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For further information on this report, please contact:

Director, OED
Viale delle Terme di Caracalla 1, 00153
Rome, Italy
Email: evaluation@fao.org

Composition of the Evaluation Team

- Eduardo Trigo, Argentina, Team Leader
- Gabrielle Persley, Australia, Team Member
- Felicity Proctor, UK, Team Member
- Prof. Hermann Waibel, Germany, Team Member
- Daniel Shallon, FAO Office of Evaluation, Evaluation Manager
- Mukharram Maksudova, FAO Office of Evaluation, Evaluation Analyst

Composition of the Advisory Panel

- Jock Anderson (Australia)
- Howard Elliott (Canada)
- Etienne Hainzelin (CIRAD - France)
- Juan Luis Restrepo (CORPOICA - Colombia)

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Acronyms

ABDC-10	Agricultural Biotechnologies in Developing Countries Conference, 2010
AfDB	African Development Bank
AGA	Animal Production and Health Division
AGP	Plant Production and Protection Division
AGPMC	Pesticides Management Team, AGP
AGPMD	Office of AGP Director
AGPME	Ecosystem Approach to Crop Intensification Team, AGP
AGPMG	Seeds and Plant Genetic Resources Team, AGP
AGPMI	International Plant Protection Convention Team, AGP
AGPML	Livelihoods, Health and Income Team, AGP
AGPMM	Locust and Transboundary Plant Pests and Diseases Team, AGP
AGPMR	Rotterdam Convention Team, AGP
AGPMT	International Treaty on Plant Genetic Resources Team, AGP
AGRA	Alliance for the Green Revolution in Africa
AGS	Rural Infrastructure and Agro-Industries Division
AMS	AgrometShell
AIT	Asian Institute of Technology
APRC	FAO Regional Conference for Asia and Pacific
ASAP	Adaptation for Smallholder Agriculture Programme
ASIS	Agriculture Stress Index System
BRIC	Brazil, Russia, India and China
AU	African Union
CA	Conservation Agriculture
CAADP	Comprehensive African Agricultural Development Programme
CAC	Consejo Agropecuario Centroamericano
CAPSA	Centre for Alleviation of Poverty through Sustainable Agriculture
CARICOM	Caribbean Community
CAS	Consejo Agropecuario del Sur
CBD	The Convention on Biological Diversity
CCAFS	The CGIAR Research Programme on Climate Change, Agriculture and Food Security
CFS	Committee on World Food Security
CG	Short for CGIAR
CGIAR	Consultative Group on International Agricultural Research
CGRFA	Commission on Genetic Resources for Food and Agriculture
CIAT	International Centre for Tropical Agriculture (CGIAR)
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel
CIMMYT	International Maize and Wheat Improvement Centre (CGIAR)
CIRAD	International Centre for Agricultural Research for Development, France
CMT	Crop Management Technologies
COAG	FAO Committee on Agriculture
CODEX	Codex Alimentarius Commission
CPF	Country Programming Framework
CRP	Consortium Research Programme (CGIAR)
CSA	Climate-Smart Agriculture
DEVCO	EU Directorate General for Development and Cooperation
DFID	Department for International Development, UK
DG	Director-General, Directorate General
DG-AGRI	EU Directorate General for Agriculture and Rural Development
DG-CLIMA	EU Directorate General for Climate Action

DLIS	Desert Locust Information System FAO
EC	European Commission
ECHO	EU Directorate General for Humanitarian Aid and Civil Protection
ECLAC	UN Economic Commission for Latin America
EDF	European Development Fund
EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
EPIC	Economic and Policy Innovations for Climate-Smart Agriculture
ESA	Agricultural Development Economics Division
ESCAP	UN Economic and Social Commission for Asia and the Pacific
EST	Trade and Markets Division
EU	European Union
FAOR	FAO Country Representative
FAOSTAT	FAO global agricultural statistics system
FFS	Farmer Field Schools
FO	Forestry Department
FPMIS	Field Programme Management Information System
FTN	Functional Technical Network
GAEZ	Global Agro-Ecological Zoning
GAP	Good Agricultural Practices
GFAR	Global Forum on Agricultural Research
GIEWS	Global Information and Early Warning System
GIPB	Global Partnership Initiative for Plant Breeding Capacity Building
GIS	Geographic Information Systems
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GM	Genetically Modified
GMO	Genetically Modified Organism
HQ	FAO Headquarters
IADB	Inter-American Development Bank
IAEA	International Atomic Energy Agency
ICARDA	International Centre for Agricultural Research in the Dry Areas (CGIAR)
ICM	Integrated crop management
ICRAF	International Centre for Agroforestry Research (CGIAR)
ICT	Information and Communication Technologies
IDM	integrated disease management
IEA	CGIAR Independent Evaluating Arrangement
IEE	Independent External Evaluation of FAO (2007)
IFAD	International Fund for Agricultural Development
IFI	International Financial Institution
IFPRI	International Food Policy Research Institute (CGIAR)
IICA	Inter-American Institute for Cooperation on Agriculture
IPC	Integrated Pest Control
IPM	Integrated Pest Management
IPNM	Integrated plant nutrient management
IPPC	International Plant Protection Convention
IPPM	Integrated Production and Pest Management
IRD	Institut de recherche pour le développement
IRRI	International Rice Research Institute (CGIAR)
ISNAR	International Service for National Agricultural Research (CGIAR)
ISPC	Independent Science and Partnership Council (CGIAR)
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IVM	Integrated vector management
IWSM	Integrated water and soil management

JFFLS	Junior Farmer Field and Life Schools
LAC	Latin American Countries
LTO	Lead Technical Officer
LTU	Lead Technical Unit
MAFAP	Monitoring African Food and Agricultural Policies Programme
MAS	Marker-assisted Selection
MOSAICC	Modelling System for Agricultural Impacts of Climate Change
MT	Management Team
MTP	Medium Term Plan
NARI	National Agricultural Research and Innovation
NARS	National Agricultural Research Systems
NEPAD	The New Partnership for Africa's Development
NGO	Non Governmental Organisation
NR	Natural Resource Management and Environment Department
NRC	Climate Change, Energy and Tenure Division
NRL	Land and Water Division
OED	FAO Office of Evaluation
OEK	Office of Knowledge Exchange, Research and Extension
OSP	FAO Office of Strategy, Planning and Resources Management
OSRO	Emergency and Rehabilitation Trust Funds (FAO)
P4P	Purchase for Progress
PAA	Purchase from Africans for Africa
PGR	Plant Genetic Resources
PGRFA	Plant genetic resources for food and agriculture
RAF	FAO Regional Office for Africa
RAP	FAO Regional Office for Asia and the Pacific
REDD	Reducing Emissions from Deforestation and Forest Degradation
REU	FAO Regional Office for Europe and Central Asia
RO	Regional Office
RP	Regular Programme
SCPI	Sustainable Crop Production Intensification
SF	Strategic Framework
SFS	FAO Sub-regional Office for Southern Africa
SLM	Sustainable Land Management
SLW	FAO Sub-regional Office for West Africa
SNE	FAO Sub-regional Office for North Africa
SO	Strategic Objective
SOFA	State of Food and Agriculture (FAO flagship publication)
SRO	Sub-regional Office
TAP	Tropical Agricultural Platform
TCE	FAO Emergency and Rehabilitation Division
TCI	FAO Investment Centre Division
TCP	FAO Technical Cooperation Programme
TF	Trust Fund
UEMOA	West African Economic and Monetary Union
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
USD	US Dollars

USDA	U.S. Department of Agriculture
UTF	Unilateral Trust Fund
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
ZT	Zero Tillage

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Executive Summary

i. Support to crops, meaning mainly food crops but not only, has always represented an (if not the most) important component in FAO's efforts to achieve its Global Goals. This evaluation was initially meant to look at the organization's performance in supporting crop production under the FAO Strategic Framework 2010-19, Strategic Objective A: "Sustainable Intensification of Crop Production". But by the time the evaluation activities were to be started a new and completely changed framework was being approved by FAO's Governing Bodies.

ii. In response to these changes the focus of the evaluation was adjusted and the emphasis was re-directed, although it maintained its general orientation to look at the organization's activities in the area of crop support, what was done, how effectively and what could be improved. This evaluation is a forward-looking learning exercise, aimed at generating information useful for the implementation of the five new Strategic Objectives in general, and in particular SO-2: "Increase and improve the provision of goods and services from agriculture, forestry and fisheries in a sustainable manner." In practice the evaluation has become a case study – using crops as an entry point – of the role more generally of *FAO technical assistance to production* in implementing the Reviewed Strategic Framework and the Medium-Term Plan 2014-17 (FAO, 2012).

iii. In implementing its task the evaluation has used several tools, including reviewing enormous amounts of documentary evidence, a questionnaire to both FAO staff and external stakeholders, and large numbers of in-depth interviews with FAO and non-FAO stakeholders, in Rome, in countries receiving FAO support and among partners. The evaluation has kept a close eye on the parallel ongoing process through which FAO planners were transforming the principles of the Reviewed Strategic Framework into Organizational Outcomes and Outputs, products and services, indicators and operational guidelines. This has not been an easy task, as many of the important concepts kept on evolving, taking definitive form only by the time the evaluation was being completed. Nevertheless, it has been possible to develop relevant conclusions and recommendations, which the team expects will contribute towards improving the effectiveness of FAO's activities in the area of crops support and technical support more generally, and to the achievement of FAO's Global Goals.

iv. Crop activities are carried out by many technical divisions in FAO. However, for practical reasons, a majority of the efforts of the evaluation have focused on the activities carried out under the leadership of the Plant Production and Protection Division, AGP, which are representative of what FAO does in crops. That said, whenever possible the evaluation also investigated the crops activities of other divisions.

v. This report is made up of seven chapters: Chapter 1 is the introduction. Chapter 2 deals with the context, scope and limitations of the evaluation exercise. Chapter 3 summarizes the conceptual evolution of the approach to crops support and FAO's strategic framework. Chapter 4 looks at the evolution of the crops related project portfolio over the evaluation period (2007-2013). Chapter 5 examines the institutional issues. Chapter 6 analyses some of the newer issues which have emerged over this period. The seventh and final chapter presents the evaluation's major strategic recommendations.

vi. FAO's activities in crops during the period of the evaluation (2007-2013) represented an investment in projects of close to USD 2billion, deployed through 1408 projects, the majority of them – about 57% – under emergency funding. Of the rest, the development projects, the majority are small (less than USD 500,000). In terms of regional concentration, Africa represents 47% of the total number of projects. The Asia crops portfolio is the next largest, with Latin America and the Caribbean, Europe and Central Asia, and the Near East showing a smaller number of projects.

vii. Of the development projects, the ones with specific production objectives (as opposed to plant protection, genetic resources, institutional support, etc.) represent less than one quarter. Adding in sustainable production intensification projects raises the proportion to about one third. In terms of the crops covered, there are only a few projects dealing with the crops of global importance in terms of food security (rice and some on wheat). Others work on cassava, beans, dates, olives, fruits, vegetables and horticultural crops, among others. Organic agriculture, urban and peri-urban agriculture and good agricultural practices are also areas covered, particularly in recent years.

viii. The most important crop-related interventions are those in plant protection – covering a wide range of pests and diseases with a heavy emphasis on transboundary pests, integrated pest management (IPM) and farmer field schools. Many are also concerned with the technical approaches to pesticide management and compliance with the international instruments in the field and the safe disposal of dangerous or obsolete chemicals. Altogether, projects in plant protection and pesticide management represent about 30% of the non-emergency projects implemented since 2007.

ix. FAO's activities in support of crop production also includes a significant segment of normative activities in such forms as FAO support to and hosting of international treaties and conventions, work in crop data, statistics and information, studies, manuals, guidelines and other publications, and workshops, meetings and conferences.

x. FAO's crops support programme is on the whole well appreciated by Member countries and partners. FAO is identified as an important actor in the development and/or dissemination of key technological concepts such as those of IPM, conservation agriculture, farmer field schools and other activities, such as the negotiation of the Treaty on Plant Genetic Resources for Food and Agriculture. A closer look at the overall crops support programme, however, also has shown that it tends to be fragmented, in many cases lacking continuity, and not strategic.

xi. The evaluation has also found that there is a growing concern that FAO's work in support of crop production has lost a significant degree of the technical quality that once characterized it. FAO's extended and sustained period of budgetary reduction has led to a large drop in the number of technical staff, and critical mass has been lost in many key areas. Decentralisation policies – designed to take the organization's decision making and technical capacities closer to the field – have not helped: critical mass in headquarters teams has continued to suffer, as has the provision of high quality technical support to field activities.

xii. In this context, rebuilding technical capacities is probably the most important priority. Human resource trends have to be inverted, and this must be done strategically. Strengthening the human resource base must take into consideration not only the new needs in terms of disciplinary balance emerging from the Reviewed Strategic Framework,

but also the new institutional realities, such as the fact that project staff (funded with non-core resources) today represent the majority of the organization's human resources.

xiii. In the response to the observations made by this evaluation regarding the technical quality of its work, other elements that should have high prominence are a new, more formal and proactive knowledge management system, and a more strategic use of the resources available through FAO's extensive partnership arrangements – in general also highly appreciated by its partner institutions.

xiv. The evaluation has also found that FAO is missing opportunities by not fully exploiting some areas of its work. The importance of its work in emergency response is not always fully exploited in its development activities. There is room for further and better linking the two, as there is room for better linking global normative activities with its country level work.

xv. The area of support to agricultural research, innovation and technology development for crops is one that FAO needs to review thoroughly. The Organization has allowed its capacities to provide support to national agricultural research, extension and innovations systems – an area where many Member countries traditionally looked and still look to FAO for leadership – to dramatically deteriorate, as the staff resources in the area went from 34 experts fifteen years ago to only six positions today (of which two are vacant).

xvi. Directly related to this issue, FAO's relations with the CGIAR remain quite patchy and non-strategic, in spite of a generalized and growing agreement about the need for and benefits of a convergence of both organizations' objectives and capacities to support agricultural development.

xvii. As indicated, the evaluation has framed the above analysis and discussion of FAO's work on crops in the context of the Reviewed Strategic Framework, trying to identify issues and opportunities that could help improve the implementation of the new Strategic Objectives in general, and in particular SO-2, which is where most of the production oriented activities are found.

xviii. The evaluation emphasises that there is still a need for further articulation of the role of crops support within SO-2 and across the other SOs, with respect to the contribution of crop production to the achievement of FAO's Global Goals. FAO did not have a Theory of Change with respect to crops in the past, and this is still lacking within the context of the Reviewed Strategic Framework. Mapping the role of crops within SO-2, across the other SOs and with respect to the Global Goals will be essential not only for operational coherence, but also in providing guidance to other aspects, such as rebuilding the needed technical capacities, and the construction of more productive partnership strategies at national, regional and global levels.

xix. In general, in the countries visited, the evaluation found that there is a high level of convergence between the new vision that FAO is proposing and the implicit policy thinking of governments and partners. The narrative of integrating the environmental, economic and social dimensions of sustainability, and of mainstreaming sustainability objectives and technologies into national agricultural development, resonates well with most recent national objectives and priorities. However this does not seem to be case when looking at the institutional structures with which FAO will have to work in implementing

its new vision. There, the silo-based structures typical of the traditional sectoral approaches still prevail. Beyond offering new conceptual approaches, FAO will also need to articulate the new approaches needed to institutionalize this different way of thinking.

xx. Based on the above, the evaluation has elaborated eight major recommendations in four main areas: exploiting the organization's comparative advantages; bringing human resources capacities in line with FAO's role and new challenges; highlighting the strategic role of research and innovation to reconcile sustainability and productivity objectives; and the role of crops support within FAO's Reviewed Strategic Framework.

xxi. **Recommendation 1** builds on FAO's unique role as a global, inter-governmental but resource-constrained organization, seeking to maximise its impact on crop production. It recommends that FAO should **give first priority in resource allocation to its work on global public goods and global and regional work on major issues**. Country-specific technical activities in crops, though recognized as important, should be the second priority for resource allocation, except where these activities pilot or inform innovative policy and new directions. In this global and regional work, FAO should become proactive in bringing to the attention of the relevant bodies the changes in norms and standards required for effectively mainstreaming sustainability.

xxii. **Recommendation 2** aims at reinforcing the message that FAO needs to shift the focus of its crop activities away from technology-centred field projects and towards the **strengthening of national and international policies**, through the provision of the most solid and authoritative technical and scientific input to policy formulation and the creation of enabling policy environments supportive of crop production improvement.

xxiii. **Recommendation 3** calls for FAO being less timid about **taking an energetic role of advocacy** for advanced science-based technologies that may at times be controversial, consolidating its role as a global platform for addressing strategic issues relating to crop production development.

xxiv. **Recommendation 4** focuses on the human resource situation and the fact that is not only about more people, but rather there is the need to **be more strategic in disciplinary balance with staff profiles** that can (i) provide the conceptual and scientific leadership needed to enable the transition to production systems that are more sustainable – environmentally, economically and socially – and (ii) be effective mobilizers of external networks in support of FAO's programmes. In mobilizing networks, the evaluation proposes that FAO should seek innovative ways to expand its capacities by better linking external expertise to its own activities. It is also recommended that **high priority be accorded to the implementation of internal Technical Networks**, in order to (i) develop "communities of practice" around the priority disciplinary fields needed to allow the innovative and effective implementation of the new vision, and (ii) ensure the continued contribution of both Regular Programme and project staff to building the organization's knowledge capital.

xxv. **Recommendation 5** is about the need for **FAO to return to providing strong support to national agricultural research, extension and innovation systems**. In addition to strengthening staff capacities in this area, FAO can also make better use of the Joint FAO/IAEA Division on Nuclear Technologies in Food and Agriculture, and should give high priority to playing an active role in the design of the G-20-sponsored Tropical Agricultural Platform.

xxvi. **Recommendation 6** is about **significantly strengthening FAO’s relationship with the CGIAR** and better exploiting the common objectives and complementarities of the two entities in mobilizing knowledge, technologies and innovation in support of agricultural development.

xxvii. **Recommendation 7** calls for an exercise such as developing a Theory of Change for crops, to **highlight the role of crop production as a contributor to the SO outcomes across the Strategic Framework**, addressing the need for coherence of crop interventions within and between SOs, and to explore the intervention logic of the collective crop production contributions of the SOs towards the delivery of FAO’s Global Goals.

xxviii. **Recommendation 8** is about the concept of a “process of transition” towards widespread adoption of *full sustainability* as a basic goal in agricultural and rural development, and the consequent need to **define key sequential changes and corresponding interventions required to accompany this transition process**, including entry points (technical, institutional, policy) at different stages of the transition and for different types of farmers and farming systems (e.g., subsistence versus market-linked), and the trade-offs and the costs and benefits of the different options.

xxix. In addition to the above major recommendations, the report provides throughout the text a number of other suggestions, advice and more detailed recommendations, which expand on and complement the major ones. These have been **highlighted in the text** and are included in a table as Appendix 2 for ease of reference. It should be emphasized that in order for these ‘other’ recommendations to be fully understood and taken on board, the evaluation team encourages readers to view them within their particular context in the report.

1. Introduction

1. Crops, meaning mainly food crops, but also including commercial and industrial crops, have always represented an (if not the most) important component in FAO's efforts to achieve its Global Goals of (1) eradication of world hunger; (2) (a) elimination of poverty and (b) economic and social progress; and (3) achievement of full sustainability in the use of natural resources. From its earliest days and well into the 1990s, the majority of projects requested by members and implemented by FAO were related to crop production.

2. A major thematic evaluation of FAO's support to crop production was carried out ten years ago, in 2003. At that time, it identified the important areas of FAO work in crops to be mainly technology transfer, training, information, and promotion of research and development. Since then, FAO's role overall, and especially its role in technology transfer, has changed significantly.

3. In 2006-07, FAO as a whole was evaluated in the context of the "IEE," or Independent External Evaluation of FAO. That exercise marked a turning point for FAO, as the IEE stressed that its days as a technology-transfer agency should end, replaced by a higher-level role as a policy and capacity development agency. The direct field-level project work in agriculture in which FAO had been the dominant player for several decades had now become a crowded playing field, occupied by NGOs, bilateral aid agencies, private foundations and developing country governments themselves. The IEE recommended that as an intergovernmental agency advising governments, serving as repository for critical information and knowledge resources and acting as normative agency for a wide range of global governance instruments, FAO should accelerate its shift of focus to policy-level work.

4. However, issues that are now central to rural development and food security, such as climate change and biotechnologies, mean that the evolution of technological solutions is once again central to achieving FAO's Global Goals. Demand is again growing for FAO to provide advice or endorsement for specific technologies, as well as methods for development (research) and diffusion (extension) of these technologies. The emphasis for the past few years has been not just to increase production, but to do so in a way that conserves and improves the environment and is socially and economically sustainable. With regard to crops, the term FAO has adopted and is now using to refer to this is "Sustainable Crop Production Intensification," or SCPI.

5. It is in this context that the FAO member countries requested the Office of Evaluation to carry out a new evaluation of FAO's role in supporting crop production. The evaluation was to be based on Strategic Objective A: "Sustainable intensification of crop production" from the Strategic Framework which was launched in 2010. That document identified four areas of intervention under Strategic Objective A: increase agricultural (crop) productivity; enhance sustainable crop protection (e.g., using IPM); efficiently manage biodiversity and ecosystem services; and strengthen livelihoods through support to crop-related value chains. Attention was focused mainly at the level of policy and the enabling environment, at global and at country levels.

6. In the time past since the evaluation was requested, however, there have been significant changes in FAO's strategic approach to the achievement of its Global Goals. A new Director-General was elected and launched a major effort at rethinking the way FAO goes about its business, aiming at better reflecting internationally agreed sustainability principles and the new architecture of the development cooperation and assistance community in the organization's conceptual and operational approach. One of the main changes that emerged from this process is a drastic reduction in the number of FAO Strategic Objectives (from 11 to 5) and the integration of all production activities –crops, livestock, forestry and fisheries – with an ecosystem services approach within a single strategic objective.

7. In view of these changes, the aims of the evaluation have also been adjusted, seeking to ensure that the conclusions and recommendations serve to guide the better implementation of the new vision. In this sense the evaluation looks at “crops support” as a case study of the adjustments FAO would need to make in order to implement its new vision in providing technical assistance to production. As a consequence, many of the issues discussed and the recommendations made are of relevance not only for its work in crops, but also in the other technical areas in which FAO works.

8. Within this context, this report is organized in six chapters in addition to this introduction. **Chapter 2** deals with the context, scope and limitations of the evaluation exercise. **Chapter 3** summarizes the conceptual evolution of the approach to crops support in FAO's strategic approach. **Chapter 4** looks at the evolution of the crops related project portfolio over the evaluation period (2007-2013), and also includes some comments derived from a non-exhaustive look at some of the major technical components of the organization's support to crop production – seeds and plant genetic resources, crop protection, farmer field schools, conservation agriculture, normative activities, and emergency activities, as well as gender issues in crop support. **Chapter 5** examines the institutional issues for FAO in relation to its role in supporting crop production, and considers the human resources situation, decentralisation, knowledge management and partnerships. **Chapter 6** analyses some of the issues which have emerged as most important over this period, with an eye on the implementation of the new strategic approach. In this sense the issues discussed include the new strategic approach in the context of the continuing need to sustainably increase crop production and address climate change related issues, “new science” applications in agriculture, and agricultural research and technology development in support of crop production. The **seventh and final chapter** presents the evaluation's major strategic recommendations.

