and food security policies (esp. agriculture, water resources, energy, fisheries, finance, planning)? How do they relate to local delivery mechanisms on the provincial and community levels?

Ultimately, government preparedness will be a crucial determinant of successful adaptation. This is particularly important to note as the nexus between climate change and food security by itself is a drain on fiscal capacities. The problem is not only how to build fiscal capacity, but how to avoid fiscal capacity being undermined.

Fiscal space is an important prerequisite for the formulation of meaningful adaptation programmes. These adaptation mechanisms can be positively leveraged or negatively affected by existing economic structures, regulations, and policies. Relevant questions about the state of the economy are:

- What is the structure of agricultural production (level of state intervention, strategic crops, and average farm size)?
- What is the state of the economy (openness, competitiveness, and diversification)?
- Are food prices fixed? Is production subsidized?
- How large is the share of governmental support to production and consumption as a percentage of GDP? What are the political constraints to market liberalization?
- How robust are the distribution and delivery mechanisms?

7.0 Annex – Reference Documents

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