9. **NOTA BENE:** While the major strategic recommendations are drawn out and presented separately in Chapter 7, there are many other more specific pieces of advice and recommendations that emerge from the team's analysis throughout the report. These have been highlighted as this sentence, wherever they appear in the text, and are also included in a table as Appendix 2, for ease of reference. In reviewing these additional pieces of advice, the team wants to emphasize the need for the reader to consider them in the full context of the given section of the report from which they emerge.

2. Evaluation scope, focus and approach

2.1 Scope

10. For the purpose of this evaluation “crops” is taken to include all activities related to plant production, and from an institutional perspective, all the work that was included under Strategic Objective A of the Strategic Framework 2010-19: Sustainable Crop Production Intensification (SCPI). This includes activities directed at increasing agricultural (crop) productivity, enhancing sustainable crop protection (e.g., using IPM), efficiently managing biodiversity and ecosystem services, and strengthening livelihoods through support to crop-related value chains, focusing mainly on policy support and the enabling environment, at all levels from global to country. The period covered by the evaluation is 2007 to 2013.

11. The evaluation is a *formative evaluation*, which aims primarily to support institutional learning and strategy development through drawing lessons from the in-depth analysis of recent experiences. In the case of this exercise, the activities of FAO over the evaluation period in support of crop production which the evaluation has analysed were developed and implemented under two different and rapidly changing strategic frameworks (before and after 2010) which are now both being made irrelevant by the launch of the new framework in 2014. In this situation, and in order to maximise its usefulness, the evaluation examined FAO’s work not only using standard evaluation criteria, but at the same time looking at FAO crops work through the lens of the new strategic objectives which go into effect just as the evaluation is concluding, under the recently adopted Reviewed Strategic Framework 2010-19. Box 1 (on page 16) summarizes the main components of FAO’s latest results framework.

2.2 Approach and methods

12. The evaluation was implemented using the following methods:

- **Review of relevant documentation**, including FAO strategic planning documents, past evaluations relevant to the crops area, Country Programming Frameworks, project documents, databases on projects and on human resources, FAO normative materials, as well as documents from other organizations working with FAO in the crops area.
- **Interviews with a wide range of FAO staff members** both in FAO headquarters and in decentralised offices (DOs). The evaluation team met at different times with management and staff of all the divisions whose work relates to crops, as well as with the staff involved in the development of the Reviewed Strategic Framework, including the Strategic Objective Coordinators and their teams, the Office of Strategy, Planning and Resource Management (OSP), and others.
- **Visits to eight case study countries** (India, Indonesia, Morocco, Burkina Faso, Kenya, Zimbabwe, El Salvador and Ecuador), for information gathering and

analysis of projects and activities in support of crop production.¹ These country visits constituted a central part of the evaluation as they provided an essential perspective on the way FAO works in support of crop production intensification under different conditions and the adequacy of its approaches.

During the country visits, besides discussing with FAO regular and project staff, the mission met with the widest possible range of stakeholders in FAO's crops support work, including government officials from the Ministries of Agriculture; other relevant ministries and decentralised entities; other UN Agencies; other development agencies including the World Bank and other development banks; bilateral donors; NGOs and civil society organizations including farmers organizations; academic institutions; and private sector representatives.

The team had extended visits with the research centres that are part of the **Consultative Group on International Agricultural Research (CGIAR)** when these were headquartered in the case study countries, as well as meeting with in-country CGIAR staff wherever they were present in the countries visited.

The mission also visited projects in the field to interact with implementation partners and project participants and beneficiaries. The evaluation did not go into impact analysis of specific projects: the emphasis was on the strategic dimensions and contributions of the interventions as well as on the role of FAO in the country's development cooperation environment, and how project level experiences are eventually linked to broader policy and institutional change.

The main lines of inquiry followed in these visits examined the value of FAO as a partner (to the country, to donors, to other development organizations), what are its contributions, what it could do better, or more of, or less of, and its leadership role in matters regarding not only crops, but agricultural development in general.

- **Visits to four of the five FAO Regional Offices** (Latin America and Caribbean, Africa, Asia and Pacific, Europe and Central Asia)² and two additional Sub-Regional Offices besides those co-located in the Regional Offices (SNE in Tunis and SFS in Harare). On these visits the team met with FAO Regional and Sub-Regional Representatives and technical staff and discussed issues related to FAO's decentralisation (which at the time were being evaluated in a separate process), and support to crop production on the regional level, in order to understand the impact, advantages and disadvantages of decentralisation on FAO's ability to support member countries in crop production.
- **Visits and interviews with key donors, bilateral and multilateral development cooperation agencies** with activities in the area of crops. These included the World Bank, the Inter-American Development Bank, the International Food Policy Research Institute (IFPRI), and the CGIAR Fund, as well as the US Government (USDA and USAID) in Washington, D.C.; the CGIAR Consortium Office and CIRAD in Montpellier, France; the African Development Bank in Tunis; GiZ in

¹ Criteria for country selection included geographical distribution, range of country types (size, economic development, etc.), size of the FAO programme in crops, existence of special or particularly interesting cases of some aspect of FAO's crops work, the mix of emergency and development work, and presence of an FAO Representative.

² A visit to the Regional Office for the Near East in Cairo, Egypt was also planned, but had to be suspended due to the security situation in the country at the time.

Germany; several of the European Union Directorates in Brussels, Belgium; and IFAD and WFP in Rome.

- **Questionnaires to external stakeholders and to FAO staff**, to gather broader information on issues such as: the main factors affecting crop production in developing countries; the areas to which FAO should be paying more attention; areas in which its work needs to be more effective; the quality of the organization's work in general and of normative work in particular; and how FAO's work compares with that of other organizations working in this field. In the case of FAO staff, the questions also covered the nature and quality of internal work processes, particularly in relation to the decentralisation process, and regarding interaction between headquarters and the decentralised offices in providing technical assistance. The detailed results of this survey are given in Annex 4.
- **An analysis of the project portfolio**, comprising 1408 development and emergency projects in support of crop production over the period 2007-2013. The analysis focused mainly on projects under the technical lead of AGP, including regional aspects and thematic focus of the interventions as well as their fit with the Reviewed Strategic Framework.
- **An Advisory Panel of external experts**, who gathered to review the draft of this report, and provided valuable input to the evaluation team on the final form of the recommendations. In addition to their direct advice on the recommendations, the Panel also prepared a brief note on the process of their intervention, included as Appendix 4 of this report.

2.3 Caveats

13. The results of this work have to be viewed in the context of two processes that affected both the work of FAO during the period and the capacity of the team to assess the work of the Organization effectively.

14. The first process going on throughout the period of the evaluation was that FAO in general, including crops work, was undergoing very significant changes both in its orientation and in the organization of the processes through which it delivers its products and services. The period covered by this evaluation starts right after the Independent External Evaluation (IEE) delivered its recommendations and the response process started in 2007. During these times many of the established paradigms were questioned and put under extensive review, taking staff time and concentration. A new approach to strategic planning was adopted – introducing the results management framework – and a new Strategic Framework 2010-2019 and Medium Term Plan 2010-2013 were adopted after extensive work and discussion between FAO member countries and FAO management and staff.

15. The second process is related to the Reviewed Strategic Framework 2010-19 and Medium-Term Plan 2014-17, under energetic development all through 2012-13 following the arrival of the new Director General. Although the general orientations of this reviewed framework were already clearly defined – and actually approved by the Governing Bodies – when the evaluation began its activities, its operationalization aspects – means of

delivery, products and services, indicators – were still in the design stage. These critical aspects of FAO's future work started to come together and consolidate only towards the second part of the evaluation process. Staff both at HQ and in the field were still feeling their way about the new ways, which in some cases were also subject to change, as part of the complex and iterative processes involved in achieving transformations of this magnitude.

16. In this sense the evaluation has had to deal with “moving targets” with respect to the orientation of the Organization’s activities in crops, which, while it provided opportunities for the team to explore different scenarios, also made it a bit more difficult to know in what context the evaluation recommendations would be received. This by no means invalidates the analysis, conclusions and recommendations put forward, but it has been a factor affecting the work in certain areas.

3. Crops in FAO's Mandate and Programme, 2007-2013

17. Support to crop production has always been a central component of FAO activities. FAO's historical role as the food and agriculture arm of the United Nations has meant that it always had a specific focus on the production of crops, mainly food crops but also including commercial and industrial crops. From its earliest days and well into the 1990s, the majority of projects requested by members and implemented by FAO were related to crop production. A global indicator of this importance is the portfolio of 1408 projects (both development and emergency projects) implemented over the period of this evaluation (2007-2013).³

18. The focus and positioning of the organization in providing crops support has been an evolving one. It has gone from an almost exclusive emphasis on increasing food production by promoting national production of specific crops through diffusion of improved technologies, towards a systems approach (rather than single crop), including themes such as urban and peri-urban agriculture, the integration of crop-pasture-livestock systems, production and biodiversity in crop and grassland systems, good agricultural practices (GAP) and organic agriculture, promotion of conservation agriculture and integrated pest management, plant nutrition, and alternative, minor and indigenous crops, among others. Also the organization has been involved in significant activities in support of the organization of international agricultural commodity markets and has been one of the (if not the main) driving forces in development and implementation of instruments for the global governance of agriculture (international treaties, conventions and instruments, the setting of norms and standards).

19. Over the past three decades, FAO has gradually lost the central position that it had in the 1950s, 60s and 70s, when de facto it was seen as a sort of “World Ministry of Agriculture, Food and Nutrition”. It is now in a situation where it shares a crowded field with a large host of other international, bilateral and civil society organizations offering related services and competing with FAO and with each other for funding and donor resources. The Organization remains, however, the only institutional space with a global mandate on food and agriculture, where all countries are able to come together on equal ground to discuss and agree on the best ways to achieve its global goals of eradicating world hunger, eliminating poverty, increasing economic and social progress, and achieving full sustainability in the use of natural resources.

3.1 The 2007 Independent External Evaluation of FAO

20. FAO's support to crop production has undergone two in-depth reviews in recent years. In 2003⁴, a major thematic evaluation identified the key areas of FAO work in crops

³ The figure is of projects where the Plant Production and Protection Division (AGP) is the lead technical unit (LTU), so it underestimates the total number on projects implemented during this period with crops components.

⁴ FAO (2003) *Evaluation of FAO activities in crop production*. Programme Committee. Ninetieth Session 15-19 September 2003 PC90/2a

to be mainly technology transfer, training, information, and promotion of research and development, confirming the orientation that the organization was pursuing at that time.

21. However, since then, FAO's role overall, and especially FAO's role in technology transfer, has changed significantly. In 2006-07, FAO was the subject of a major, agency-wide Independent External Evaluation (IEE), which among other conclusions stressed that the days of FAO as a technology-transfer agency should end, and the organization's efforts should focus on its higher-level role as a provider of policy support and capacity development. Furthermore, the IEE stressed the importance for FAO of taking advantage of the extraordinary range of technical capacities it had by emphasizing inter-disciplinary work and exploiting the potential for synergies between the different technical units. The IEE recommended that as an intergovernmental agency advising governments, serving as repository for critical information and knowledge resources and acting as normative agency for a wide range of global governance instruments, FAO should accelerate its shift of focus to policy-level work. Whether this was in intensification, biotechnology, mechanization or agricultural industrialization, the emphasis should be in policy and capacity building as a way to capitalize on its significant comparative advantage in providing the technology input for policy development in agriculture. All this was to take place in a general context of "...a rebalancing in the distribution of resources with increases in the proportions to forestry and fisheries and a significant increase in the proportion of resources for livestock."⁵

22. In support of the above reorientation the IEE proposed that rather than producing knowledge itself FAO should develop its strengths as a knowledge manager, expand the reach of its food security work to address issues related to increased production, employment and income generation in agriculture in a combined effort to fight hunger and advance development. Project work in the form of piloting and demonstration should be restricted to only those situations where it was addressing clearly identifiable gaps, and where the preconditions for up-scaling were clearly present. Work on production technologies was to be eliminated in areas such as agro-industry and mechanization and substantially reduced in crops.

23. In its specific recommendations relating to direct support to crop production, the IEE suggested that FAO should retain only its work on plant nutrition – specifically for sub-Saharan Africa – and small-scale urban and peri-urban horticulture for supplementary income and nutrition, areas where it still had some critical mass of expertise and less international competitors. Other specific recommendations included that all normative work on crop production, in general, should be wound down, eventually including also that on plant nutrition and urban and peri-urban agriculture; the merging of two of the Services of Plant Production and Protection Division (AGP), Crops and Grasslands and Seeds and Plant Genetic Resources in order to ensure greater synergies and more effective use of resources; and that the International Rice Commission should be discontinued and left to the two CGIAR centres dealing with rice. Although recognizing that in Integrated Pest Management (IPM), FAO continued to have an important role to play, the IEE felt that there was no longer need for piloting and demonstration at community level, and that FAO

⁵ FAO (2007) *FAO: The Challenge of Renewal*. Report of the Independent External Evaluation of the Food and Agriculture Organization of the United Nations. Submitted to the Council Committee for the Independent External Evaluation of FAO (CC-IEE) C 2007/7A.1-Rev.1. Recommendation 3.9, para. 619

should turn its efforts towards the development of policy and regulation, areas that still remained critical.

3.2 FAO response to the IEE recommendations on crops

24. Starting in 2007, the Plant Production and Protection Division (AGP) – the main technical division responsible for crops work within FAO – underwent an extensive review of its technical orientation as well as its organizational approach to support to crop production. This process was managed by a divisional “change management team” (CMT) and included wide consultations with all AGP staff from both HQ and the decentralised offices. To discuss and agree on the way forward to the creation of “One AGP” there were two consultations held in early 2007 and 2009, where not only the broad orientations of AGP restructuring were discussed, but also there was a concerted effort to go into different issues related to team building and work planning.

25. However, the key event shaping FAO’s response to the IEE recommendations to reduce and eliminate work in crops support was the 2008 food price crisis, which suddenly drew the world’s attention to the importance of supporting agriculture, and especially food production. As a result of the series of events and activities which FAO undertook during the crisis and afterwards, it became clear that dropping work in crops support was neither desirable nor possible. Therefore none of the specific recommendations of the IEE in this area ultimately had a significant impact on FAO’s work. However the IEE’s general recommendations with regard to the organization and nature of FAO’s technical work did have a strong impact on the way FAO carried out its work in crops.

3.2.1 Restructuring the Plant Production and Protection Division

26. The main driving force of this process was the agreement that the key focus of AGP would be working on **Sustainable Crop Production Intensification (SCPI)**, which required an integrated approach, since “what happens in one area impacts on another, and so teams need to understand other teams' work and priorities and align their own with these wherever possible.”⁶ The major results from this process was the abolition of the existing services and the reorganization of the Division under the form of eight thematic groups (“bubbles” – see section 5.1 below for a list), cutting across the disciplinary units, in the context of a flatter organizational structure, with a Director supported by a management team (MT) made up of the group leaders, which was tasked with assisting the Director in a number of different issues, but essentially in moving forward in the bringing together AGP in “delivering as one.” The development of the ‘OneAGP’ website integrating all the activities of the Division was also a product of this process.

27. To support the above, the groups were required to indicate explicitly the ways in which each contributed to the SCPI objectives and how they interlinked with each other,

⁶ Summary Notes, AGP Management Team Retreat, 18-19 April 2011, Rome, Italy.

and there were also a number of recommendations in specific areas such as human resources (including principles regarding, among other aspects, delegation and rotation of staff, and later on the introduction of generic job profiles for the technical positions within the division), and communications, down to the level of offering guidelines about the best instruments and devices to use under different conditions.

28. Looking in retrospect at these processes it can be said that many of the issues that are identified and addressed in the current Reviewed Strategic Framework and MTP 2014-2017, were already in the Division's discussions starting in 2007, and have continued to be the central issues since.

3.2.2 *The 2010-2013 Medium Term Plan*

29. At the same time as the restructuring of the organization and management of AGP, FAO was undertaking a programme review and conceptual reorganization effort to respond to the IEE recommendations. This included introduction of the ecosystem approach as a strategy for the integrated management of land, water and living resources, promoting conservation and sustainable use. This would effectively reconcile the need to increase agricultural productivity to feed a growing population and the need to ensure sustainability in achieving such increases. This process included as a first step, in April 2008, the preparation of a "Crops Strategy Note," which started by identifying as AGP's main challenge the need to meet a demand for food which was expected to double by 2050. Many – if not most – of FAO's developing country members were ill-prepared to offer sustainable responses, and the Strategy Note highlighted the comparative advantages of FAO to work with them in achieving the needed changes.⁷ The document then offered a vision and objectives for the organization's work in the area of crops:

“The **overall vision of FAO's** crops programme is to serve Members with knowledge and capacity building to develop and implement sound policies and programmes in the crop sector to enhance food security, nutrition/ health, income and livelihoods and to protect the environment in a globalized world, working towards their achievement of the Millennium Development Goals (MDGs). The major objectives of the programme are: (i) implemented appropriate policies and programmes as governments support intensification of production, with special emphasis on ecosystem services, sustainability and the livelihoods of resource-poor farmers; (ii) improved conservation and sustainable use of relevant natural resources; and (iii) establishment of a global system of norms, standards and collaboration on crop-related issues which facilitates achievement of MDGs.”

⁷ Committee for Independent External Evaluation Follow-up (CoC-IEE) Working Group 1, Draft Strategy Note – Crops Sector, 25 April 2008 Conference

30. To achieve the vision and objectives, FAO would work towards five outcomes,⁸ with a strategy that put a strong emphasis on (i) bringing together plant production and protection work with other relevant areas, including: sustainable use of natural resources, policy assistance, agro-forestry and invasive species, rice-fish production systems, crop-livestock integration and animal feed, food safety and quality, CODEX standards and human nutrition, safe production practices, agribusiness, agro-industry and rural infrastructure, international trade and statistics, emergencies and rehabilitation, food security, and knowledge management; and (ii) partnerships, making the most of its collaborative arrangements with UN (WHO, UNEP, IAEA) and non-UN bodies (CGIAR, CBD, NEPAD), NGOs and public and private sector partners.

31. These ideas provided the basis for Strategic Objective A (SO-A): ‘*Sustainable intensification of crop production*’ in the MTP 2010-2013, approved in 2009. SO-A laid out the issues and challenges facing sustainable intensification of crop production. It placed emphasis on the critical need to increase crop productivity and quality, using science-based sustainable practices, for improved resource use efficiency, food security, rural development, and livelihoods. While global demand for food is projected to increase significantly, the world must address the declining availability of new land, anticipated lower crop productivity growth, stresses from climate change and natural disasters, and eroded ecosystem services. There is also a demand for increased variety, quality and safety of agricultural products, driven by urbanization and rising incomes. Especially in light of current global issues such as population growth and climate change, providing an adequate supply of food of requisite quality will depend on more efficient and resilient production systems using good farming practices that make efficient use of the natural resources base, coupled with an enabling policy and institutional framework.⁹

32. To address these challenges, SO-A proposed crop production intensification using the ecosystem approach, including technical and policy assistance in four key dimensions: a) Increasing **agricultural productivity** through improved use of resources; b) Enhancing sustainable **crop protection**; c) Managing **biodiversity and ecosystem services**; and d) Strengthening **livelihoods**.¹⁰ It also recognized the importance of policy support and institutional capacity building for crop production intensification, and the critical role of sub-sector analysis of crop agriculture. This implies availability of up-to-date sub-sector information and statistics on all aspects, including the interaction between crops and the environment, the impact of transboundary crop pests, the importance and impact of bioenergy crops, and ecosystem services.

33. The priorities for the 2010-11 biennium were then identified to include: the promotion of the ecosystem approach to sustainable crop production intensification,

⁸ The expected outcomes were (i) Governments support sustainable intensification in their crop production sector, (ii) Governments support improved rural livelihoods for resource poor farmers, (iii) Governments implement measures to support conservation and sustainable use of plant genetic resources, (iv) Governments, in international collaboration, set norms affecting the crop production sector, (v) Governments manage plant pests and disease outbreaks successfully (idem 7 above)

⁹ Much of this paragraph is from the text on SO-A in the FAO (2011) *The Director-General’s Medium Term Plan 2010-13 (Reviewed) and Programme of Work and Budget 2012-13*. C2011/3.

¹⁰ For each of these dimensions the text expanded on the balance to be maintained i.e. productivity/sustainability; approaches and technologies to be prioritized (IPM, promotion of IPPC or reduction of pesticides); sound agronomic practices (crop, soil, nutrient and water efficient management); diversification within the value chain, GAP, access to knowledge, quality seeds, post-harvest and agro-processing technologies, markets and credit

including ecosystem services such as pollination and plant nutrient management; the Plant Protection component of EMPRES (Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases) for pests and diseases other than desert locust; implementation of the Global Plan of Action on Plant Genetic Resources for Food and Agriculture; technical inputs to policy; and climate change adaptation and mitigation.

34. Later on in 2011 SO-A was reviewed and further developed with a more explicit description of the results chain, and modified organizational outputs: (i) Policies and strategies on sustainable crop production intensification and diversification at national and regional levels; (ii) Risks from outbreaks of transboundary plant pests and diseases are sustainably reduced at national, regional and global levels; (iii) Risks from pesticides are sustainably reduced at national, regional and global levels; and (iv) Effective policies and enabled capacities for a better management of plant genetic resources for food and agriculture (PGRFA) including seed systems at the national and regional levels.¹¹

35. More importantly, a clearly stated listing of the areas that were going to be given “higher emphasis” and those that were going to be given “lower emphasis” was also presented. Among the first were: promoting integrated “systems approaches” to production, including crop-livestock systems; supporting sub-regional/regional approaches to International Plant Protection Convention (IPPC) standard setting and implementation using a training-of-trainers approach; assistance to countries in the sustainable use of plant genetic resources for food security and climate change adaptation; and ensuring a more appropriate mix of public sector (especially seed certification) and private sector interventions (including up-scaling and technical innovation) based on the needs of individual countries, among others.

36. The areas to receive “less emphasis” included: working on individual crops, in particular the upstream research dimensions for which national agricultural research systems (NARS) and international (CGIAR) research institutions hold comparative advantage (almost verbatim from the IEE recommendations); in plant genetic resources, support to the design of the multilateral system of access and benefit sharing and funding strategies (by then largely completed); and support to exclusively public sector approaches to seed systems.

37. At this level both the organizational restructuring described above and the programmatic change process came together as the eight Technical Teams (see list in section 5.1 below – excluding the Director’s office and the Global Crop Diversity Trust) were paired two per organizational results. Although all these changes were internally driven, they received close monitoring and extensive discussion by the members at the level of the Committee on Agriculture, particularly on the issues relating to the creation of the enabling environment needed for an ecosystem approach to be effectively implemented by the members.¹²

¹¹ FAO (2011) *The Director-General’s Medium Term Plan 2010-13 (Reviewed) and Programme of Work and Budget 2012-13*. C2011/3

¹² See COAGs 21, 22 and 23 and in particular the document FAO (2010) *Sustainable Crop Production Intensification through an Ecosystem approach and an Enabling Environment: Capturing Efficiencies through Ecosystems Services and Management*. Committee on Agriculture Twenty-Second Session. Rome, 16 – 19 June 2010. COAG/2010/3. 12pp

3.2.3 *The flagship publication “Save and Grow”*

38. Building on this, in November 2010 an Expert Consultation on Sustainable Crop Intensification reviewed and discussed the issues, benefits and FAO experiences in the field. The conclusions of this expert consultation and a Concept Note prepared by AGP in July 2010 became the basis for the publication entitled “*Save and Grow*,” which was to become FAO flagship publication for the promotion of SCPI at the policy makers level.¹³

39. *Save and Grow* uses several examples of different approaches to illustrate the meaning of SCPI. It was written with major external expert input, aiming to offer concrete technical examples on how productivity and environmental objectives can be brought together to meet the challenges facing world agriculture over the next 20-30 years. It builds on experiences and a number of broad principles, including that of diversity: there is no one solution to sustainable intensification, but many, building on diversity (natural, cultural), soil nutrient management, working with and not “fighting” the agro-ecosystem, low levels of external inputs, and the use of farmers’ knowledge. It has been broadly discussed with the member countries through side events of the Regional Governing Bodies (Africa and Asia) and within regional projects in Latin America, and has received strong support as the conceptual basis for the work of the organization in the area of crops.

40. *Save and Grow* represents a significant contribution because it puts the productivity versus sustainability debate in quite a clear perspective, with concrete examples of real applications based on the conceptual principles of the proposed approach. FAO makes the case that given the challenges that need to be confronted – a possible 70% increase in food demand by 2050 – and the dismal performance of current agricultural practices in terms of their impact on the world’s natural capital and climate change, the business as usual scenario evolving out of the “green revolution,” is no longer an option, and action is urgent. *Save and Grow* offers, although in a limited way, a platform for the discussion of alternative patterns.

41. Three limitations should be pointed out, however. One is with respect to the type of farmers it focuses on. The cases presented are almost entirely small farming situations. The impact of agriculture on the global environment does not differentiate whether it comes from smaller or larger farms, and there are plenty of conservation agriculture examples involving commercial farms that should have been included. The second limitation concerns institutional and policy issues, aspects discussed in only in very general terms. Going from present, in many cases unsustainable, practices to improved approaches will take substantially different sets of incentives, as change will take place only if the new approaches are at least as profitable and beneficial at the farm level as the old ones. It will take significant changes in the enabling environment to assure not only those benefits, but also the scalability of the cases illustrated. The third limitation regards the role of knowledge and the emphasis on local and farmers’ knowledge. Without lessening the relevance of drawing on that level of knowledge, is not clear why the enormous opportunity represented by modern science applications for agriculture and natural resource management are almost completely left out of the discussion.

¹³ FAO (2011) *Save and Grow – A policymaker's guide to sustainable intensification of smallholder crop production*. Plant Production and Protection Division. FAO, Rome.

42. FAO continues to be actively involved in the promotion of *Save and Grow* through regional workshops in Africa, Latin America and the Caribbean and Europe/Central Asia in 2012, to discuss opportunities and further themes and work needed for local adaptation of the approach, and special events organised in 2013 by the FAO Liaison Office with the European Union and Belgium including for the EU delegations, and in Geneva for the community of diplomats, development organizations, private sector and civil society. *Save and Grow* therefore continues to represent a significant part FAO's strategic thinking on "Sustainable Crop Production Intensification" (SCPI). Within the MTP 2014-17 and SO-2 "*Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner*", SCPI has evolved to include forestry, fisheries, and livestock production as well as crops. Yet scope remains for further evolution of thinking on "*sustainable production intensification*" including expansion to address nutrition, gender and resilience to shocks in agricultural production and rural communities as well as focus given to both sustainability as well as intensification. The MTP 2014-17 and associated work plans need to explicitly articulate the position of *Save and Grow* within future programming, as well as seeking to address the shortfalls listed above.

43. In sum, the process over the first period covered by this evaluation (2007-2011) had already significantly changed FAO's conceptual and organizational approach to crop production support compared to the situation before the IEE, moving from a single crop, mostly technological support focus, to proposing work with an ecosystem perspective aiming at achieving a better balance between productivity and environmental conservation and sustainability issues. The heavy disciplinary emphasis of the early periods was also put up for review in favour of a more integrated view attempting to offer inter-disciplinary approaches to production problems.

44. Based on the evaluation's analysis of the project portfolio, however, the extent to which these transformations have been effectively reflected in the evolution of actual project profiles is still open to question. This is most probably due to the fact that the decision making system and resource allocation process, as well as donor preferences did not change much, so there was no real operational instrument for the new orientations to be reflected in the actual field work of the Organization. As will be seen, this observation is of particular importance when considering the nature of the changes FAO is bringing into its new strategic thinking.

3.3 The 2012 Strategic Thinking Process

45. In 2012, the new Director General, upon coming into office, decided to carry out a new and extensive review of the organization's strategic approach to achieving its major developmental goals. Two major drivers in this new process were the renewed sense of urgency in addressing food security, poverty and malnutrition problems arising from the food price crises and the Rio+20 process, and the conviction that further efforts were still needed to move away from the culture of working through "disciplinary silos".

46. The review recognised several issues requiring attention, including: the continuing need to meet rising food demand (again, some experts estimate that the world will need 70% more food to feed a global population of over 9 billion in 2050); lingering food insecurity, malnutrition and rural poverty; increasingly complex agricultural and food systems; more dynamic agricultural trade flows and regulations; climate change; and the

need for better governance to address the increasing complexity of agricultural development. Given FAOs' broad mandate and the need to increase agricultural production while ensuring sustainable ecosystem and climate change management, the review identified seven main developmental challenges of special significance to FAOs' members. These are: eradicate food insecurity; address nutrient deficiencies and unsafe food; improve the quality and balance of food consumption and nutrition; improve the livelihoods of populations in rural areas; ensure more inclusive food and agriculture systems; increase resilience of livelihoods to threats and shocks; and strengthen governance mechanisms.

47. These developmental challenges have shaped the choices made in the preparation of the four-year Medium Term Plan 2014-2017 and the Reviewed Strategic Framework 2010-19. The work of FAO is now framed around five multi-sectoral Strategic Objectives, as compared to the 11 Strategic Objectives in the previous version of the Strategic Framework. These five SOs are supported by the cross-cutting themes of gender and governance, as well as a separate objective to strengthening technical quality, knowledge and services (see Box 1).

Box 1. FAO's results framework: the main components

FAO's vision

A world free of hunger and malnutrition where food and agriculture contributes to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner.

The three Global Goals of Members:

- eradication of hunger, food insecurity and malnutrition, progressively ensuring a world in which people at all times have sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life;
- elimination of poverty and the driving forward of economic and social progress for all, with increased food production, enhanced rural development and sustainable livelihoods; and
- sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations.

Strategic Objectives

1. Contribute to the eradication of hunger, food insecurity and malnutrition
2. Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner
3. Reduce rural poverty
4. Enable more inclusive and efficient agricultural and food systems at local, national and international levels
5. Increase the resilience of livelihoods to threats and crises

Additional objective

Technical quality, knowledge and services

Cross-cutting themes

Gender
Governance

Core Functions

1. Facilitate and support countries in the development and implementation of normative and standard-setting instruments, such as international agreements, codes of conduct, technical standards and others
2. Assemble, analyze, monitor and improve access to data and information, in areas related to FAO's mandate
3. Facilitate, promote and support policy dialogue at global, regional and country levels
4. Advise and support capacity development at country and regional level to prepare, implement, monitor and evaluate evidence-based policies, investments and programmes
5. Advise and support activities that assemble, disseminate and improve the uptake of knowledge, technologies and good practices in the areas of FAO's mandate
6. Facilitate partnerships for food security and nutrition, agriculture and rural development, between governments, development partners, civil society and the private sector
7. Advocate and communicate at national, regional and global levels, in areas of FAO's mandate

Functional Objectives

Outreach
Information Technology
FAO Governance, oversight and direction
Efficient and effective administration

Source: FAO (2013) The Director-General's General Medium Term Plan 2014-17 and Programme for Work and Budget 2014-15. C2013/3. Page 12

3.3.1 What does the new MTP 2014-2017 mean for FAO support to crops?

48. Crop-related activities are now implicit within all the Strategic Objectives (SOs). Figure 1 seeks to illustrate some of the key crop activities associated with the five Strategic Objectives and the links between those Objectives, and also between them and FAO's Global Goals.

49. In designing the new SOs, and specifically SO-2: "Increase and improve provision of goods and services from agriculture, fisheries and forests in a sustainable manner", it

was considered that ‘past strategies for agricultural development tended to focus on maximising production with insufficient regard to damage caused to ecosystem goods and services and to sustainable consumption.’ SO-2 is innovative by focusing attention (a) on the fact that sustainability is not only about the environment, but has three equally important “pillars” of environmental, economic and social sustainability; and (b) on moving ‘sustainably produced’ out of its current niche and achieving genuinely wide-scale adoption of sustainable practices. SO-2 is also innovative in taking the range of natural resources for production as an integrated system, rather than as discreet areas of crop production, livestock production, forestry and fisheries. As such it seeks to address what might have been seen as earlier failures. However as FAO moves to the implementation of the MTP 2014-2017, many of the challenges articulated in the MTP 2010-2013 remain for the crops sector, particularly those relating to integrating activities across programme components and disciplines.

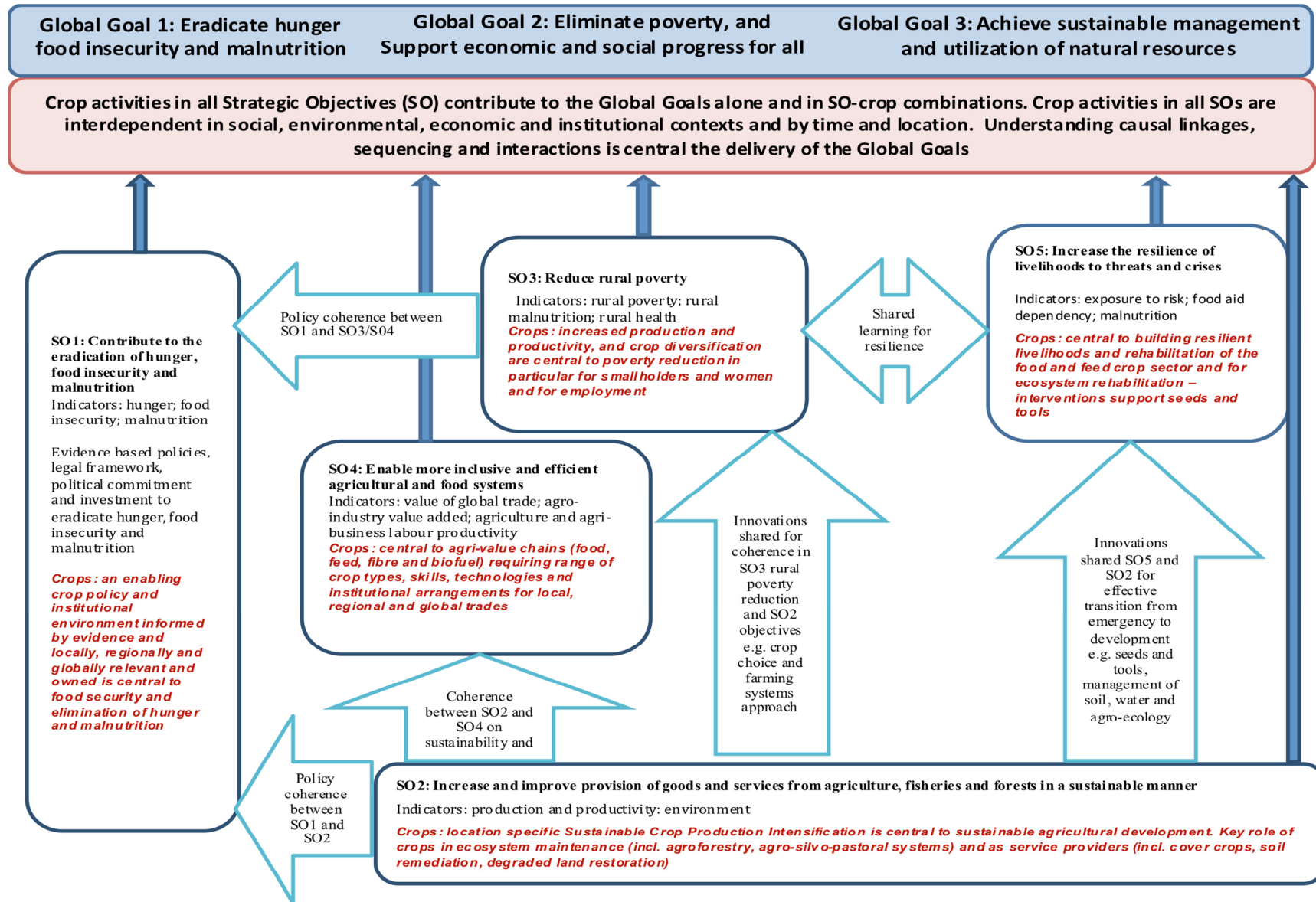
3.3.2 Learning from implementation: the Regional Rice Initiative (Asia) and the Regional Initiative on Water Scarcity (Near East)

50. In order to experiment solutions to some of the above limitations, in late 2012, during the process of designing the new SOs, it was decided to build on existing programmes to develop a “regional pilot initiative” for each SO (two for SO-2), putting the philosophy of FAO’s reviewed strategic framework and its sustainable intensification paradigm into practice. The objective was to gain experience in the operational requirements of working with an integrated approach across levels – innovations, institutions, policies – and disciplines within FAO. The two SO-2 ‘pilots’ were the Regional Rice Initiative in three countries in Asia, and the Regional Initiative on Water Scarcity in six countries in the Near East.

51. The **Regional Rice Initiative** includes activities in Indonesia, Laos and the Philippines and linked to SO-2’s Organizational Outcomes 1 (adoption of appropriate practices), 2 (improved governance and policies), and 4 (better data, statistics and analysis) and their corresponding indicators. In addition the project contributes to the development of the FAO Rice Strategy for Asia, which is the response to a recommendation of the 31st Session of the FAO Regional Conference for Asia and the Pacific (APRC).

52. As part of putting the philosophy of FAO’s new strategic framework and its sustainable intensification paradigm into practice, this “pilot initiative” aims to raise awareness among policy makers, researchers, extension workers and farmers in Asian member countries about the role of ecosystem services that are and that could be provided by rice systems. The need for such awareness is derived from the observable unsustainability of highly intensive rice cultivation systems in Asia, the existence of rice field outputs other than rice, the role of nutrition in poor rice-farming households, and the underutilization of the complementarities between land and water management.

Figure 1. Links between crops work within and between the five Strategic Objectives and their contribution to the Global Goals



53. The budget allocated for the pilot project was USD 1million. The project duration was one year, from January to December 2013, and it was designed as a collaboration project between Headquarters (HQ) and the Regional Office for Asia and Pacific (RAP) and FAO Representations in the pilot countries, through an open, transparent dialogue involving four Departments and combining 21 different project proposals. The project had four priority areas: (i) water and rice/fish systems; (ii) biodiversity, landscape and ecosystem services; (iii) rice management practices; and (iv) cross-cutting issues related to social, economic and policy aspects of rice in Asia. The main external partners are two of the CGIAR Institutes, namely the International Rice Research Institute (IRRI), the International Centre for Agroforestry Research (ICRAF) and two French development organizations namely CIRAD and Institut de recherche pour le développement (IRD), as well as the Ministries of Agriculture of the three pilot countries and several NGOs.

54. The **Regional Initiative on Water Scarcity** involves six of the Near East countries (Egypt, Morocco, Oman, Qatar, Tunisia, and Yemen), and, through the use of innovative water accounting methods, identifies priority areas of action in agricultural water management (principally for crops) that can significantly contribute to boosting productivity, improving food security and using water resources in a more sustainable way.

55. The initiative builds on key earlier work of FAO (including work which led to the publications: *Coping with Water Scarcity: an Action Framework for Agriculture and Food Security*, Water Report 38, 2008; *Crop yield response to water*, Irrigation and Drainage Paper 66, 2012; and the AquaCrop toolkit¹⁴) and seeks to guide decision-makers' choices among the range of the available food supply options (including crop mix and import export balance) associated with water management. It distinguishes between 'supply-side' options, aiming at increasing the volumes of water available for food production, and the 'demand-side' options that focus on efficient use of water for crop production. It also acknowledges that options to cope with water scarcity lie both inside and outside the water domain, and extends the discussion beyond water to, for example, issues of national food security and trade. The ranges of possible options to ensure food security in conditions of water scarcity are assessed in terms of their effectiveness, cost, and technical, social and environmental feasibility. In this sense this pilot is central to the FAO agenda on crops at the levels of technical innovation, institutions and governance and enabling policy environment.

56. There is an obvious value in putting the sustainable intensification paradigm of SO-2 to the test under field conditions. The evaluation considers that FAO is correct in promoting sustainable development of major cropping systems instead of giving sole emphasis to increasing food production and crop productivity. FAO's "*Save and Grow*" paradigm provides a good framework for designing projects and programmes that combine productivity growth with the conservation of the natural resource base that underpins the long term productivity of agriculture. Given the stress already weighing on many of the Earth's natural resources, there is indeed no alternative to "sustainable

¹⁴ FAO crop-model to simulate yield response to water of several herbaceous crops
<http://www.fao.org/nr/water/aquacrop.html>

intensification”. However much of the description of the SO’s outcomes and indicators is still very vague and putting them into practice will be extremely challenging. Hence the pilots were to serve as a “*reality check*” for the proposed approaches, and could bring important contributions.

57. The issues addressed in the pilots are valid. There can be no doubt about the centrality of rice systems to Asian food security, or of water use efficiency in the case of the Near East. Furthermore, given the nature of the natural resource management challenges that need to be confronted in those cases, the findings will certainly provide useful insights beyond those specific cases.

58. Another added value to their potential contribution to improving knowledge about ecosystem services and natural resource management, is what these initiatives can do to foster multi-sectoral linkages and shared learning between technical teams within FAO, enabling them to work together and deliver differently, an issue already stressed by the IEE and central to the successful implementation of the Reviewed Strategic Framework.

59. Assessing their overall value, contributions and impact is a difficult task since they are not yet completed. However, some general comments on the issues of concern are possible (included among others in 3.3.3 below), on the basis of the experiences emerging from the pilots including the related documentation reviews and direct information collected in the countries visited by the team. Ultimately and when the pilots are complete, a full analysis of the lessons learned should be drawn from these experiences to benefit future design of interventions from the point of view of effective integration of technical areas and team building.

3.3.3 Key issues in providing crops support under the new Strategic Objectives

60. Under the Reviewed Strategic Framework, crops support (as with any technical field) will be provided in different ways under all five of the Strategic Objectives. Given the different objectives of the SOs, the challenge now for FAO is to ensure that crop focussed activities under the different SOs come together in a given location or context - ecosystem, farm, watershed, landscape, country and indeed region - in a coherent manner. It must also ensure that policies and institutional structures which reflect the different objectives and their associated indicators are consistent. While FAO has begun a process to explore the linkages between SOs, there is now an opportunity to test the coherence between SO interventions, their intervention logic and their sequencing, through the lens of crop-based interventions, as the SOs strive together and singly to contribute to the FAO Global Goals.

61. Figure 1 illustrates some of the key links between the Strategic Objectives and between the Strategic Objectives and the Global Goals in relation to FAO’s work in support of crop production. This, together with Appendix 1, which illustrates examples of outcome level linkages across the SOs where coherence is critical, can serve as a

starting point to develop a Theory of Change¹⁵ for FAO crops support. Such a Theory of Change would help to ensure that crop-related interventions within the Reviewed Strategic Framework are both internally coherent and designed to optimise investment and intervention logic to contribute more effectively to the Global Goals. While the principles of a Theory of Change for crop interventions can be developed at global – Strategic Framework – level, ideally this should also be taken to the country level. At country level, the model can be developed and validated within a specific development context, informed by evidence and open for participatory debate. This could help clarify the necessary sequencing of the transition towards agricultural sustainability, and address trade-offs between support to the Global Goals and the sequencing of their delivery.

62. Two examples can illustrate this issue. A first illustration is the fact that each of the SOs has a specific organizational result which focuses on strengthening national policy. It is essential that such crop policy support messages, offered to government in a given country context and derived from the different SOs' activities, are coherent. Where required an analysis of the trade-offs or necessary sequencing needs to be articulated and shared at the policy level.

63. The second example is in the linking of relief to development in emergency contexts. In order to ensure that emergency interventions supported through SO-5 (*Increased resilience of livelihoods to threats and crises*) can link seamlessly into the development agenda with no harm done, and to enable early opportunities for support to development to be optimized, there is a need to understand and strengthen the continuum of support to the crops sector between SO-5 and the other SOs.

64. Further, SO-2 recognizes and indeed emphasizes that there will have to be a “transition” towards sustainable agriculture sector production systems (i.e. SO-2 – Outcome 2.4: *“to support the transition to sustainable agricultural sector production systems”*). There is a critical need to define and map key sequential changes in a given context and the corresponding interventions required to accompany this transition.

65. Such a mapping would address questions such as: what are the key entry points (technical, institutional and policy) at different stages of the “transition,” including the trade-offs and the costs and benefits. It would involve analysing the likely impact of different entry points and types of interventions, necessary to make rational choices on the most cost-effective way for FAO to achieve its objectives. This mapping would be an important tool not only for FAO, but also to help guide policy makers, development partners and researchers in managing the “transition” from a crop-focused agenda to one which seeks to embrace a multi-sectoral, ecosystems and landscape approach underpinned by principles of social, economic and environmental sustainability. Developing alternative scenarios and transition pathways in a given context requires not only an examination of alternative technical options, but an explicit analysis of the financial and social costs and benefits, if associated policies are to be given the resources required for effective implementation. Ideally there should also be an analysis

¹⁵ Theory of Change (ToC) is a specific type of methodology for planning, participation, and evaluation that is used to promote social change. Theory of Change defines long-term goals and then maps backward to identify necessary preconditions (Wikipedia)

of alternative options. The Investment Evaluation¹⁶ confirmed the earlier Food and Agriculture Policy evaluation¹⁷ finding that analysis of investment costs of alternative policy options is rarely undertaken in FAO projects and initiatives.

66. Looking at SO-2 specifically, key areas of risk in the new approach implicit in this SO include: the extent of national political commitment and real demand for an integrated approach to production support built around full sustainability; the nature and extent of development partner and agency consensus on the principles and approaches enshrined in the SO and the Strategic Framework as a whole; the current structure of national (and often donor) institutions – still largely silo-based; and the lack as yet of proven models of these approaches at scale. In the context of seeking to secure SCPI, it should be further noted that the starting point of agricultural production systems in member countries varies considerably from traditional farming systems with no inputs and low yields to conventional intensification. The latter which may have resulted in high yields but may have harmed biodiversity and ecosystem integrity, presently providing weak sustainability potential. Such differences will require very different technical and policy intervention pathways in the transition towards sustainability, and raise different research questions.

67. Another key area of risk is FAO's human resource situation after decades of diminishing budgets and falling numbers of technical positions: does FAO have the necessary technical and professional subject-matter specialists to ensure that crop work is coherent across the SOs? The experiences of the regional pilot initiatives have underscored the strategic importance of technical and disciplinary diversity for the successful implementation of the paradigm of integration underlying the reviewed Strategic Framework. In the case of rice, it is quite evident that the enormous amount of prior knowledge and experience that FAO has in Asian rice has not been fully exploited in the design and implementation of the country components. In the case of the water scarcity initiative, while the country teams of the initiative were invited to put together multi-sectoral teams comprising an economist, water engineer and agronomist, at the level of FAO headquarters, AGP was not able to provide an agronomist for the core team. Given the centrality and technical challenges of agriculture – specifically crops – associated with water use and efficiency, this would seem a significant weakness and missed opportunity.

68. One way to address the shortfall would be to promote the establishment of an FAO internal technical learning network on crops and to commit to, strengthen and support the “Technical Network” model. Such a network would provide shared learning and support, provide peer review, and ensure that FAO maintains a wide range of crop-based knowledge and skills across both the major crops (largely cereals) and the minor crops (small grains, roots and tubers, legumes, horticulture, and fibre crops). This would be underpinned with SCPI principles, including those of agro-ecology. It would serve all technical divisions engaged with crop related work and cut across the work of the

¹⁶ FAO (2013) *Evaluation of FAO's Role in Investment for Food and Nutrition Security Agriculture and Rural Development*. PC 113/2. OED. FAO. Rome. para 118. p36

¹⁷ FAO (2012) *Evaluation of FAO's Role and Work in Food and Agriculture Policy*. OED. FAO. Rome. para 237, p76

SOs. These issues are further developed in the sections on human resources (see section 5.1) and knowledge management (see section 5.3).

4. Analysis of FAO's crops work 2007-2013

4.1 Who does what in crops at FAO

69. Contributions to the improvement of crop production can be divided into interventions of four kinds. Table 1 presents an indicative disaggregation of what is included in each of these areas:

- 1) **Direct and farm level:** interventions centred in specific inputs and components of production processes (seeds, water, fertilizer, crop management) aimed at farmers or farmer communities (e.g. all farmer training/demonstration projects),
- 2) **Indirect and farm level:** interventions related to crop production whose main outcomes/activities are aimed at the factors that affects farmers' production and market decision making,
- 3) **Institutional and direct level:** interventions whose main outcomes and activities are aimed not at farmers as such but at public and private organizations dealing with the production and distribution of inputs and services (of all kinds),
- 4) **Institutional and indirect:** interventions related to crop production whose main outcome/activities provide the enabling environment and incentives for the actors and organizations that work in support of crop production.

Table 1. Typology of FAO's activities in the crops sector

	On Farm (Field Level)	Off Farm (Institutional Level)
<i>Direct (Technology)</i>	Soil Management Preparation Conservation Mechanization Seeding and Planting Varietal selection Seeding rates Planting density Water management Crop physiology Irrigation technology Nutrient management Organic fertilizer Mineral fertilizer (Integrated) Pest Management (IPM) Chemical Biological Cultural Resistant varieties Harvest Management Harvesting Packaging Transportation Post-Harvest Management Storage Technology Storage Pest Control	Plant Breeding Simple selection, marker supported selection; Mutation induction Genetic transformation; Seed Production Multiplication Distribution Fertilizer Suppliers Quality Standards Price Interventions Water Supply Organizations Water sources Water User Organizations Agricultural Machinery Industry Pest Control Agent Suppliers Migratory/Transboundary Pests and Diseases Invasive Species Disposal of unused pesticide stocks Seed laws and regulations Pesticide Regulation Production Standards Phytosanitary Standards Farmer Organization Research and Extension
<i>Indirect (Linkages)</i>	Factor and Product Markets Prices Actors Competition Subsidies Taxes Consumer Preferences Agricultural Policies (e.g. self - sufficiency targets; import/export taxes/floor prices/food stocks)	Biosafety regulations Conservation of plant genetic resources Biodiversity and Ecosystem Services Health and Environmental Standards International Treaties and Conventions Advisory Bodies and Expert Panels Food Bills and Food Security Policies

Source: Evaluation team generated

70. Much though by no means all of this work is carried out under the leadership of the **Plant Production and Protection Division, AGP**, which is naturally the main division for support to crop production. Over the years, AGP's crop support work has evolved, and its activities are currently organized around the following themes:

- **Sustainable Crop Production Intensification (SCPI)** aims to increase crop production per unit area, taking into consideration all relevant factors affecting the productivity and sustainability and working on three dimensions: policy, technologies and farmers. Special attention is paid to smallholders through Farmer Field Schools (FFS) and local participatory research. At technological level SCPI focuses on conservation agriculture, agricultural mechanization, and integrated management of pests (IPM), plant nutrients, weeds and pollination
- **Pest and Pesticide Management** including IPM, management of pesticide stocks and residues

- **Preventive control of transboundary plant pests and diseases** (such as locusts) including the mitigation measures to control pests plagues
- **Seeds and Plant Genetic Resources** working on national seed systems, and on conservation of genetic resources for food and agriculture
- **Biodiversity and Ecosystem Services** working on ecosystem-based production practices, crop and crop associated biodiversity
- **Agricultural Mechanization** recently moved to this division from AGS (see below)
- **Plant Production and Climate Change** focusing on Climate Smart Agriculture
- **Horticulture and Industrial Crops** whose initiatives include the FAO-WHO Fruit and Vegetable Initiative for Health, Global Cassava Development Initiative, International Year of the Potato, Urban and Peri-Urban Horticulture. This area is also shared with the Trade and Markets Division (EST), and their work on agricultural commodities
- **International Treaties, Conventions, Advisory Bodies** including the International Plant Protection Convention (which, with regard to the new Strategic Framework, is actually under SO-4 as part of food safety), the Rotterdam Convention, the Joint Meeting on Pesticide Residues, the FAO Commissions for controlling the Desert Locust, the Commission on Genetic Resources for Food and Agriculture, the International Rice Commission and the International Treaty on Plant Genetic Resources for Food and Agriculture

71. Several other FAO divisions also work on issues related to crop production and management, although the degree of collaboration between these divisions and AGP varies considerably.

72. **The Rural Infrastructure and Agro-Industries Division (AGS)** focuses mainly on post-production activities, such as *post-harvest losses, marketing, processing, agro-industry* and *value-chain analysis and management*, which to a great extent take up where AGP work – at the start of the value chain – lets off. AGS also is responsible for *rural finance* activities at FAO, which are a key element of on-farm investment which supports production. Another relevant activity of AGS is on *rural infrastructure* (mainly transport and markets), though this area has been given lower priority in recent years.

73. In the **Natural Resource Management and Environment Department (NR)**, the areas covered by the **Climate Change, Energy and Tenure Division (NRC)**, including land tenure and bioenergy issues, are closely related to the work on SCPI. These include cross-divisional activities in the framework of *climate-smart agriculture* approach that “*sustainably increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation) while enhancing the achievement of national food security and development goals.*”

74. The **Land and Water Division (NRL)** also is focused on issues of direct relevance to production, including *soil nutrition and management, irrigation, land and water resource mapping*, and collaboration with the *Global Soils Partnership*. Also in the NR Department, work on *biodiversity and genetic resources for food and agriculture* is an important part of the ‘sustainability’ issue in SCPI.

75. Earlier, the Office of Knowledge Exchange, Research and Extension (OEK) and now the Office of the Deputy Director-General (Natural Resources) have housed FAO's small **Agricultural Research And Extension Unit**, which was greatly reduced over the past 15 years as donors and the World Bank diminished their support to governments of these key areas in favour of privatization (see section 6.4.1).

76. **The Joint FAO/IAEA Division**, located in Vienna at the UN International Atomic Energy Agency (IAEA), but under FAO's Agriculture and Consumer Protection Department (AG). This unit is somewhat anomalous in FAO, as it is in fact a research unit, very similar to the CGIAR institutes, working on research and application of research results in *nuclear techniques in food and agriculture*, such as for *plant breeding and genetics* using radiation induced mutation, mutation detection and pre-breeding technologies, *soil, water and nutrient analysis* using nuclear isotope markers, *animal production and health*, through immunological and molecular techniques, *insect pest control* focusing mainly on the environmentally friendly 'sterile insect technique', and *food and environmental protection*, in food traceability and contaminant control through isotopic techniques and food irradiation.

77. **The Trade and Markets Division (EST)**, while mostly concerned with trade issues, has a significant amount of activity centred on supporting small producers of *cash and industrial crops* for marketing and trade. The division supports FAO's Committee on Commodity Problems and its Intergovernmental Commodity Groups, which work on such crops as oilseeds, rice, grains, tropical fruits, tea and hard fibres. EST also houses FAO's Global Information and Early Warning System (GIEWS), responsible for monitoring agro-meteorology, pest infestations, market and price fluctuations, and other factors affecting crop production.

78. **The Emergency and Rehabilitation Division (TCE)**, in its work aimed at accelerating *post-crisis rehabilitation of agricultural production* and rural development, as well as building resilience into production and food systems, is often closely engaged in crop related work. Among the main activities TCE has carried out over the years is the distribution of seeds and inputs to accelerate resumption of production following crises, support to rehabilitation of seed systems and markets, and playing a role in developing and promoting resilient crop production systems. This includes working with other divisions in such areas as conservation agriculture, climate change mitigation, early warning, and strengthening of needed policy frameworks and institutions.

79. **The Investment Centre Division (TCI)**, which provides technical and policy advice and support to countries for *investing in agriculture and rural development* (in particular but not limited to investing funds from international financial institutions - IFIs), is frequently involved in projects with strong agronomic and crops-related components. TCI also provides support to the rest of FAO in the encouragement and facilitation of investment. It supports countries in developing national agricultural investment strategies, for example in support of the African Union's Comprehensive African Agricultural Development Programme (CAADP). As such, TCI itself includes staff with significant crops expertise and experience, and in some cases works closely with AGP in providing support.

80. Other parts of FAO also have some less obvious roles in support to crop production, such as **the Forestry Department (FO)**, which has linkages to crops from

the fact that forests are often a major source of agricultural/crop lands, as well as having an important role in water availability, and a direct link through agroforestry production systems; or the **Animal Production and Health Division (AGA)**, which does some work on *animal feeds*, including production of crops for animal feed.

4.2 Evolution of FAO’s portfolio of crops projects 2007-2013

81. Between 2007 and 2013, there were 1408 operationally active projects¹⁸ under the technical lead of AGP with a total budget of more than USD 1.9billion (Table 2). Emergency projects outnumber development projects about 2:1 and constitute 57% of the total budget during the period. Development projects of all types amounted to 448 projects in seven years. The majority of them (281) are of small size (less than USD 500,000). Nearly all interventions of large size are externally funded through Government Cooperation Programmes (GCPs) – about 54% of the total budget – and Unilateral Trust Funds (UTFs) – about 22% of the total budget – which in many cases were found to reflect priorities of the funding partner more than anything else. FAO Technical Cooperation Programme projects (TCPs) represent only about 7% of the budget of development activities. In the case of emergency projects, 89% of total funding comes from emergency and rehabilitation trust funds (OSRO); emergency TCPs represent 5% of the total, with the remaining 6% about evenly distributed between GCPs and UTFs.¹⁹

Table 2. Total number of projects and their budget implemented under AGP technical lead (2007-2013)

Type of project	Total number of projects	Total budget USD
Development	448	851,559,422
Emergency	960	1,141,417,938
Grand Total	1408	1,992,977,360

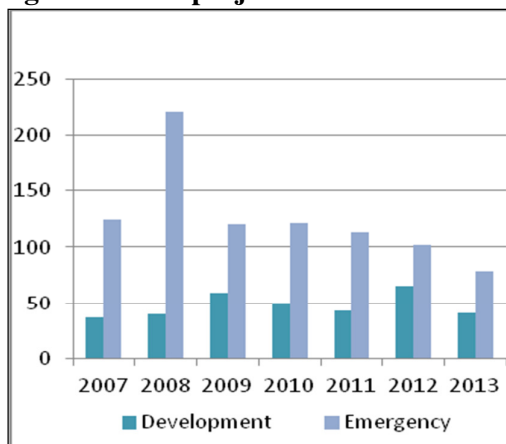
Source: FPMIS

82. In terms of projects by year, the period 2008-2010 – the time immediately following the last food prices crisis – show the greatest level of activity. The numbers of projects initiated in each year have fallen to about 50% of the peak of 270 in 2008, the majority of the variation reflects, however, the number of emergency projects approved each year as development projects have remained more or less stable within the 40-60 projects a year range.

¹⁸ Source FPMIS. Project NTE 1 January 2007. Search updated to November 23, 2013.

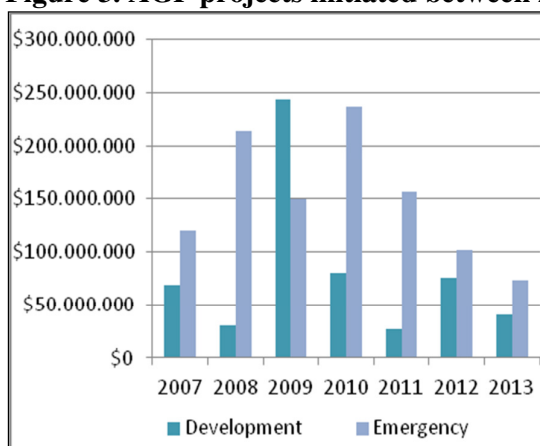
¹⁹ GCPs are donor-funded projects. UTFs are projects funded by the recipient government itself. TCPs are small (<USD 500,000) projects funded from FAO’s own core budget. ‘OSRO’ projects (for FAO’s old ‘Office for Special Relief Services,’ now TCE) are projects funded by donors out of humanitarian funds.

Figure 2. AGP projects initiated between 2007-2013 (no. of projects)



Source: FPMIS

Figure 3. AGP projects initiated between 2007-2013 by total budget (USD)²⁰

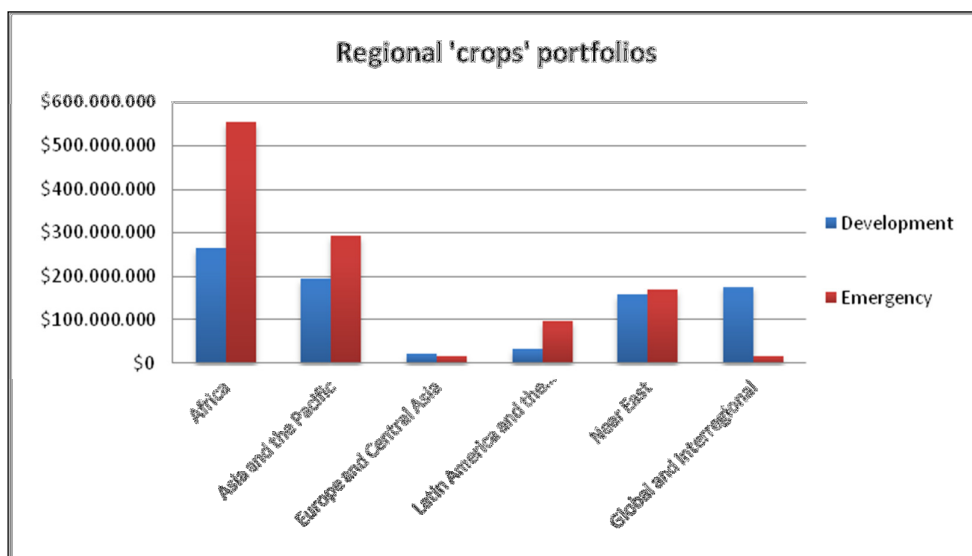


Source: FPMIS

83. From the regional perspective Africa is the region with the largest number of both emergency and development projects with 47% of the total number of projects over the period of evaluation. Asia crops portfolio is the next largest, with Latin America and the Caribbean, Europe and Central Asia, and the Near East showing a smaller number of projects. There are 63 projects of a global or inter-regional nature.

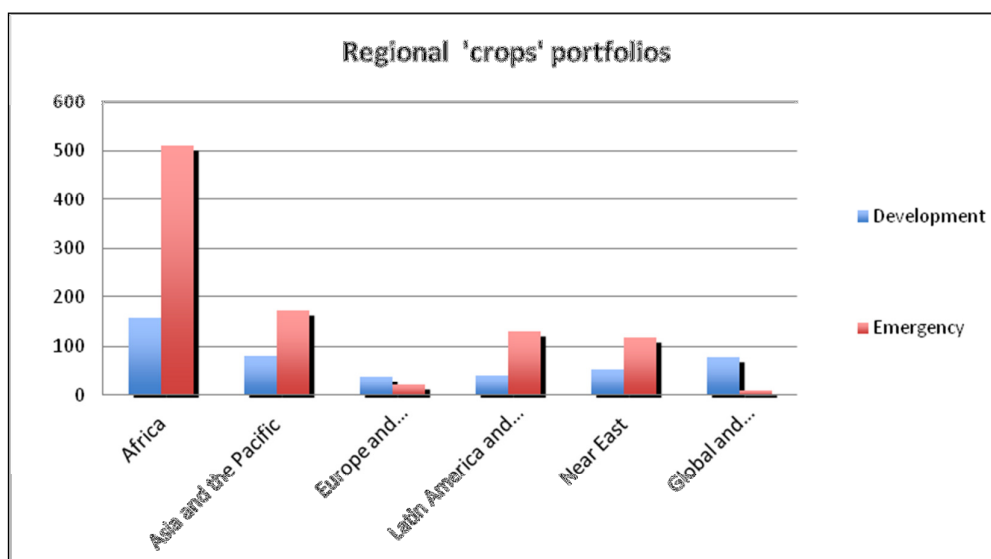
²⁰ Includes the EU Food Facility projects in 2009, classed as development projects but in effect delivered as short-term emergency response to the food price crisis

Figure 4. Total value of projects initiated between 2007-2013 (USD), by region



Source: FPMIS

Figure 5. Total number of crops projects initiated between 2007-2013, by region



Source: FPMIS

84. The FAO Investment Centre (TCI) provides technical inputs to the design and supervision of projects funded through the International Financial Institutions, and in particular the World Bank. TCI provides assistance to a number of projects that have 'sustainable crop production' components (according to their categorisation), totalling 90 projects between 2007 and 2013, which represents about 26% of the total number of projects in which TCI was involved during the period. The total IFI investment going to the crops area in these projects is estimated at just under USD 5.8 billion.²¹

²¹ Information provided by TCI

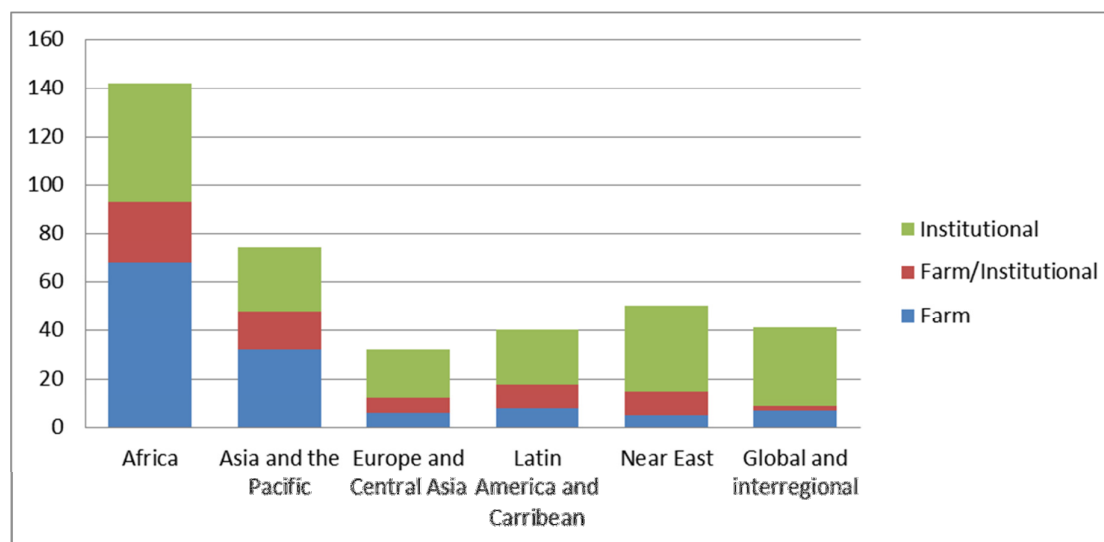
85. In terms of the type of assistance provided, the team analyzed 448 projects classified as non-emergency in FPMIS, using the framework and typology presented in the Table 1. FAO's work is mostly directly provided in support of farmers on technological or technology-related issues, either by being directly involved in farm level activities or, more often, by working with the government staff, organizations and institutions that provide the direct support to farmers. There is no significant difference in the way FAO operates in the different regions. Although the total number of projects each year was not enough to undertake a statistically relevant year by year analysis, the distinct impression after a close review of the portfolio is that there is no trend towards reorienting activities away from this technology focus in favour of higher level policy work, as recommended by the IEE.

Table 3. Projects in the area of crops by type and level of intervention (from Table 1 above) and by region (2007-2013)

Type of intervention	Level of assistance	Africa	Asia	Europe and Central Asia	Latin America and the Caribbean	Near East	Global and Inter-regional	Total
Direct	Farm	68	32	6	8	5	7	126
	Farm/Institutional	25	16	6	10	10	2	69
	Institutional	49	26	20	22	35	32	184
Indirect	Farm	0	0	0	0	0	0	0
	Farm/Institutional	1	0	1	0	0	2	4
	Institutional	14	6	5	1	3	36	65

Source: The authors on the basis of an analysis of project titles and objectives and in selected cases project documents

Figure 6. Direct type of projects by region and level of intervention



Source: The authors on the basis of an analysis of project titles and objectives and in selected cases project documents

86. Regarding the technical emphasis of work, again it is quite difficult to find clear trends as many projects are multidisciplinary in nature and an in-depth analysis to assign them in percentages to the different areas was not possible. However, a general

analysis of development projects by thematic area and project objectives allow comments that are of interest (Table 4).²²

87. What emerges from the analysis is that the number of interventions with specific crop production objectives is less than a quarter of development projects. Even when the projects on SCPI are added, the proportion rises to only about one third of the total number of projects. In terms of the crops covered, there are only a few projects dealing with the crops of global importance in terms of food security (mainly rice, and some on wheat). This may be in response to the IEE recommendations. There is also some work on cassava, beans, dates, olives, fruits, vegetables and horticultural crops, among others.²³ Organic agriculture, urban and peri-urban agriculture and good agricultural practices are also areas covered, particularly in recent years.

88. The most important interventions are related to plant protection – covering a wide range of pests and diseases with a heavy emphasis on transboundary pests, IPM, pesticide risk reduction and farmer field schools, and the technical approaches to pesticide management and compliance with the international instruments in the field and safe disposal of dangerous or obsolete chemicals. Altogether, non-emergency projects in these fields represent about 30% of the projects under implementation since 2007.

Table 4. Thematic distribution of projects implemented with AGP as Lead Technical Unit (2007-2013)

Technical Area	# of projects	%	Budget (in USD thousands)	%
Crop Production	99	22	153,017	18
Pesticide Management	74	17	128,457	15
Seeds and PGR	91	20	130,958	16
Plant Protection	60	13	30,015	4
Livelihoods, Health and Income	45	10	33,709	4
SCPI	39	9	43,127	5
EU Food Facility for Soaring Food Prices	16	4	190,644	23
Locust Control	14	3	42,409	5
Other	9	2	91,560	11
Grand Total	447	100	843,894	100

Source: FPMIS. Classification by Lead Technical Officer/Unit as given in FPMIS, or by project objectives

89. Many if not most of the larger projects, particularly those from the different trust funds and donors like the EU and others, on closer examination are food security interventions with a crops component, where the focus is more on food and nutrition

²² Emergency projects were left out of this analysis because it is considered that they respond to a different logic and are less driven by the organizational strategy than by the conditions created by the events to which they respond. The “EU Food Facility” projects (visible in the table), categorized as non-emergency in FPMIS (16 projects with a total budget of USD 190.5million) were also left out of this analysis, as they were emergency responses to the food prices crisis.

²³ Given the multidisciplinary nature and the way that titles and objectives are presented is quite difficult to estimate accurate percentages, but in the judgement of the team, the figures presented represent the top of the range of the actual figures.

security than on crop production, and productivity improvement issues appear as quite a low priority within the project strategy. This observation is supported by the team's field observations, in the countries visited.

90. Another area with a strong coverage is that of seeds and plant genetic resources. In this case, there is an important level of work both at the operational level – support to the development of local seed systems and seed legislation – and at the normative level, with a number of products linking up with the organization's emergency work, where seed production and distribution is usually a large and strategic component.

91. In many of these technical areas – pest and disease control, seeds and plant genetic resources and pesticides management, there is the additional issue of FAO work on the international treaties and conventions, which reinforces the work that FAO does in the field, as in many cases, the field projects have a direct or indirect effect on capacity development for compliance. This is clearly the case in the countries visited, where FAO's Technical Cooperation Programme (TCPs) concentrating on the development of norms and standards, training, etc., is the main operational instrument of this work.

92. Other areas that appear in the portfolio are those of biodiversity and ecosystem services, climate change (Climate-Smart Agriculture), and that of biotechnology/biosafety, but with a much smaller number of projects – no more than 10-15 projects that mention these topics throughout the period (2007-2013). The low level of this type of work is somewhat unexpected given the prominence of these areas in recent times. It is all the more surprising given the fact that “ecosystems approaches” was one of the areas that received great emphasis in 2011 in the Medium Term Plan 2010-2013, and together with climate change response is one of the key elements in SO-2 in the Reviewed Strategic Framework. This may be partly due the fact that AGP may not be the Lead Technical Unit in these projects.

93. There is not much either with respect to other aspects at the institutional level, such as research and extension, support to farmer organizations, cooperatives, etc. although all these areas appear as critical in agricultural sector strategies and are also key in the implementation of many of the larger projects which FAO implements in the countries visited by the evaluation (for example in Zimbabwe, El Salvador, Ecuador and Morocco).

4.3 FAO's normative activities

94. FAO's normative role and its operational activities are largely interdependent and mutually reinforcing. Thus, FAO's activities in the field are backed up by FAO's normative resources; and FAO's normative work is constantly reinforced by lessons learned in the field. This combination of normative and operational activities is part of FAO's comparative advantage in what it can deliver to its member countries. FAO's dual role in normative and operational activities are summarised in Table 5 below.

Table 5. FAO'S dual role in normative and operational activities

	NORMATIVE	OPERATIONAL
PURPOSE OF OUTPUTS	<ul style="list-style-type: none"> • For use as scientific or technical guides or references for global/universal applications • For use by FAO, Member Nations and the international community in setting common standards and methods • To provide input for the preparation of normative rules, criteria, approaches and methodologies or similar Regular Programme activities 	<ul style="list-style-type: none"> • To meet specific requirements of an individual country or a group of countries in addressing concrete development needs • To provide the country or countries with technical, managerial and information support through the adapted application of scientific or technical standards and approaches
MAIN TYPES OF OUTPUTS	<ul style="list-style-type: none"> • Scientific or technical standards, methods and approaches as the basis for adapted application at the country level • Policy-oriented norms and standards for international agreements and conventions • Databases and information systems at the global level • Studies, reports and information in preparation of the above products 	<ul style="list-style-type: none"> • Practical guidelines and advice derived from normative standards and approaches • Strengthened institutions and trained human resources • Improved databases and information systems • Analytical studies and proposals for direct application within a given project or programme • Improved systems for development operations

Source: <http://www.fao.org/docrep/w8462e/w8462e07.htm>

4.3.1 International treaties and conventions in the area of food and agriculture

95. FAO is responsible for setting (or facilitating the setting of) international standards in several areas of food and agriculture. The aims of FAO's normative work are: to ensure the safety and quality of food; to facilitate trade; to protect plant (and animal) health; to protect human health and environment; and to conserve natural resources, including the world's agriculturally-related biodiversity.

96. In undertaking this normative work of standard setting, FAO develops, in conjunction with its member governments, codes of conduct, voluntary guidelines, conventions, commissions, and, in some instances, intergovernmental Treaties. FAO provides the technical secretariats to support the implementation of the standards agreed by the various Conventions, Commissions and Treaties that the FAO member governments have established. Those related to crops are aimed at food safety, plant protection, plant genetic resources and the safe use of pesticides; the most important are:

- The International Plant Protection Convention
- The Rotterdam Convention
- The FAO Regional Commissions for controlling Desert Locust Control
- The International Rice Commission
- The Commission on Genetic Resources for Food and Agriculture
- The International Treaty on Plant Genetic Resources for Food and Agriculture
- Codex Alimentarius Commission (CODEX)
- The International Code of Conduct on Pesticide Management
- The Joint Meeting on Pesticide Management
- The Joint Meeting on Pesticide Specifications

97. FAO has played a critical role in the negotiation and the implementation of these various instruments, primarily because of its status as a United Nations – intergovernmental – agency, with a large number of member countries which can meet on equal terms under its auspices. As the custodian of these international instruments, FAO provides a technical secretariat for each one. This secretariat function enables FAO to provide technical back-stopping to countries to enable them to meet their obligations and commitments under the agreements. FAO also mobilises financial and technical support to assist its developing member countries to implement them. The purpose of each of these instruments is summarised in Annex 5.

98. Another advantage of the various international instruments being hosted or supported by FAO is that FAO can facilitate linkages and synergies with other international organizations, where there are common interests; for example at the intersection of food and agriculture with human health and the environment (e.g. WHO, UNEP, and the Convention on Biodiversity). In case of the Rotterdam Convention, the Secretariat is provided jointly by FAO and UNEP on the basis of a Memorandum of Understanding and constitutes an example of excellent cooperation between two UN agencies.

99. Interviewees met during country visits by the evaluation team greatly valued the international instruments and appreciated FAO's role in providing the technical secretariats and in building technical capacities in country to implement the various international instruments. The IPPC, for example, was often cited for its long-standing role in building capacity on various aspect of plant health, including quarantine. The conventions related to genetic resources and to pesticides were also cited frequently.

100. Under the latest guidance²⁴ for FAO's Reviewed Strategic Framework, technical departments retain the responsibilities for managing the secretariats of international treaties and technical committees among their functions.

101. To assist in the assessment of the role and performance of FAO in regards to the international conventions and treaties, the questionnaires to both external stakeholders and FAO staff included questions about the knowledge and use of these instruments (Table 14, Annex 4). Over 50% of external stakeholders stated that they either did not use or lacked knowledge of any of the listed instruments (ten conventions, treaties, or agreements). FAO staff respondents had a somewhat similar level of response. External

²⁴ Guidelines for the implementation of the new Strategic Framework. 06 December 2013. FAO internal working paper

stakeholders also appear to have a low level of engagement with these international instruments, with a high percentage of respondents answering that they never have received FAO support in their participation in or in the use of the listed conventions. The three instruments which had the greatest engagement (over 20% of respondents) are: International Treaty on Plant Genetic Resources for Food and Agriculture; International Plant Protection Convention (IPPC) and Codex Alimentarius.

4.3.2 Other normative activities

102. Observations on normative activities other than the international treaties are based on the evaluation team's assessment of the FAO website, publications and other normative products available; responses to the two questionnaires; and comments received during stakeholder interviews and country visits.

103. FAO's normative products and activities include such products as websites, publications, interactive learning materials, practical guidelines, databases and information systems, analytical studies, training activities, workshops and conferences. They are derived from normative standards and approaches which seek to meet specific requirements of an individual country or a group of countries in addressing concrete development needs and provide the country or countries with technical, managerial and information support through the adapted application of scientific or technical standards and approaches.

104. ***Observations from the questionnaire surveys regarding the use and value of FAO publications and websites.*** The two questionnaires undertaken by this evaluation - FAO staff and external stakeholders - included questions about the use of a set of key FAO crop related publications (14 publications were listed) in their work and, in the case of FAO staff, if such materials had been promoted at country level. Over half of the listed publications had never been used by over 50% of FAO staff and consultants. Likewise - though with two exceptions - most of the publications listed were 'never used' by over 50% of external stakeholder respondents. The exceptions were '*State of the World's Land and Water Resources for Food and Agriculture (2011)*' and '*Save and Grow*'. These two publications together with '*Climate Smart Agriculture - a source book (2013)*' are the three 'used occasionally' and 'most used' publications of external stakeholders. For all products and for both groups of respondents there were low but not insignificant numbers of respondents who did not know of the publications selected, or considered they were not applicable to them (Table 12, Annex 4).

105. FAOSTAT is the most often used of the six FAO websites reviewed by both FAO staff and external stakeholders and is also the most promoted by FAO staff. This reflects interviews carried out in countries visited and with partners, where many of those met were regular users of FAOSTAT. Overall there was a low respondent usage of the other websites, in particular by external stakeholders. Even for FAO staff, a significant number responded that they never use the home page of FAO's Plant Production and Protection Division (AGP) - the lead division working on crops.

106. ***FAOs' capacity to deliver key services in comparison with that of others.*** Both FAO staff and external stakeholders were invited to assess the relative strength of FAO

in comparison with other organizations (e.g. World Bank, bilateral donors, CGIAR, national research systems, NGOs, private sector, etc.) as a provider of a range of services (Table 10, Annex 4). The response from FAO staff (a sort of self-assessment) was broadly similar to that of wider stakeholders – both groups rated FAO ‘better than others’ to a level of over 40% on ‘*Generation and provision of knowledge*’; ‘*Supporting formulation and processes of national policies, laws and regulations*’; ‘*Facilitating policy dialogue at regional and international levels*’; ‘*Enabling and advocating international instruments/conventions*’ and ‘*Generation and provision of crop data and statistics*’ (for the latter over 50%). Still in the key normative area ‘*Generation and provision of knowledge (publications, conferences, tools and guidelines)*’ 47% felt FAO compared with other providers on an equal basis.

107. There were diverging views on ‘*Promoting improved practices and technologies*’ where FAO staff felt FAO was better than others (50%) as compared to the response from external stakeholders at 27%. Although 40% of both groups felt that FAO did better than others on ‘*Enabling and advocating international instruments/conventions*’ still over 10% of both respondent groups were unable to make an assessment. These responses raise questions on FAO’s comparative advantage in normative crop production work in particular in those areas outside of key conventions/agreements for which FAO has a mandated responsibility. Forging new partnerships and alliances will be central if FAO intends to continue to play a central role in the generation and provision of knowledge and facilitating access to and the integration of technologies in policies.

108. In general, there is an almost unanimous support for FAOs work on the generation and provision of crop data and statistics, as noted above for FAOSTAT. This is used by government departments, development partners and NGOs alike on what would appear to be a fairly regular basis. Further FAO is credited with some high quality outputs relating to crops, such as the *State of Food and Agriculture (SOFA)* editions on Biotechnology and on Gender.

109. Drawing on the country visits in particular, the demand for and use of highly specific FAO normative work understandably varied considerably according to the specialist research or technical institutions. For example those working on locusts, IPM, transboundary pest and diseases, or seed and genetic resources acknowledged and valued the normative work in these areas. Specialist ministries and technical departments greatly valued products relative to their area of work. In Morocco for example, the Irrigation Department expressed high appreciation for the *Modelling System for Agricultural Impacts of Climate Change (MOSAICC)*, and for seminal publications on small-scale irrigation and crop yield response to water. However they also stated that more recently, they found FAO had not produced any new publications relevant to their work which they knew of or used.

110. For more broad-based normative work on, for example, SCPI (*Save and Grow*), Climate-Smart Agriculture and Conservation Agriculture, there were more mixed reactions. In some regions, FAO’s *Save and Grow* flagship publication was unknown both in the FAO offices and in the offices of partner institutions. But in other regions, for example the Regional Office for Europe and Central Asia, *Save and Grow* is reported to be well appreciated in the region. It has been widely shared with a call to take it forward to implementation with a practical ‘how-to’ guide. For the Climate-Smart Agriculture toolkit there was a call for sections of the toolkit to be upgraded,

possibly working in partnership with others. As with *Save and Grow*, there was a recognition that while the key ideas were articulated or pilots presented in the text, the issues were complex and support was needed on what to do next. For Conservation Agriculture (CA), despite the large number of FAO products there remain issues, with some stakeholders contesting the approach adopted by FAO. Some partners felt that FAO should work more closely with other centres of excellence to address new thinking regarding this approach and its technical, social and economic underpinnings (see section 4.4.3).

111. Looking into the normative products on crops as a whole, the team's view is that FAO has been prolific in the production of materials, and there is no other institution which generates and houses such a range of crop related products as FAO does. FAO provides a unique service relating to activities within its mandate. This raises a set of issues which could usefully be explored and addressed as the new SOs are taken forward.

112. **Access.** While the FAO master search engine provides a means to search for specific topics, there is limited capacity to link across the crop focused work of the different Departments and Divisions, making it difficult to obtain a comprehensive overview of FAOs work on crops, the core activities, the key current crop issues and key seminal products. Enhancing the ease of access to crop work across the institution and in ways suitable for specific beneficiary groups should be addressed within the future work plans for information dissemination in the crops sector.

113. **Normative products and peer review.** On Plant Genetic Resources, FAO has produced some 30 publications over a 10 year period from key technical handbooks on *Seeds in Emergencies* and on *Biosafety*, to the *Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture* which led to the adoption of the *Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture* within the framework of Commission on Genetic Resources for Food and Agriculture (CGRFA), to country specific assessments of the seed sector systems. As FAO works within the framework of the CGRFA, the means for peer review are in place. In contrast, on Conservation Agriculture (CA) FAO offers over 20 flagship publications and multiple bulletins and leaflets - some are country case study reports, others are literature reviews, as well as policy notes and workshop reports. Unlike some other areas of normative work, a wider international peer network is not in place for CA, raising the question of the peer review processes for normative work which is not set within the framework of wider international structures. This point was also raised in the context of Climate-Smart Agriculture – where the team was told by a key stakeholder that the 2013 tool kit, a key global product, would have benefited from additional contributions from a wider stakeholder group and could have been subjected to independent peer review. For FAO to maintain its unique service relating to normative work within its mandate, maintaining quality through both partnership with others and robust independent peer review is central. While FAO has a formal policy providing that all information products must be subject to external peer review, the application of this policy must be more consistent across technical areas.

114. **Coherence and linkages.** As FAO takes forward its work within the Reviewed Strategic Framework there is opportunity to explore possible anomalies between the different normative products, for example between Conservation Agriculture and its use of agrochemicals and the (possibly conflicting) work of IPM; and between the

normative technical work on crops (AGP and other technical divisions) and FAO's work on 'agricultural and crop policy.' As noted in the section on CA (4.4.3), for CA-type technical solutions to work, the enabling policy environment is critical. But does FAO's policy support match with and support its technical recommendations? Further, there needs to be strong linkages between normative work in different areas, for example between work on plant genetic resources (germplasm and seed banks) and that of seed and seed systems. All aspects of normative crop support work of FAO should be coherent, and, where there are different perspectives, the trade-offs and challenges, these need to be clearly and transparently articulated.

115. ***Develop new and cutting edge products.*** FAO has a key role to play in taking leadership in the development of new and cutting edge normative products in areas within its mandate, where there is need for independence and others have yet to deliver. These range from strategic public goods to cutting edge technologies/products.

116. On global public goods some examples can be highlighted. A number of FAO partners interviewed suggested that FAO should play a more strategic role and be the lead normative agency to ensure good global governance of the agriculture sector. This would build on FAO's current normative work and take it to a higher level, at which the Reviewed Strategic Framework also appears to be aimed.

117. Other areas include plant genetic resources (PGR) and biotechnology. On PGR, given the rapid pace of development in plant genetics, specifically molecular sequencing technology, FAO potentially has a central role to play in enhancing public accessibility through a 'global PGR information system'. On biotechnology, FAO played a central role in the preparation of background documents for the 2010 "Agricultural biotechnologies in developing countries" Conference (ABDC-10) in Guadalajara, Mexico. The conference agreed on key elements necessary to put agricultural biotechnologies at the service of the developing world, including enabling and effective national policies and regulatory frameworks. In taking this agenda forward, REU organized a scientists-farmers-policy-makers workshop on "Guidance to communicate agricultural biotechnology and biosafety" July 2013, and FAO prepared a recent publication: *Biotechnologies at Work for Smallholders: Case Studies from Developing Countries in Crops, Livestock and Fish* (Ruane et al., 2013). Yet considerable scope remains for FAO to continue to take forward appropriate normative work in this area.

118. FAO develops a number of crop related tools, guidelines and training materials, such as AquaCrop, the Global Agro-Ecological Zoning (GAEZ) methodology, the Modelling System for Agricultural Impacts of Climate Change (MOSAICC), AgrometShell (AMS) and the Agriculture Stress Index System (ASIS). A policy tool which is presently in development and valued by the EU is the FAO-EU Measuring Resilience tool. Many of these tools and products are seen to be of high potential value. There remains significant scope with some of them for further development, and for piloting and dissemination.

119. Further normative work is central to the implementation of the Reviewed Strategic Framework, and in particular SO-2, such as the practical means to mainstream policy and practice implied in *Save and Grow* (see also section 3.2.3) and new approaches to integrated landscape and ecosystem management. Such normative work is, in the view of the evaluation team, urgently required. At present FAO has limited

capacity to develop such new products and take them forward. FAO, working closely with others, should ensure that priority normative work in the crops sector (as illustrated in the above) continues to be developed and carried forward.

120. *Linkages between normative work and country development programmes.* The linkage between normative work and country development programmes for crops offers scope for more strategic development. Essentially, this linkage needs to be two-way. As a proxy measure, the satisfaction with the technical support and back-stopping provided by FAO Headquarters and by the Regional/Sub-regional Offices (RO/SRO) provides an indicator of the transfer of normative products to country offices. The evaluation investigated FAO country staff levels of satisfaction with the provision of policy and technical information relating to crops both through the survey (Table 19, Annex 4) and in direct interviews. For most categories of provision, around 40% were “somewhat satisfied”. In general, staff tended to be “very satisfied” with the provision of ‘*information on technical issues in response to their specific requests*’ as compared with any other types of provision, at 39% for HQ provision and 33% for RO/SRO provision. Staff were “least satisfied” with both service providers in the provision of ‘*Regular technical information provided without specific request e.g. updates on international conventions; transboundary pest updates.*’ They were equally dissatisfied with HQ for ‘*Regular policy information provided without specific request e.g. on international issues that may affect your country*’. However a not insignificant number of respondents felt that such provision was ‘not applicable’ – the question which was not asked is why some respondents would feel these services were ‘not applicable’. Interviews in country offices generally confirmed these findings from the survey. What can be deduced from this is that there is ample opportunity – and need – to improve the level and type of normative crop policy and technical support and information shared across the institution.

121. As reported in comments in the survey and supported by the results of the evaluation’s country visits, there is much good work done in the context of “Plant Production and Protection,” including normative work, but what remains is taking this up and ensuring implementation in the field. Governments and donors must be more closely involved to ensure uptake. There is often a view that FAO tends to ‘train people and then leave’, with inadequate (or more often no) follow-up. This raises the question of how FAO’s normative work is mainstreamed and fully embedded in national processes. FAO would benefit from developing some form of benchmarking to monitor the processes from normative product to mainstreaming to impact. The case of the team’s discussion with NEPAD on CAADP is relevant here. As NEPAD reviews its CAADP country guidelines in 2014 a real opportunity exists for FAO to work with NEPAD to ensure that the highly relevant outcomes of FAO’s work with the international treaties and conventions are highlighted for inclusion within future CAADP investment plans. At the time of the meeting, the CAADP office had not even considered this aspect.

122. The IEE highlighted the importance of systematic learning: “Moreover, within FAO there is little systemic learning from technical cooperation. The 2005 independent review of TCP recommended that it be restructured around clear allocation criteria, including country or regional strategies, but this recommendation has only been partially implemented” (IEE Para 141). TCP offers real potential, only partially realised, for piloting and validating (and adapting and learning) FAO’s crop normative work both as a path to mainstreaming at national/regional levels, and also for FAO’s strategic

learning and upgrading of normative products. It would be beneficial to have a coherent plan of action across countries and themes for such systematic learning to be encouraged, funded and monitored.

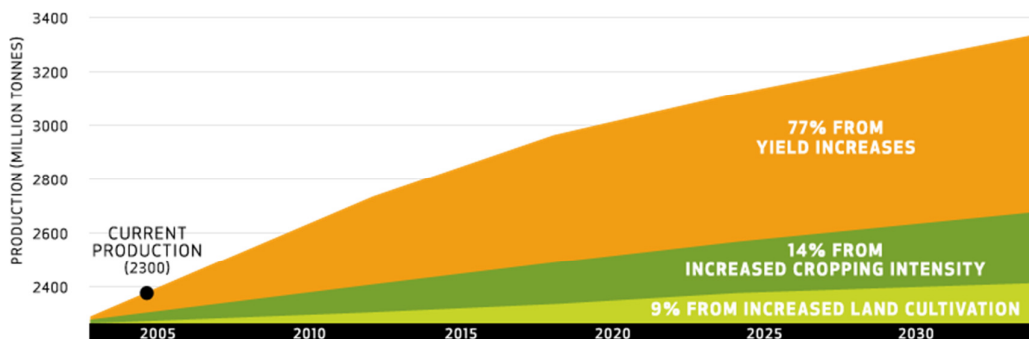
4.4 Flagship programme highlights

123. The evaluation did not go into an exhaustive in-depth analysis of the programme orientations of the activities linked to the support of crop production. However, through the visits to the countries, interviews with staff and different stakeholders, review of documentation and the questionnaires to staff and external stakeholders, it did gather substantive information regarding a number of the fields and activities that make up FAO's programme in support of crop production. The following paragraphs summarize these findings and offer some reflections for their future evolution.

4.4.1 Seeds and plant genetic resources

124. The conservation and sustainable use of plant genetic resources is one of the key factors in the continued increase in crop productivity that is required to expand production enough to support expected food demands over the next decades. In fact FAO's own projections (Figure 7) anticipate that more than 75% of the projected increases will need to come from yield increases, as opposed to land expansion or other means, and genetic improvement will have to account for a significant proportion of that. In addition, a significant proportion of the projected increase from cropping intensity in many cases also comes from improved varieties with shorter growing cycles. Access to and management of plant genetic resources, effective plant breeding capacities together with more customer-focussed design of new crop varieties that reflects market needs, and effective delivery systems capable to reaching all farmers with high quality seeds, are all key factors in achieving increased crop productivity, for both food security and for income generation by smallholder farmers.

Figure 7. Global food demand projections (FAOStat, from 2005)



125. The advent of new genetic technologies, such as genotyping and marker-assisted selection (MAS), accelerates plant breeding, and enables new crop varieties with

desirable traits to be bred more quickly. These developments further increase the importance of effective use of plant genetic resources for achieving sustainable food security. However, these opportunities are not currently exploited to their full potential. In many – if not most – developing countries plant breeding capacities are weak and seed delivery systems are poorly organized or non-existent. It has been calculated that in sub-Saharan Africa, less than 35% of new plant varieties available are actually reaching farmers, but it is not much better in other parts of the world, such as in the smaller countries of South and Central America.

126. FAO has strongly supported national plant breeding programmes through a variety of instruments including technical cooperation at the national, regional and global level. FAO produces a diversity of knowledge resources covering all aspects of plant breeding: implementation of international treaties; intellectual property rights management (an issue of growing importance); new breeding techniques, including both advanced molecular technologies and participatory approaches; case studies; reports of meetings and consultations; etc. FAO activities in Vietnam on participatory plant breeding by farmers trained with the FFS approach is one illustrative example of this work. FAO's work in the area of seeds in Africa has also recently been externally reviewed, with positive results (Lynam et al, 2010).

127. In 2006, FAO facilitated the establishment of the *Global Partnership Initiative for Plant Breeding Capacity Building* (GIPB), a multi-stakeholder platform dedicated to enhancing the capacity of developing countries to improve crops for food security and sustainable development through better plant breeding and seed delivery systems. The GIPB was conceived, in large measure, as a mechanism to assist contracting parties in the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA), especially its Article 6 relating to the sustainable use of PGRFA. The sub-optimal capacity for implementing this provision of the International Treaty remains a valid concern.

128. The GIPB was well received by stakeholders as it implemented valuable need-based activities such as surveying national capacities and needs and putting together training programmes for breeders (e.g. an e-learning course on Pre-breeding for Effective Use of Plant Genetic Resources released in 2012), and several field projects. GIPB operates through support to policy development, education and training in plant breeding and related scientific capacities, facilitating access to technologies, facilitating exchange between public and private breeding programmes, and promoting information sharing. Many partners, especially the CGIAR centres and the Global Crop Diversity Trust, also leveraged the GIPB platform in the implementation of varied activities ranging from pre-breeding through plant breeding to seed delivery mechanisms. However, beyond the initial funding by the Bill and Melinda Gates Foundation through the Global Crop Diversity Trust's Global Project which ended in 2011, this multi-stakeholder platform failed to attract the needed funding for the full deployment of its activities as enunciated in the Business Plan. It has therefore over the last two years relied exclusively on FAO funds for its skeletal activities; this is not sustainable in the long run.

129. In view of the strategic role that plant breeding activities offer for achieving sustainable productivity increase in agriculture, the evaluation team advises that FAO should not abandon its support to GIPB, particularly in its advocacy and capacity building roles. To enhance the utility of the platform, efforts should be invested in

ensuring that GIPB functions effectively as a multi-stakeholder platform. FAO might also leverage the GIPB platform to embark on joint resource mobilization and collaborative activities with the strategic partners. To further enhance its relevance, a reinvigorated GIPB should work to integrate its activities with those of other FAO-supported initiatives with which it shares commonalities in goals, target audience and modes of intervention e.g. the new Tropical Agricultural Platform, TAP (see Section 6.4.1). Aligning GIPB's activities with those of other organizations working in the field, such as the Alliance for the Green Revolution in Africa (AGRA) in sub-Saharan Africa and the Inter-American Institute for Cooperation on Agriculture (IICA) in Latin America, would also be desirable.

130. FAO also has a long-standing engagement in the seed sector, including several current large projects on seed production systems, generally found to be successful. Observations of the team both in the field and in discussions with partners lead to the comment that while support for developing the seed sector is appropriate and positive, FAO must take care that this support is provided in ways that assist the long term development of the seed sector in a country, including enabling the development of local private sector seed enterprises, who are able to provide high quality seed at affordable prices to farmers in the long term. Although there was no lack of sensitivity to this issue in FAO, the team was confronted with cases where interventions ended up having the opposite effect, acting to distort longer-term market sustainability.

131. In some situations, emergency funds are used by FAO to provide seeds to farmers free of charge (e.g., after natural disasters or in post-conflict countries). Providing free seeds to restart crop production in an emergency situation is of course necessary and appropriate. However, this must not be at the cost of harming the growth of the local private seed sector and should be based on proper assessment of actual seed needs by farmers. Strengthening the seed business is a long term sustainable strategy for agricultural growth in a country. FAO should continue to work to promote National Seed Policies that enable private seed sector to develop. FAO has taken leadership in the development of normative products and new models and approaches which seek to guide seed input provision in emergency situations and those where farmers are exposed to major constraints with limited availability, access and utilization of agricultural inputs (see also section 4.5). FAO must continue to explore ways to ensure the transition from emergency seed supply to farmers to helping countries achieve a viable seed sector, driven by local business and not dependent on emergency funds.

4.4.2 Crop protection

132. Diseases, pests and weeds continue to cause substantial crop losses worldwide, both before and after harvest. There are new diseases emerging, such as Ug99 rust in wheat, *Xanthomonas* bacterial blight of banana, *Ensete* and plantain, among many others. There is the threat of pests, diseases and invasive weeds spreading into new areas as a result of climate change. Aflatoxin contamination in food and feed (e.g. maize and groundnuts) is both an acute and chronic human health issue. Locusts continue to be a threat to crops, such as the desert locusts in the Sahel. Fruit flies remain a threat to horticultural crop production and restrict access to export markets. (See examples in Boxes 2 and 3).

133. Crop protection is an area where FAO has made long-standing and valuable contributions, by helping countries respond quickly to new pest outbreaks. FAO's small but focused TCP projects are often used as a means to help countries respond to the immediate pest outbreak while longer term programmes are put in place, in many cases with FAO taking the lead in developing and implementing new approaches to pest and disease control (e.g. IPM; locust control; see Boxes 2 and 3).

134. Field activities are also complemented with normative work to provide technical support to countries to implement intergovernmental agreements, treaties and conventions, such as those related to pesticides (e.g., the Rotterdam and Stockholm Conventions), and the International Plant Protection Convention (IPPC). Work on pesticide regulation is a growing demand throughout the world, as there are increasing concerns with illegal use of toxic pesticides in countries that have weak regulatory regimes. The mission was able to come into direct contact with situations of this sort in cases as diverse as those of El Salvador in Central America and some countries in South East Asia. In all cases FAO is seen as source of trusted technical advice for both technological alternatives and new legislation in this field.

Box 2. FAO and locust control

FAO manages a major programme on locust control, with many projects and millions of dollars spent on the surveillance, prevention and early warning of outbreaks of locusts (for details, see <http://www.fao.org/ag/locusts>). The initial efforts were on the control of desert locusts, especially in the Sahel and North Africa. However, the approaches developed by FAO and its national and international partners, primarily through the Emergency Prevention System (EMPRES), have been extended to the management of red locusts in eastern and southern Africa, and to locust management in Central Asia and Indonesia, among others.

The FAO locust programme is managed by a small team of dedicated locust experts within AGP, complemented by an extensive network of national and international specialists. It is an example of a programme that draws on FAO's strengths as an inter-governmental organization, with in-house technical strengths, able to draw on the best available science worldwide, in a continuous manner, while also supporting its member countries in field programmes, including through emergency programmes.

The FAO Desert Locust Information System (DLIS) and the FAO Regional Commissions for Locust Control are two of the essential components of the locust control programme. FAO's Desert Locust Information System is 98% concentrated on prevention and early warning. The dictum of the locust group is that if the locusts reach crops, locust control has already failed. Following this, DLIS has evolved an impressive, focused system, with data coming in 24/7 from locust services around the world, linked with MODIS satellite data streaming in, interpreted by algorithms from various universities. This information is distilled by FAO/DSIS to issue monthly, weekly, or even down to daily and hourly reports, depending on the specific situation. The great majority of the expertise and intellectual property in this global system is not located at FAO. It is to be found in the expertise of local field scouts, and in decision making by national locust control directors and staff. The role of FAO/DLIS is to access a vast array of information worldwide, to distil the information, and to make it available and accessible to countries.

The Regional Commissions are a major international platform for the exchange of data regarding actual and potential locust upsurges between neighbouring countries. This exchange is facilitated by AGP, specifically through the EMPRES programme on transboundary plant pests and diseases.

There are many examples of the effectiveness of this approach. The response to the 2003-4 outbreak of desert locust in West and North Africa is one to mention. Another example is in South West Asia (India, Pakistan, Afghanistan, Iran), where through a dedicated, so-called Article 14 Treaty, data are regularly exchanged among the four countries on locust locations and movement, even while the member countries have broken diplomatic relations and can be in armed conflict with one another. Based on these and other experiences, FAO has extended the desert locust model (technically and politically) to help in control of other locust species in Central Asia, Timor, southern Africa, Madagascar, Peru and elsewhere.

There are a number of factors contributing to the success of FAO's role in locust control, including: (1) FAO is a global organization for a global problem: FAO's inter-governmental status transcends political boundaries. Since locust outbreaks are often cross-border, individual countries cannot prepare for them for alone; (2) FAO convenes and mobilizes a strong network of international specialists, who can be drawn upon for technical advice and on the ground assistance to individual countries, while also providing scientific continuity and working with the FAO team in learning lessons across individual projects; (3) FAO has the ability to coordinate activities with World Food Programme, WFP, and other relief agencies, in the event of natural disasters; and (4) FAO has in country presence through its country offices and long-term working relationships with governments.

The locust programme may serve as a model for FAO in other areas requiring such combination of mobilizing first-class technical expertise, new scientific knowledge, and continuity over a long period of time (rather than short term, single projects). FAO serves this role on locusts as a "centre of access," relied upon by its Member countries for credible, accurate and timely information; early warning systems; and mobilizing technical and financial resources to prevent pest outbreaks that can cause famine emergencies.

Box 3. FAO and fruit flies

International trade in fresh horticultural produce is restricted by the presence of pest fruit flies in production areas. Post-harvest treatments are available to meet quarantine export standards. As international compliance is governed by standards set under the WTO and FAO, and which are regularly changed, these need to be taught to exporting countries on a regular basis.

Many countries, including developing countries, maintain quarantine surveys to detect introductions of exotic pest species of fruit flies. The recent detection of Oriental Fruit Fly in the Cook Islands and *Bactrocera invadens*, *B. latifrons* and *B. zonata* in Africa are examples. Trapping with male lures and, in future, the new female fruit fly trap, are essential. Also, it is vital to maintain staff experience in identification of pest fruit flies and preparedness in the case of incursion of alien fruit fly species.

In spite of the importance of the issue, FAO's work on fruit flies in recent years has been limited mainly to a few small technical assistance and training projects in various parts of the world. The only recent fruit fly project (within the past 5 years) was based in Mozambique, where FAO and ICIPE have implemented a TCP project on fruit fly control, with ICIPE providing technical expertise on IPM for fruit fly control. There is potential for further developing the cooperation between FAO and ICIPE in regard to fruit fly control in Africa.

On a smaller scale, FAO has funded several training projects in the past decade, to introduce IPM approaches to fruit fly control in the field to crop protection workers e.g. in Eastern and Southern Africa; Vietnam and the South Pacific. There has also been some plant quarantine work on fruit fly detection/prevention through the IPPC, including some surveillance work.

Recent Africa regional fruit fly initiative: In July 2013 in Accra, Ghana, FAO organized a regional "Brainstorming session on strategies for prevention and containing pests and diseases," and held a follow-up meeting at the FAO office in Nairobi in November 2013. At these meetings, there was a consensus on the importance of a regional approach to dealing with the fruit fly menace in Africa and beyond. As a result, ICIPE is working with FAO in the development of a regional strategy for managing fruit flies in Africa, covering components for surveillance, pre-harvest and post-harvest measures, and capacity development, that are relevant for bringing the African fruit fly problem under control. A new initiative has also been developed through the FAO Regional office in Accra with the SADC regional fruit fly programme.

There is an on-going FAO-AIT regional project on Area-Wide Integrated Pest Management of Fruit Flies in South and Southeast Asia, under which support is provided to Cambodia, Laos, Myanmar and Vietnam.

These efforts should be complemented with in-country training of crop protection workers, and not only in Africa. This is an area where FAO support would continue to be useful, providing in-country training in IPM management of fruit flies; trade related issues; and quarantine surveillance. For example, in South and South East Asia and the South Pacific, fruit flies are a major problem in terms of restricting access to export markets to Japan, Australia and New Zealand. Similarly, fruit flies are a quarantine issue in southern Africa.

4.4.2.1 Integrated Pest Management (IPM)

135. Integrated Pest Management (IPM) has been one of FAO's strongest field programmes and FAO has been instrumental in the development, advancement and promotion of this concept.²⁵ A clear indicator of the importance that FAO has attributed to IPM is the fact that the panel of experts on Integrated Pest Control (IPC) which FAO

²⁵ FAO's definition of IPM is widely recognized in the crop protection profession: "IPM means the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms."

established as a statutory advisory panel in 1966 still continues until today, nearly 50 years later.²⁶

136. In 1995 FAO launched the Global IPM Facility with the aim to assist interested governments and NGOs in initiating, developing, and expanding Integrated Pest Management (IPM) programmes. The overall goal of the Global IPM Facility was to achieve “sustainable, cost effective and environmentally sound crop production for food security through improved IPM.” This goal was to be achieved through three main activities: technical cooperation among developing and emerging countries (human resource development); better deployment of information and development of standard documentation for good IPM practices; and effective mobilization of funds for IPM projects and IPM components in agricultural development projects.

137. It was envisioned that the Global IPM Facility would act as a vehicle to catalyse and facilitate collaboration among national policy makers, development agencies (including the World Bank), and NGOs in the planning and implementation of IPM activities. It would advise and assist national programmes in the design, implementation, and evaluation of IPM field initiatives; identify and assemble projects for support by national, bilateral, and multilateral sources; promote the implementation of a small set of pilot projects designed to lead to larger national programmes; and document, analyze and evaluate IPM pilot projects to provide standard documentation. These activities would be geared toward stimulating the development of improved IPM concepts through scientific research (not included in the programme, but rather through the CGIAR system and other research organisations), to improve the participation of farmers (including women), extension workers, and researchers.

138. Upon conducting an external review in 2005, the World Bank discontinued its financial support to the Global IPM Facility. Major reasons for this decision were that the World Bank saw deficits in the IPM Facility’s operating procedures, lack of transparency in decision-making and the exclusion of the private sector from the governance structure. Although not clearly stated the latter issue was perhaps the most important reason for the World Bank to withdraw, because of the value it attributed at the time to such public-private partnerships. The withdrawal of the World Bank led to a gradual decline of the IPM Facility until it was finally operationally closed in 2012.

139. Unfortunately there has been no definitive lessons-learned type of analysis on the Facility’s experience, neither from technical-operational point of view, nor from the political perspective. The debate over the socially optimal use of chemical pesticides (in a sense, similar to the discussions on GMO use) has not always been carried out on multidisciplinary scientific grounds and sometimes was used as a vehicle of controversy among different stakeholders for their different views on development, at the possible expense of farmers and consumers in developing countries and the environment at large. These are long overdue discussions that FAO should assume leadership in bringing to the table.

²⁶ The original IPM Panel of experts was later replaced by a panel of experts on Pesticide Management, now acting as the FAO/WHO Panel of Experts on Pesticide Management. The new panel is a combination the FAO Panel of Experts on Pesticide Management and the WHO Panel of Experts on Vector Biology and Control. Both are statutory bodies of their respective Organizations.

140. The experience of FAO in IPM has laid the foundation for FAO's current emphasis on SCPI and is one of the main pillars of pesticide risk reduction. Currently FAO has three regional IPM programmes (Asia, Near East and West Africa) and several stand-alone national projects. Under these programmes and projects, FAO provides assistance in capacity building and policy reform, and facilitates collaboration among ongoing national IPM programmes. However, today FAO's IPM programmes are much less prominent than in the past.

141. FAO needs to reinvigorate its role on crop protection worldwide. Not only as this is an area that many associate with FAO leadership, but also because IPM, by being a more sustainable approach to crop production, less dependent on external inputs, clearly fits within the new FAO strategy, FAO needs to maintain an evolving and substantial presence in crop protection, not a 'stop-start' approach depending on available project funds. This will require additional staff resources to strengthen the currently depleted technical areas within FAO.

142. In the context of the challenges that it has assumed in the delineation of its new strategic objectives, FAO should conduct a review of the evolution of IPM within the organization as a basis for a re-definition of IPM within its sustainable intensification framework, and a renewed global initiative on IPM. In doing so, it should use an IPM concept that takes into account human health (e.g. toxicology, epidemiology), environmental impact in the field (e.g., ecotoxicology,), economics (including environmental and ecological economics), new pest control technologies (e.g., wider applications of biotechnology), information technologies and policy research. To achieve the potential of IPM within the SCPI framework, it will be necessary for FAO to allocate sufficient resources (i.e., sufficient priority) for appropriately specialized staff, and put in place an appropriate incentive system so that FAO specialists can play the role of highly respected knowledge brokers able to meet the needs of their member countries (see section 5.1 on staffing).

4.4.3 Conservation Agriculture

143. Conservation Agriculture is another one of FAO's flagship areas. The concept is well in line with the SCPI framework that FAO has been promoting and will promote even more under SO-2. Conservation Agriculture (CA) can be understood as a way of managing farming systems to achieve improved sustained productivity, while at the same time preserving and enhancing the environment and the natural resource base. CA has developed as a response to the use of unsustainable cultivation practices with inappropriate land and input use, stimulated by sometimes misguided policy incentives (e.g. fertilizer subsidies, under-pricing of water) that have led to a degradation of soil and water resources. CA is based on three key crop management principles: minimal soil disturbance, permanent soil cover, and crop rotation.

144. On its website FAO holds a rather optimistic view on the potential of CA:

“CA holds tremendous potential for all sizes of farms and agro-ecological systems, but its adoption is perhaps most urgently required by smallholder farmers, especially those facing acute labour shortages. It is a way to combine profitable agricultural production

with environmental concerns and sustainability and it has been proven to work in a variety of agro ecological zones and farming systems. It is been perceived by practitioners as a valid tool for Sustainable Land Management (SLM). It is because of this promise that FAO is actively involved in promoting CA, especially in developing and emerging economies. [...] It is understood that the multidisciplinary nature of CA will always require the rich mix of expertise available to FAO as it works to promote the CA concept worldwide.” (see <http://www.fao.org/ag/ca/>)

145. Officially, the proponents of CA at FAO have also recognized the importance of economics in CA (see <http://www.fao.org/ag/ca/5.html>). But they also submit that

“CA requires a new way of thinking from all concerned. Along with this ‘new way of thinking agriculture,’ there is already enough technical and agronomic evidence that could positively influence farmers contemplating the adoption of CA principles. It is, however, important to demonstrate to farmers that the technical and agronomic aspects are directly related to the management and economic ones and, therefore, any technical and agronomic improvements obtained by applying CA principles need to be quantified in monetary and economic terms.”

146. However the CA group at FAO seems to have little doubt about the long term benefits of the technology:

“In fact, if the two systems (conventional and conservation agriculture) are applied in two plots with the same agro-ecological and fertility conditions, no great differences in productivity during the first years are to be expected. However, after cultivating the same crops in the same areas for several years, the differences between the two systems become more evident”.

147. The positive view about CA portrayed is not shared by all agricultural experts and the development organizations that are influential in agriculture. Taking a glance at the scientific literature shows that there has not been generalized agreement about the unconditional advantages of CA and indeed demonstrates that in most cases it is not the full package that is adopted. For example a study on Zero Tillage (ZT) in rice-wheat systems in India concluded that while ZT offers high potential economic, environmental and social gains, “nonetheless significant challenges remain, i.e. moving beyond mere production cost savings to natural resource savings and using ZT as stepping stone to conservation agriculture. ZT is also no panacea – and complementary resource-conserving technologies that are privately and socially attractive are needed” (Laxmi et al., 2007). Furthermore their paper also demonstrated that CA, as is often the case with technologies whose benefits materialize on the longer term, needs to be complemented with policy reform in order to create an enabling environment for sustainable agriculture.

148. FAO’s Agricultural Development Economics Division (ESA) has carried out a study on CA in Zambia using a rich panel data set of survey data from 2004 to 2008 combined with historical rainfall data (Arslan et al., 2013). The paper focused on only some CA practices, namely (i) minimum soil disturbance and (ii) crop rotations. The paper found that extension services and rainfall variability are the strongest determinants of adoption, suggesting that farmers use these practices as an adaptation strategy to mitigate the negative effects of delayed rainfall. However the paper also identified constraints that could cause *dis-adoption* to take place.

149. More recently the Independent Science and Partnership Council (ISPC) of the CGIAR commissioned a series of review studies on the impact of CA on a global scale.²⁷ The results were presented at a Conference organized by the University of Nebraska. Overall these studies were less positive on the prospects of CA, emphasizing that “*there is no fixed recipe for how these practices should be optimally combined for a given agricultural system...*”²⁸

150. In some ways the story of CA within FAO is similar to the case of IPM. A group of enthusiastic people who took the principle of sustainable agriculture very seriously and who wanted to do something that was more bottom-up and more farmer-oriented and who wanted to promote a technology that was more than technologies that are simply embodied in external inputs and that just required farmers to follow expert recommendations and recipes. However, as is the case with all technologies whose benefits take time to materialize, their rates of adoption depend heavily on the right policy incentives being in place. Most often this is not the case because the arguments of food security through rapid increases in productivity, national self-sufficiency in major food staples and the never-ending belief in turn-key technologies and “silver bullets” (often provided and disseminated by powerful research and development conglomerates) are stronger than a knowledge-intensive, location-specific and highly adaptive crop management concept pushed by a comparatively small, less powerful group of development workers and NGOs. While this metaphor may be somewhat exaggerated it can perhaps explain some of the observable resistance of the CA group within FAO to allow what is in their eyes a watering down of the CA concept if it is opened up to a broader notion of ‘conservation’ (as it appears in the conclusions of the Nebraska meeting) which could make CA hardly distinguishable from any existing conventional agricultural system.

151. The evaluation is of the view that FAO should not be criticized for taking sides and even becoming “militant” about certain controversial technical issues, such as maybe the cases of IPM and CA. As said above many of these technological approaches are complex and offer different results depending on the local conditions where they are implemented, so controversy is almost inevitable. FAO should, however, come well prepared into these processes. That is willing to invest long term and evolve with the issues, making sure that experiences are permanently fed back into the assessment and continued development of the approaches. Considering this and the clear link existing between the CA principles and those of its new vision, FAO should take the results of CA and conduct its own in-depth internally commissioned external review of Conservation Agriculture as a component of its sustainable development paradigm under SO-2. The purpose of this review should not primarily be to prove or disprove adoption and impact of a rather restrictive and narrow CA concept. The purpose should rather be to refine the CA concept and build in the lessons learned from at least two decades of CA experience as a basis to develop a minimum set of standards for an up-

²⁷ The papers are being published as a special volume of *Agriculture, Ecosystems and Environment* in September 2013.

²⁸ Independent Science and Partnership Council (2012) *Conservation agriculture: What role in meeting CGIAR system-level outcomes?* Scientific workshop at University of Nebraska, Lincoln, USA. October 15-18, 2012 held under the auspices of the CGIAR ISPC. Workshop declaration:

<http://conservationagricultureworkshop.org/2012/11/15/the-nebraska-declaration-version-1/>

to-date conservation agriculture concept, which then can be promoted through FAO's programmes and projects.

4.4.4 Farmer Field Schools

152. The Farmer Field School (FFS) is a participatory, learner-centred extension methodology, characterized by heavy reliance on learning-by-doing. Farmer Field Schools use intensive 'discovery learning' techniques to provide farmers with the skills, the scientific method and the confidence to identify and adopt different growing techniques and change the mix of inputs and technologies used on their farms. Objectives of the FFS include increasing farm productivity, reducing negative environmental impacts and promoting farmer empowerment (Pontius et al., 2002).

153. The development of the FFS approach is widely recognized as one of FAO's most important achievements in the field of extension, and is closely associated to dissemination of IPM, although now it has been adapted to many other areas and problems. Soon after starting to work on IPM it was realized that this type of approach was knowledge-intensive but fundamentally different from other technologies, for example the introduction of the new crop varieties. The success of IPM was found to be highly dependent on farmer knowledge and demanded farmers to acquire an in-depth understanding of the agro-ecosystem. Learning IPM practices was soon recognized as an education process capacitating farmers to make informed decisions not just based on classroom type of teaching but based on experiential learning in actual field situations. Therefore, the classic approach to extension with the Training and Visit system (T&V, widely promoted by the World Bank at the time) was inadequate for promoting IPM (Pontius et al., 2002).

154. The FFS concept was developed against this background and was first implemented on a larger scale in Indonesia during the mid-eighties. The Indonesian experience was followed by expansion and innovations in Vietnam, the Philippines, Thailand, Bangladesh, India and China. Coverage of these national programmes, in terms of proportion of total farmer households directly involved in the FFS, was estimated to range from 1-5%. Driven by donor demand the FFS evolved towards "community IPM" to address wider livelihood issues and farmers' fora and community associations for focusing on social capital development and dealing with environmental, health and local policy issues related to pesticides and IPM (Braun and Duveskog, 2008).

155. In quantitative terms it has been reported that by 2008 FFSs had been implemented in 87 countries worldwide and produced 10-20 million field school graduates (Braun and Duveskog, 2008). While all FFSs should be based on the same process, the approach can be adapted to suit particular needs, crops or contexts. Thus, as FFSs have been promoted around the world, the IPM curriculum has been modified depending on the context, and applied to other food staples, vegetables and cotton, as well as problems and technologies other than IPM. In fact, over time it has come to be recognized by some as an extension methodology in itself.

156. In Africa, FFS was mostly implemented in the context of Integrated Production and Pest Management (IPPM), which reflects a more 'holistic' approach to improving

production, in which pests and pesticide use are not necessarily the main production problems. A prominent case was the application of FFS in cassava production which began in Africa in the late 1990s as a response to new strains of the viruses causing cassava mosaic virus disease, and cassava brown streak disease. Field schools were effectively linked up with programmes distributing disease-tolerant cassava varieties.²⁹ FFS concepts were implemented across a number of sub-Saharan African countries – including Angola, the Democratic Republic of the Congo, Kenya, Sierra Leone and Uganda. Other applications of FFS include integrated disease management (IDM), integrated crop management (ICM), integrated plant nutrient management (IPNM), and integrated water and soil management (IWSM). In addition, the farmer field school curriculum has also been broadened to tackle populations and problems in particular contexts, such as Junior Farmer Field and Life Schools (JFFLS) which have been implemented among youth across Africa and include HIV-risk reduction in addition to agriculture components. Drawing on the lessons of IPM, FFS was also used for integrated vector management (IVM) in the health sector to combat malaria and other vector-borne diseases.

157. Undoubtedly FFS has become a flagship concept and perhaps has been FAO's most widely used "product." An ordinary internet search with just "Farmer Field Schools" as key word easily yields some 1.6 million hits including an entry in WIKIPEDIA and references existing even to development economics conferences for example (Pemsl et al., 2006).

158. Regarding impact in terms of economic and environmental effects FAO has been instrumental in reviewing its success in implementing FFS. However, a collection of some 25 case studies of impact assessment of FFS did not provide a clear message on FFS impact. While the report confirmed that the benefits of the FFS approach was recognized by a broad range of stakeholders, including farming communities, local and national governments, NGOs and donors, impact evaluation of the FFS has proven to be complex because of methodological obstacles, because of the range of immediate and developmental impacts, and because of different perspectives of stakeholders (van den Berg, 2004).

159. Perhaps not surprisingly the FFS concept has received some critique mainly pertaining to its lack of efficiency, problems of maintaining quality standards of the schools, lack of fiscal sustainability, and even political issues (Feder et al., 2004). These issues are of growing importance given the increasing centrality of the discussion about rebuilding national extension system in recent times, and the consequent need to have effective methodological and organizational options. Further, many FAO and non-FAO development programmes have adopted FFS, including emergency programmes, and the practice is felt by some to have become diluted. This has raised the question of how and indeed whether the means to maintain and support good FFS practice can be put in place and be promoted.

160. FAO promoted a global review of FFS including an 'e-discussion' in 2012. The 'network' created through the e-discussion and a planned FAO working meeting in

²⁹ FAO (2013) Farmer Field Schools. Resource material for facilitators in sub-Saharan Africa. Plant Production and Protection Paper 218.

2014, possibly followed by regional meetings, provides an opportunity to explore ‘good’ FFS practice. The network should explore where and how FFS extension should be supported in different contexts, and address the sustainability and institutionalization of the approach. This effort, however, appears to be more an informal initiative of an internal “community of practice” than an institutionally supported set of activities.

161. The evaluation’s view is that this process should become a full-fledged effort to consolidate FAO’s vast and worldwide experience with FFS. It should lead to development of packages of FFS products for different types of technical cooperation projects financed by different donors, including regional development banks and the World Bank. In doing such an exercise, particular emphasis should be given to (i) a full and objective analysis of the success as well as “failure” stories in order to generate important lessons learned, and (ii) evolving the concept in the context of new communications technologies. The team considers that to be able to do this well, FAO will need to conduct a comprehensive independent external review by senior agricultural development specialists.

162. Also, and as a concrete step towards implementing its sustainable intensification strategy under SO-2, subject to the proposed lessons learned exercise (see para 160), FAO should consider the re-establishment/revival of the Global IPM Facility, or a similar mechanism to support dissemination of IPM, where FFS is a major component. This could help ensure that FAO stays on top of development issues in the crops area with positive spill-over effects to other fields.

163. In conclusion, the Indonesia FFS-IPM project brought up many issues that could not be foreseen at the time of its inception and that were far beyond the technical issues of pest control. The project was nevertheless a great learning experience with far reaching implications of which FAO (and the crops people within FAO) can take pride in having been the main initiator. Unfortunately, as evidenced during the team’s visit in Indonesia in September 2013, FAO has now become almost invisible in this field in Indonesia.

4.5 Crops in the emergency-to-development continuum

164. There is emerging international consensus on the need to deepen emergency response instruments (where possible) to build resilience and to strengthen the linkage between short term emergency interventions and those for development (food and nutrition security, poverty reduction, etc.). Emergency response may be offered as a response to natural disasters and weather-related hazards (sudden onset, like earthquakes, or slower, like drought); to food chain emergencies or transboundary threats (e.g., transboundary pests and diseases, food safety events, industrial pollution); economic crises (e.g., volatility in agricultural commodity markets); social and political instabilities, and civil strife. They may be short term or protracted in duration.

165. The multiple threats to food security and the link between shocks and hunger expose the fragility of the current food production systems. In order to break this cycle, as a critical first stage towards sustainable development, it is necessary to protect households and communities and indeed nation-states from shocks, and to make food production systems more resilient and capable of absorbing the impact of disruptive

events and recovering from them. Further, given the uncertainties in the way climate change will directly and indirectly impact on agricultural and food systems and related vulnerabilities, building resilience is central to being prepared for future change (see also section 6.2).

166. The EU Resilience Policy (October 2012) and Action Plan (June 2013) reflect the new strategic thinking within the EU. This includes strengthening the linkage between emergency (short term) and development (food and nutrition security). This approach is in line with WFP thinking on 'Asset creation' and FAO's own strategic thinking on 'Resilience' (SO-5) and bringing integration across the SOs within the Reviewed Strategic Framework.

167. As a first stage towards disaster risk reduction for food and nutrition security, FAO has developed in 2013 a *Resilient Livelihoods – Disaster Risk Reduction for Food and Nutrition Security* framework with the following four pillars: (1) institutional strengthening and good governance for disaster risk reduction in agricultural sectors; (2) information and early warning systems on food and nutrition security and transboundary issues; (3) promotion and diversification of livelihoods with risk reducing technologies, approaches and practices across all agricultural sectors; and (4) preparedness for effective response and recovery across all agricultural sectors. In relation specifically to crops, FAO promotes early warning monitoring systems including the Global Information and Early Warning System on Food and Agriculture (GIEWS), and the Emergency Prevention System (EMPRES) for Transboundary Pests and Diseases.

168. As can be seen in section 4.2, a significant proportion of FAO's work on crops is financed by emergency fund allocations. Examples of the types of emergency and resilience crop interventions include:

- support to increasing productivity and input provision (in partnership with the WFP in Uganda and Rwanda, where FAO supports input provision for maize and beans);
- Farmer Field Schools (FFS), engaging women, building farmer organizations advocacy and capacity building (WFP Purchase for Progress (P4P) Uganda, South Africa);
- WFP/Government of Brazil Purchase from Africans for Africa (PAA) programme where FAO organizes the production for school feeding in Senegal, Niger, Ethiopia, Malawi and Mozambique;
- joint programmes funded by the EU including Sierra Leone work on rice and pigeon peas and Liberia on rice;
- DRC increasing maize production (funded by Government of Belgium);
- Guatemala, Nicaragua and Honduras – boosting production at farmer level; and
- DFID and EU supported work on conservation agriculture (CA) in Zimbabwe.

4.5.1 The challenges

169. Securing the production of crops is often critical in early stage emergency response, in the building of household and community resilience and in the step between emergency and broad-based development. A key challenge is how to

operationalise interventions in support of crop production which can be sequenced effectively to secure a smooth transition between ‘Resilience’ (emergency intervention) and ‘Development’ (equitable development intervention for poverty reduction, growth, and food and nutrition security).

170. Most of the crop related technologies, practices and approaches necessary for building resilient livelihoods (Box 4) are central to good development practice. Opportunities exist to develop a framework to facilitate this transition and to mitigate against risks associated with it. FAO has a clear role to play in taking forward such an agenda. Specific issues relating to crops in the emergency-to-development continuum are discussed in the following sub-sections.

Box 4. Examples of crop related technologies, practices and approaches for building resilient livelihoods

- Appropriate crop and varietal selection (e.g. drought/saline/flood tolerant, etc.)
- Crop breeding
- Seed production and distribution systems
- Intercropping and crop diversification
- Adjustment of cropping calendars
- Agricultural practices e.g. conservation agriculture
- Water, soil and land management including area management e.g. terracing, watershed, hillside
- Integrated pest management
- Management of transboundary plant pests and diseases such as locusts, armyworms and wheat rust
- Household, school and urban gardening
- Crop insurance

Source: Adapted from FAO (2013) Resilient Livelihoods – Disaster Risk Reduction for Food and Nutrition Security Framework Programme.

4.5.2 The nature and technical quality of the emergency intervention

171. Frequently emergency interventions are short in duration (i.e. 6-12 months) and this impacts on the selection of the items to be delivered, often (a limited selection of) seeds, fertilizer, pesticides, agricultural equipment, etc. By their nature such interventions offer limited time for detailed assessment of the farming system including crop or varietal type preference and an understanding of the input and output market structures which may have been in place prior to the emergency.

172. In feedback from FAO partners, a number felt that FAO needs to look beyond providing seeds for emergency interventions to ‘providing the right seeds for a given environment’ and to support crop production within ‘an integrated system including risk and land management.’ FAO has made significant progress in the development of good practice, for example in seed delivery systems in emergency contexts (Box 5) to minimize the potential negative effects created by the emergency delivery itself on rural economic institutions. However, there remains considerable scope to address the technical interventions applied and their short and longer term potential consequences, as well as societal implications, as in the case of the impact of household targeting. FAO is sometimes seen as being too normative or too ‘project-focused’ and not always

aware of, up-to-date on and applying innovations at the time of humanitarian assistance in the field.

173. There is space therefore for FAO to develop a toolkit – a road map – of alternative scenarios of the anticipated development landscape to accompany emergency interventions; in particular this is applicable during longer term emergency and resilience work. This would help minimize the risks that emergency interventions may pose into the longer term – environmental, social, economic and institutional. It would also help to identify accompanying processes which could be put in place concurrently with emergency activities, or be ready for early action when development interventions begin.

Box 5. Innovation in seed security in emergency and development situations

One of the main causes of food insecurity for farmers in rural areas is limited availability, access and utilization of agricultural inputs (e.g. seeds, fertilizers and hand tools). FAO in partnership with others has taken leadership in developing new models to address the vulnerability of food-insecure farmers through improving access to inputs in response to an **emergency situation** to address lack of agricultural inputs after a disaster (e.g. drought, flood, earthquake, civil strife) where farmers' ability to purchase agricultural inputs can be so diminished that they cannot restart agricultural production; and as a **social protection mechanism** where farmers in particular those in rain-fed areas are vulnerable to extreme natural hazards and the impact of a production cycle which challenges seasonal cash-flow.

FAO (2010) Seeds in Emergencies: A technical handbook. FAO Plant Production and Protection Paper 202

This handbook provides field staff involved in emergency operations with the basic technical knowledge in identifying seed quality problems that can occur during seed relief activities and in taking appropriate action to maintain seed quality standards. Such practical information can increase the speed and effectiveness of seed relief operations.

FAO (2013) Guidelines for input trade fairs and voucher schemes

FAO has, working with others, set up input trade fairs and voucher schemes to provide poor, vulnerable and food insecure farmers with access to the inputs (e.g. seeds, fertilizers and hand tools) they need to sustain their agricultural livelihoods. This publication which builds on practical experiences provides a set of guidelines for the operation of inputs trade fairs and voucher systems including model contacts for participating inputs suppliers etc.

FAO (2012) E-vouchers in Zimbabwe. Guidelines for agricultural inputs distribution

FAO working with the Government of Zimbabwe and other development partners sought to minimize direct input distribution and eliminate the provision of free inputs to farmers. Guidelines developed for the 2010/2011 season and carried forward to subsequent seasons proposed that inputs are provided using rural input/output markets and that the farmers' contribute a percentage to the cost of the inputs they receive. An electronic vouchers system was developed whereby vouchers are redeemable at competing rural agro-dealer outlets identified to participate in the programme. This empowers farmers to choose the agricultural inputs they need for the cropping season from a selection offered. This paper provides the guidelines for the implementation of this electronic voucher programme in Zimbabwe.

174. As an example, the current FAO emergency support to Zimbabwe places a strong and relatively uncritical focus on Conservation Agriculture (CA). However, CA uptake has been inconsistent and questions have been raised about FAO's approach. As the country moves into development mode after a long period of emergency assistance, FAO should be looking at new thinking on technical and socio-economic aspects of CA (see also section 4.4.3). A focused effort to understand the underlying technical, social, economic and institutional factors limiting uptake of CA is required. This should be accompanied by deeper lesson learning and linkages with ongoing research such as that

of the CGIAR, CIRAD and national universities. Outputs from such work would be potentially invaluable to, for example, a future Zimbabwe development programme.

4.5.3 Partners and local institutional structures in emergency projects

175. Short duration emergency work is often delivered through non-government partnerships such as NGOs, or through local government. The duration is one factor impacting on the nature of the partnership, where the delivery is often contractual (6-12 months) with limited opportunity for shared learning. This limits the possibility of building on in-depth knowledge of local conditions held by the national partners in the regions where the projects operate (as seen in the case of FAO's NGO partners in El Salvador and Zimbabwe). Partner skills may not be always be adequately drawn upon.

176. The rapid mobilization of new farmer groups as a vehicle for receipt of the interventions, for example the P4P project in Uganda and South Africa, or for Farmer Field School training, affords limited time for associated institution building and human capacity development. This runs the risk of weak future sustainability or, worse, of damaging the pace of evolution of self-determined organizational structures. Again, it would be warranted to provide accompanying tools for risk assessment, to inform and prepare for the transition from emergency to development.

4.5.4 FAO decentralisation and emergency crops support: knowledge exchange between headquarters and the field

177. While the Emergency Operations and Rehabilitation Division (TCE) in Rome largely leads on emergency and resilience programmes, with technical input for crops support from AGP, much of FAO's operational work in emergencies is now planned and implemented at the level of the regional, sub-regional and country offices. This is the case for example with support to WFP (including FAO's support to the WFP's Purchase for Progress Programme – P4P), and to EU-ECHO, the EU's humanitarian coordination office.

178. The linkages between FAO HQ and decentralised offices are generally strong in some crop technical areas in emergency work, such as seeds, due to FAO's due diligence measures, and the management of transboundary plant pests and diseases due to the nature of support required including the regional dimension, as in the case of locust control. It appeared to be less so with regard to Conservation Agriculture, FFS, IPM and technical aspects of soil and water management. In these cases, guidelines and normative work developed through FAO HQ may not be applied fully at the country level in emergency and post-emergency situations, and the learning and feedback loop from DOs to HQ may not function well. One example quoted to the evaluation team was the preparation by FAO of Guidelines on 'Cash and Vouchers'³⁰ which, however,

³⁰ FAO (2013) *Guidelines for public works programmes. Cash-, voucher- and food-for-work programmes*. Version 1. Emergency and Rehabilitation Division, FAO, Rome

were not being taken up by DOs in their submissions to the EU, while other partners were taking up the approach and exploiting this.

179. Where there are success stories, in countries with successful collaboration between FAO and other partners in emergency programmes, it was noted repeatedly to the evaluation team that interpersonal relations between representatives and field staff is key. The team was told in some cases that FAO had trouble delivering on time in emergency work, though this seemed to depend very much on the mind-set and experience of the FAO country office, and the presence or lack of an emergency coordinator. For example, emergency work in Colombia and Burkina Faso works well because of an effective Emergency Coordinator, whereas El Salvador was reported to have problems because the FAO office had no emergency coordination experience. FAO's operational capacity in the field is limited, especially staff resources. The transition from emergency to development was reported to work less well where led by emergency coordinators, e.g. Mozambique and Burkina Faso, implying that the necessary support to FAO country offices is not in place. When there is a stronger non-emergency presence in the office, the transition is smoother.

4.5.5 Shared learning in emergency work

180. The emerging consensus on viewing the 'resilience' framework as a bridge between emergency and development offers key opportunities for shared learning both within FAO and between agencies, including for quality assurance on crop development approaches, such as seed systems, FFS and CA. Specifically within the 11th European Development Fund (EDF) programming cycle (2014-2020), ECHO (directorate for humanitarian assistance) and DEVCO (directorate for development) will link their programming for the first time. Such an approach is coherent with FAO's Reviewed Strategic Framework and provides strategic (and funding) opportunities to further enhance FAO's role in linking emergency and resilience with development, e.g., the crops work across SO-2 and SO-5.

181. There remain many gaps and opportunities for expanded collaboration on crops between the EU and the Rome-based agencies (IFAD, WFP and FAO) at all levels of intervention in support of crop production – technical, institutional and enabling environment, including South-South learning.

182. Progress is beginning to be made within FAO implemented programmes. However, given the extent of the emergency and resilience interventions, a more comprehensive approach is required, implying a deeper understanding of the 'emergency-resilience-development' continuum and addressing technical, socio-economic and institutional aspects as well as the sequencing of interventions. The ongoing OED evaluation of FAO Work in Post-Crisis Transition should contribute to this understanding.

4.6 Gender in crops work

183. The IEE in 2007 found that although gender related issues were emphasized by the Governing Bodies, they were much less evident in country-level feedback and were not mentioned at all in many of the IEE country visits. Consequently and reflecting their importance for the achievement of the organization's higher level goals, it recommended that gender should be included in the new strategic framework for the organization, rather than been treated separately as in part of a special plan of action, as it was until that moment.³¹

184. Specifically the IEE recommended that the new corporate wide strategic framework should “integrate the Gender and Development Plan of Action as an integral (not separate) plan” (IEE, Recommendation 3.19); it also proposed “gender mainstreaming and women’s empowerment” as one of the possible areas to receive high priority for resource allocation in the new planning and programming process.

185. Reflecting this, the 2010-2019 Strategic Framework, identified the “continuing gender and social inequalities in access to productive resources and services, particularly by women, young and indigenous people in rural areas, intensifying their vulnerability to food insecurity and poverty” among the main trends, risks and opportunities setting the context for FAO actions, and gender was included explicitly as Strategic Objective K: “Gender equity in access to resources, goods, services and decision-making in the rural areas.” SO-K was designed to address the critical gaps in embracing more gender and socially inclusive policies, capacities, institutions and programmes for agriculture and rural development. SO-K was also to help mainstream this approach across all of FAO’s Strategic Objectives. SO-A, the main “house” for crops in that strategic framework, did not however mention gender issues at all; the subsequent 2011 review of the MTP 2010-2013 did not change this.

186. The new strategic thinking process initiated in 2012 has raised the profile of gender issues significantly by making gender (along with governance) a cross-cutting issue for all five of the new SOs. However, the gender dimension hardly appears explicitly in the design of SO-2. In spite of the many FAO (and other) documents highlighting issues such as the “graying” and “womanization” of agriculture as some of the critical aspects to face in the future, gender only appears identified as one of the determining factors that may affect whether technologies – “which have an essential role to play in providing more sustainable practices for agricultural sector production systems...” – are adopted.

187. In the questionnaire survey conducted for the present evaluation, FAO staff and external stakeholders were invited to consider eleven factors which influence crop production outcomes. The results confirmed the widely held view that multiple factors influence crop production outcomes, from technical aspects limiting crop production to wider issues associated with access including to land and water, markets and services and infrastructure, with some regional diversity in the prioritization of factors. The factor which was given the lowest ranking was ‘*Inadequate focus on gender equality*’ where only 20% and 23% of respondents, FAO Staff and external stakeholders

³¹ FAO (2003) *Gender key to sustainability and food security. Plan of Action for gender and development (2002-2007)*

respectively, felt that this factor had a ‘significant impact’ on crop production outcomes. Interestingly, there were some regional variations, with respondents whose work focused on sub-Saharan Africa placing higher importance on gender equality than those who work in other regions.

188. In summary, gender issues have a higher profile at the corporate level, but “closer to crops” – and the SOs directly related to crops – there seems not to be much change from the situation under the previous Strategic Framework. Further, the role of gender in influencing crop production outcomes appears weakly recognized and valued by both FAO Staff and external stakeholders.

189. This timid approach at the strategic level is also present in the field. The team found that there is no consistent or strategic approach to the issues involved. While FAO appears to be playing a substantive role in women’s empowerment at the policy level, providing assistance and being recognized as an effective channel for increased participation for women farmers’ organizations in agricultural, food and nutrition policy issues (El Salvador, Kenya, Zimbabwe, Moldova on seed policy) or through strengthening the baseline survey questionnaires for the Reviewed Strategic Framework (work led by REU) enabling sex disaggregated variables relating to differing access to resources e.g. land, irrigation, inputs etc., and thus informing future policy, at the specific project level the situation is much more inconsistent. In some cases encountered, FAO was making the full recognition of gender-based production systems a strong base for project success (i.e. home gardens for self-consumption and market in the Province of Ibarra in Ecuador). But in others, such as conservation agriculture projects in Zimbabwe, FAO displayed a weak recognition of the gender dimension, for example with regard to labour and input demands of conservation agriculture systems in the prevailing agro-ecological conditions.

190. These observations to a great extent support the findings and conclusions of the 2011 evaluation of FAO’s Work and Role related to Gender and Development³², which gave FAO relatively low marks regarding its performance in mainstreaming gender issues in its work. This evaluation found that awareness about the importance of gender issues among FAO staff was usually good, but competence to integrate a gender perspective in projects rather poor, with only about 40% of its projects operational in the period 2002-2010 integrating gender concerns and including women. It also observed that in most instances, FAO staff felt reluctant and/or uncertain about applying gender-sensitive approaches.

191. The reasons why despite earlier efforts to mainstream gender-sensitive approaches do not appear to have been fully adopted needs to be better understood and addressed. Evidence of the implications of gender inequality on crop production outcomes should be collated, widely shared within FAO and with partners and interventions to address gender inequality mainstreamed into project and programme work. More evidence-based gender advocacy needs to be undertaken at the level of ministries. Given the relatively weak mainstreaming of gender across the SOs, it is clear that adequate efforts need to be made to ensure that critical gender dimensions are indeed addressed in taking forward the Reviewed Strategic Framework.

³² FAO-OED (2011) *Evaluation of FAO’s role and work related to gender and development*

4.7 The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture

192. The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture was created in 1964 to assist in using nuclear techniques and related laboratory technologies for agriculture and food production. The unit, located in Vienna (where the IAEA is headquartered), now specializes in research, development and transfer of nuclear methods in soil science, plant breeding, animal production and health, entomology and food safety. Through its laboratory, it provides a broad range of specialized services, including research, laboratory techniques and development, and training of scientists through individual fellowships and inter-regional and group training courses in various disciplines. It also provides guidance on the introduction of analytical quality control and assurance into counterpart laboratories, and training in the maintenance of laboratory equipment and instruments.

193. The Division implements its support activities through four cooperation instruments (i) Co-ordinated Research Projects oriented to solve practical problems of economic significance for developing countries and typically involving 10-20 institutions including, in some cases, CGIAR centres; (ii) Provision of technical and advisory services by supporting national and regional Technical Co-operation Projects (jointly financed by IAEA's Technical Co-operation Fund and FAO's Technical Co-operation Programme, and through trust funds provided by donor countries and international funding agencies); (iii) Provision of laboratory support (equipment) and training in equipment and lab management as well as in the application of nuclear techniques in different fields; and (iv) Collecting, analyzing and disseminating information, including conferences, symposia, seminars and advisory group panels, and the publication of technical and public information documents that arise from these meetings as well as from Co-ordinated Research Projects and Technical Co-operation Projects.

194. Although the Division has been traditionally best known for its work on irradiation techniques for plant breeding and insect pest control (Sterile Insect Technique), today its programme covers a wider range of nuclear applications including the use of isotopes for soil nutrient and water management evaluation and improvement, livestock health issues, food quality and safety, and environmental issues.

195. In 2013, there were 32 Co-ordinated Research Projects ongoing in food and agriculture with an additional nine crop-related Projects beginning in 2014, involving in total more than 400 research institutions in developed and developing countries.³³ In addition it supports approximately 160 technical cooperation projects, with an annual investment of USD 13million. In terms of training, it trains about 400 developing country scientists and technicians in its Vienna facilities, and the number of people

³³ See: <http://www.naweb.iaea.org/nafa/about-nafa/crp-nafa.html>

receiving training on-location as part of the field projects is estimated at about 3000 per year.

196. The analysis of documents and project information from different sources points to valuable contributions both in capacity development at the level of the developing countries' national research institutions, as well as in laboratory work to develop specific high impact innovations. This is not only in relation to crops but also in a number of other areas of critical importance for sustainable crop production intensification, such as fruit fly control, soil and water management, and improving resource use efficiency in general – areas clearly linked to the *Save and Grow* approach. However, the Joint Division works as a research laboratory with a capacity building activity, and as such resembles a CGIAR institute more than an FAO division. For this reason, the IEE recommended that FAO withdraw from this partnership, but political and institutional considerations led to this recommendation being ignored.

197. In effect and as noted by the IEE, the evaluation found that the links between the Joint Division and the rest of FAO are very weak. The evaluation team, through its informants – including the FAO offices – received no information of Joint Division activities during its country visits (with one exception) even though it later learned that the Division is active in all of the countries visited. The one exception was Morocco, where it was government staff who mentioned work at a nuclear facility with Joint Division support. Likewise in FAO Headquarters, except in response to specific questions by the team, no mention was made of the Joint Division by any of the staff interviewed.

198. The above situation clearly limits exploitation of the potential synergies and benefits from the investment that FAO makes in the Joint Division. However, as this evaluation recommends for the research institutes of the CGIAR, FAO crops support could greatly benefit from a much closer and more symbiotic linkage to the international research establishment, including the Joint Division. And the Joint Division, being already institutionally a part of FAO, can be used to develop a model of effective modes of direct and continuous interaction between the research and knowledge creation function and FAO's mandate of knowledge management for agricultural development.

199. FAO, and in this case AGP and other units supporting crops development, should therefore seek to develop a more strategic and symbiotic relationship with the Joint Division in the context of the new Strategic Objectives, aiming at better exploiting its capacities in support of (i) the ecosystems services approach, in particular, and the development of innovative sustainable practices and approaches, in general, and (ii) the strengthening of national innovation systems.

5. Institutional issues in FAO's role in crops

5.1 Staff resources in the area of crops

200. FAO staff working in areas related to crop production support can be found in various different divisions and units, as indicated in section 4.1. However, as the job titles and descriptions usually specify a main function related to their unit, it has proved difficult to identify them systematically with the tools at the disposal of the evaluation. For this reason, this section focuses on an analysis of the staff resources of the Plant Production and Protection Division (AGP), which in any case form the bulk of crops related human resources in FAO.

201. As indicated above, in 2009 AGP established a new organizational structure for the Division formed around output-focused teams. The need to review and update job designs and descriptions was seen as a key step in the finalization of the new structure, which followed the recommendations of the IEE. The eight technical teams plus the management team in AGP are:

- AGPMD (Office of AGP Director)
- AGPMC (Pesticides Management)
- AGPME (Ecosystem Approach to Crop Intensification)
- AGPMG (Seeds and Plant Genetic Resources)
- AGPMI (International Plant Protection Convention) (moved in 2014 to Office of ADG-Agriculture Dept.)
- AGPML (Livelihoods, Health and Income)
- AGPMM (Locust and Transboundary Plant Pests and Diseases)
- AGPMR (Rotterdam Convention)
- AGPMT (International Treaty on Plant Genetic Resources) (moved in 2014 to Office of ADG-Agriculture Dept.)

202. Guidelines for using generic job profiles in AGP were then issued in 2011 and set out functions for the different levels that would be “output focused, as opposed to detailing a list of duties”. For example, requirements for senior positions (P-5) cover responsibilities such as designing programmes, information and awareness raising campaigns, representing the organization in international forums and advising on programme priorities and strategies; whereas junior and mid-level positions (P-2 and P-3) involve responsibilities of analysis, monitoring and reporting, formulation and implementation of projects.

203. Over the past two decades, AGP, like most other divisions in FAO, has seen a gradual decrease in the overall number of professional staff positions funded by the Regular Programme (RP) and an increase in the number of positions supported through Trust Funds. By the time FAO was implementing the follow-up to the IEE, the overall number of professional staff working in AGP under the Regular Programme (in Rome and in decentralised offices) had gone from 127 in 1994 to 85 in 2002 to only 68 in 2010. Post numbers, already at historic lows, have not fluctuated much since the FAO budget stabilised somewhat after the IEE. Data reported by AGP in February 2014 indicates a total of 49 professional level posts in headquarters, out of which 33 are RP, and 16 are project funded, with 13 out of these 49 posts vacant. When added to the 18

officers in decentralised offices (though they are no longer administratively under AGP), the total under the Regular Programme is 57. The total number of professionals has dropped significantly since 2010 (from 68 to 57), and in addition, several positions have also been downgraded. The most affected teams were reported to be AGPME (Ecosystem Approach to Crop Intensification), AGPMG (Seeds and Plant Genetic Resources) and AGPML (Livelihoods, Health and Income).

204. As shown in Table 6 below, one of the largest teams is AGPME with 9 posts, of which four were vacant in February 2014. This team's core responsibility involves promotion of FAO's Sustainable Crop Production Intensification (SCPI) and integration of sustainability and ecosystem approaches into production. The expertise available in the team ranges from agronomy to soil and land management to ecology and ecosystem management. FAO's one remaining expert in agricultural mechanization was recently transferred to this team from the Rural Infrastructure and Agro-Industries Division (AGS), then moved internally to the Livelihoods team (AGPML).

205. As can be seen, the rest of the teams are mostly of smaller size. Some, like the Pesticides Management team (AGPMC) and the Rotterdam Convention team (AGPMR) are composed mostly of non-core posts, given their large donor funded project portfolios.

Table 6. Staff positions by team in the Agricultural Plant Production and Protection Division, Regular Programme and Trust Fund (February 2014)

Team	Staff positions	
	RP	TF
AGPMD (Management)	3 (1 vacant)	0
AGPME (Ecosystem Approach to Crop Intensification)	8 (4 vacant)	1
AGPMG (Seeds and Plant Genetic Resources) and AGPMT (International Treaty on Plant Genetic Resources) to AG Dept.	9 (4 vacant)	0
AGPMC (Pesticides Management)	3	6
AGPML (Livelihoods, Health and Income)	5 (2 vacant)	2 (1 vacant)
AGPMM (Locust and Transboundary pest diseases)	4	2
AGPMR (Rotterdam Convention)	1	5 (1 vacant)
AGPMI (International Plant Protection Convention) to AG Dept.		
Total	33 (11 vacant)	16 (2 vacant)

Source: AGP

206. As noted, in addition to the staff in the teams at headquarters, currently there are 18 FAO decentralised Plant Production and Protection officers based in Regional and Sub-regional Offices. There are five officers in Africa region, four in Asia and Pacific, two in Europe and Central Asia, four in Latin America and Caribbean, and three in North Africa and the Near East. However, while they should be part of the same "Technical Network" (see section 5.3), these decentralised officers are no longer (since 2009) part of the HQ technical department, but instead come under the line management of the Regional Representative in their region.

207. When looking at technical capacities in crops at FAO, it is clear that the analysis has to go beyond core staff funded by the Regular Programme. The field programme budget is already larger than the Regular Programme and growing. The technical capacity of FAO globally also includes the capacities and experience of the large numbers of technical people working in donor-funded projects and on short-term and

consultancy contracts both in the HQs and in the field, that needs to be accounted for. Even though, in many cases they cannot be easily mobilized to use their experience and knowledge in activities other than the projects where they work, the fact is that they also make up a large – and growing – part of the institution’s knowledge capital, and there is the need to develop appropriate mechanisms for effective utilization of this human capital.

208. Regarding the disciplinary expertise, the current human resources pool – analysed through interviews, meetings, and the examination of staffing plans and records – appears to have lacked a clear strategy for selecting crop expertise. This is unsurprising, as it is the result of a process of attrition to adjust to the continuing reduction in available budgetary resources, where positions left open by staff retiring or leaving the units for other reasons were eliminated, so that the overall profile changed haphazardly rather than in response to emerging issues and needs.

209. Existing staff at times appear to be generalists and project management specialists rather than crop sciences specialists who cover specific core competencies, evolved out of strategic needs. In fact, at least in some cases the wide range of topics covered in job descriptions viewed by the team would not appear to favour selection of the kind of technically specialised staff needed to strengthen FAO’s capacity in crops.³⁴

210. These crops specialists are asked in their job descriptions to cover a wide range of issues (farm management, sociology, economics, marketing and finance, policy making, gender...), favouring the selection of generalists more than experts in specific technical fields. Further, given the funding pressures in today’s FAO, senior crops specialists spend a significant proportion of their time on fund-raising activities. Continuing this path carries a risk for FAO and its staff of losing one of their most important comparative advantages: the superior competence of FAO staff in technical fields of agriculture. Supporting this observation, the evaluation of FAO’s Regional and Sub-regional Offices for Asia and the Pacific carried out in 2013³⁵ also found that Technical Officers in the regions have an inordinate amount of projects to manage and coordinate, which leaves little time for technical work.

211. The loss of crop expertise to such functions is also at the expense of maintaining and further developing technical knowledge networks with outside organizations and thus limits FAO’s abilities to effectively and competently communicate with science organizations such as the CGIAR and other public and private sector organizations which contribute to the advancement of new knowledge in crops.

212. To avoid this, FAO crops officers need to continue to be cutting-edge and closely linked to professional and scientific societies and able to communicate and cooperate with advanced international agricultural research institutes. This is a pre-condition for the maintenance of the technical quality in agricultural development

³⁴ The description of a Technical Officer, P-3 Level, is a good example. It includes expertise in the following areas: “Agronomy, land degradation, land management, soil health, climate change, sustainability of productive systems, assessment of ecosystem services (quantitative methods, GIS, modelling), policy analysis and decision making support, capacity building, project design and management.”

³⁵ FAO-OED (2014) *Evaluation of FAO’s Regional and Sub-regional offices for Asia and the Pacific*, section 6.3.5.

projects, in general and even more so in the context of the Reviewed Strategic Framework, which demands a significant shift in production systems paradigms if it is to be successfully implemented. Moving sustainability out of “niche” experiences and mainstreaming it into policy approaches will take a substantive political leadership; that FAO can certainly provide, but if that leadership is not backed-up by solid, cutting-edge technical proposals it is doubtful that it can achieve lasting change.

213. The latest information that the evaluation received regarding plans for filling the many vacant positions in AGP appeared to be in line with the evaluation’s thinking, with a focus on specialists in the main cropping systems (cereals, legumes, perennials, horticulture). There will be an effort to identify candidates with “expertise in production with an understanding of inter-alia ecosystem services, systems approaches and sustainability issues” (meeting minutes from an internal AGP meeting held in November 2013). Ideally, the new “crop specialist” will need to exercise a high level of knowledge and technical skills in her/his technical field but in addition also have a sufficient understanding of current development and policy issues, and she/he must have sufficient field experience.

214. Looking into the future, FAO should continue to work to rebuild its technical capacities in the crop sector, and do it with a strategic view both in terms of the competencies that are needed to have in-house and the skills needed to be an effective mobilizer of external networks in support of its programmes. For FAO to regain its role as the world’s primary “knowledge broker” for global technical knowledge in the field of crops sector development, AGP will have to continue to fill vacancies strategically to allow it to rebuild and maintain its global technical resources.

215. Concurrently with the above FAO should develop career pathways for crop experts with a consistent set of denominations indicating growing responsibility and authority in their own specialised field, without pushing technical experts to seek positions outside of their field in order to be able to advance their career, as is the situation currently (“one post, one specialty, one grade”). A sample denomination system could be for example: junior crops specialist; crops specialist; senior crops specialist; and principal crops specialist. A clear performance and reward system should be developed to provide incentives for crop experts to become worldwide recognized “champions” in their field. The main role of an FAO crop specialist would be to maintain and develop knowledge networks with relevant crop science organizations outside FAO (and especially the CGIAR – see section 6.4.2), to collate and communicate relevant crops knowledge to general project development specialists and partners and to act as technical quality control for field projects of FAO and others upon request of member countries.

216. There is also the need for FAO technical staff to fully internalize the fact that the emerging structure of the organization’s knowledge capital is very different from what it was in the past. While in the past it was strongly based in its permanent staff, today and even more so in the future, a strong component comes from non-core staff, making it quite difficult to capture knowledge and experiences and make effective use of them. The challenge is to integrate that technical knowledge into the larger FAO and its strategic objectives. There is a need to create a knowledge sharing and exchange system and an institutional memory for this technical knowledge, and develop the appropriate mechanisms – part of the corporate knowledge management strategy – for its wider utilization in support of the institution’s strategic objectives. In developing these

systems and networks, FAO should explore beyond traditional networking approaches and consider the possibility of approaches linking external expertise to FAO on a more permanent basis. This could be through such approaches as creating a mechanism of monetary rewards (such as retainers) that support more integrated participation in the organization's conceptual development and operational process (see below, section 5.3 on knowledge management).

5.2 Decentralisation and FAO's crops expertise at regional and country level

217. There are good arguments for a decentralisation of FAO's activities. Even though all global problems are present in every region, their concrete manifestations differ and the response opportunities are often quite different. This demands more localised decision-making, and capacities closer to the location. More so when regions themselves are not homogeneous and even within them there is the need to account for important differences.

218. The process of decentralisation, aimed at maximising the Organization's impact at country level, has been going on since the creation of FAO. Step by step, Regional Offices were established, followed by the FAO Liaison Offices, the four early Sub-regional Offices, and FAO Country Representations under regular programme funding. Gradually project operations were transferred to the Regional Offices and subsequently to Country Offices. A further set of nine Sub-regional Offices was established in 2005.

219. In the set of reforms following the IEE, the Regional and Sub-regional Offices were expected to become the primary source of support to country offices and to service regional bodies. The main tasks of regional offices are: (i) identifying FAO priority areas of action in the region; (ii) monitoring major regional developments and trends in agriculture; (iii) advising on FAO's normative and technical cooperation work in the regions; (iv) providing the first-line of technical support to countries and the Field Programme in the region; (v) providing the managerial and administrative support for Field Programme implementation; and (vi) organizing the Regional Conferences and regional technical meetings. Since about 2000 FAO has also placed 'out-posted technical officers' in countries with no FAO Representative (FAOR) to perform FAOR duties.

220. In effect the decentralisation process has gradually created a duplicate – though much reduced – structure of FAO's HQ departments in decentralised locations. In general, and for FAO's work in crop production in particular, a strong policy of regionalization has advantages and downsides. One particular problem this has had for FAO is that this process was taking place at a time when human resource capacities at FAO were being reduced because of budget cuts, so decentralising staff had the effect of accentuating the loss of critical mass in the technical departments in HQ, without compensating for that loss with an adequate technical staff body in the decentralised offices (DOs). This affected technical capacity at all levels, and today there are very few areas, if any, where FAO has sufficient technical capacity to fully address its normative and field activities.

221. While FAO staff in the decentralised offices may receive backstopping from FAO headquarters the linkage between HQ and the outreach work in the regions was observed by the team to be variable and generally weak. In the Africa context the recent Evaluation of FAO's Regional and Sub-regional Offices for Africa³⁶ believes that the "more needs to be done to strengthen capacity within each type of decentralised office, and also to clarify and strengthen the links between them, so that they effectively support each other and, together with the support and guidance of headquarters, provide a cohesive programme in Africa". Similar and on-going evaluations in other regions may be anticipated to provide further insights.³⁷

222. In order to strengthen the autonomy of the Regional Offices, the decentralisation measures introduced in 2010 broke the formal link between technical officers in the field and their HQ technical divisions, of which they had been part until then. However, this did not necessarily strengthen provision of technical assistance at decentralised level. In fact, the recent Evaluation of the Latin America and Caribbean Regional and Sub-regional Offices³⁸ noted that in the back-stopping of field projects, "*...as regards the delegation of authority of technical support, in the majority of the cases, the Headquarters' technical units continue to assume the role of Lead Technical Units (LTU). The majority of the Lead Technical Officers (LTO) are at the Headquarters. Headquarters are also the Operational Unit for a substantial part of the budgetary allocation, while the Sub-regional Offices continue to be secondary agents*".

223. The visits of the crops evaluation team to the different countries in the four regions showed that FAO is dramatically understaffed in most countries, both large and small (with a few exceptions, such as Somalia and Bangladesh, with very large field programmes). For example, in most countries there is some form of donor or government-donor platform for agriculture or crops related issues. It was clear that in many cases FAO could play a greater role in support of the technical underpinning of the work of these working groups, but was often prevented from doing so by lack of human resources.

224. Also, the team observed that in country offices, there appeared to be too much focus on representation and not enough on technical expertise. Some progress has been made in recent years with the appointment of selected outstanding in-house technical officers (including some on crops) to the position of FAO Country Representative – albeit at the loss of disciplinary strength at FAO headquarters. However, in many cases, appointments to the position of FAOR appeared based more on political than technical considerations.

225. The need for FAO to work as closely as possible to the field in order to play its role as trusted "honest broker" in normative and project-specific work is widely recognized. However there is considerable ambiguity on the organizational strategy to achieve this. The survey conducted by the crops evaluation team asked a question

³⁶ FAO-OED (2013) *Evaluation of FAO's Regional and Sub-regional Offices for Africa*. FAO, Rome. para 345, p107

³⁷ Latin America and the Caribbean, draft report; in Asia and the Pacific, in preparation. These will follow FAO-OED (2011) *Evaluation of FAO's Regional Office for the Near East and Subregional Office for North Africa*; and FAO-OED (2013) *Evaluation of FAO's Regional and Subregional Offices for Europe and Central Asia*,

³⁸ LAC Regional and Sub-regional Offices Evaluation, draft report at December 2013. para 332

“Looking to the future of FAOs work in crop production and in particular the move to the Medium Term Plan 2014-2017, do you have suggestions on what FAO could do differently?” Some respondents raised the question of the optimal location of staff in order to increase FAO’s impact. Responses were very mixed, with some respondents suggesting that re-centralization of expertise at FAO HQs be considered while others were in favour of stronger deployment at regional, sub-regional and country levels. Some were of the opinion that FAO should *“work with technical hubs from HQ instead of single officers all over the place,”* while other respondents demanded to *“increase technical capacity in decentralised offices”* and suggested to develop *“regional centres of excellence possibly in close cooperation with well-established local universities.”* (Annex 4)

226. Many of the comments heard by the country missions and found in the questionnaires favoured allocation of greater resources to the country level and stopping routing everything through Regional Offices and HQ. This was expected to facilitate country to country learning and south-south cooperation. Comments along the lines of *“...the hierarchical model of backstopping does not work and is out-dated”*.... *“resources at Regional Office and HQ are out of touch and out of date; few have any conception of what is really happening at country level...”*, come up often. While it is not surprising that more respondents both from within and outside FAO want to see country offices strengthened, it is also clear that FAO will not have the resources to do that with core funds in the near future.

227. Another issue related to the decentralisation is that it makes it more difficult to ensure the quality of FAO’s technical work and the strength of its technical expertise. Comments made by the survey respondents as well as interviewees, such as: *“there is too much variation in the quality of FAO staff”*, *“FAO should ensure that their technical staff is of the highest calibre”*, and that it should *“improve the quality of its consultants”* confirm the observation that FAO has been losing too much of its disciplinary strength and technical competence in recent years, and that it is losing the ability to stay on top of the latest scientific advances in agriculture.

5.2.1 Some ideas on better using decentralisation to provide support to crop production

228. As has been suggested by other evaluations in the past as well as the recent decentralisation evaluations, one way to decentralise expertise more effectively could be the creation of focused and non-permanent regional hubs of expertise with small teams of highly qualified crop experts with locally appropriate specializations focused on a current need, located in Regional Offices or even larger country offices. In the Africa context, the Evaluation of FAO’s Regional and Sub-regional Offices for Africa recommended that FAO *“increase the size and skill mix of the Sub-regional Technical Teams”* (Recommendation 3.1). In this regard, that evaluation suggested that the four current sub-regional teams be consolidated into two technical teams. The management

response³⁹ noted that this is in line with Management's proposals to transform Sub-regional Offices into technical hubs and to merge the Sub-regional Office for West Africa (SFW) into the Regional Office. FAO Council "*supported the transformation of Sub-regional Offices into technical hubs, and emphasized that the staff composition of the technical hubs should be tailored to local needs*".

229. Technical crop specialists working in such hubs would need, in addition to their specialist discipline, a sound understanding of the broader development issues, an ability to work at policy level, and would need to maintain strong linkages to research. They should not be overloaded with normative work on the one hand and project work on the other. As with staff at headquarters, it is important recruit people who are really specialists in their respective fields, rather generalists with 'rural development expertise.'

230. As has often been stressed in past evaluations, FAO needs to think outside *its* box, meaning it must go beyond the limits of its primary counterpart, the Ministry of Agriculture, and seek new partnerships in the area of crops. This view is re-enforced by the Evaluation of FAO's Role and Work in Food and Agriculture Policy⁴⁰ which states that "*To improve the impact of its policy work, FAO needs to engage with a range of ministries beyond the Ministries of Agriculture, a strategy that needs the full support from the highest level.*" One area of particular importance to crops support that could be strengthened would be to more effectively link up with the academic (university) system in agriculture, which can be used as an effective and indirect way to influence policy.

231. It was clear to the team that FAO needs to strengthen the links between technical staff in HQ and in the decentralised offices. A mechanism to do this is through the "Technical Networks" proposed under the Reviewed Strategic Framework (see section 5.3). This idea, in the form of "Functional Technical Networks," was originally designed at the time of the IEE reforms when regional technical staff was being put under the Regional Representatives. The importance of such knowledge networks was further reinforced by the recent FAO Evaluation of Regional and Sub-regional Offices for Africa: "Knowledge networks that provide for a free flow of ideas among colleagues at all levels of the Organization are critical for knowledge generation and up-to-date technical support. At present not nearly enough focus has been given to this important responsibility, with people relying upon informal contacts for knowledge exchange. This puts many of FAO's younger employees and national staff, who have not been placed in headquarters, at a disadvantage."⁴¹ However, with the exception of a forestry network, this model has yet to get off the ground. It should be possible to make it work. As an example, the WB model emphasizes sectoral networks, often managed and supported by HQ staff, who also play a role in appraisal of technical staff, and professional growth of field staff.

³⁹ Evaluation of FAO's Regional and Sub-regional Offices for Africa. Management Response Hundred and Fourteenth Session Programme Committee. Rome, 11 - 15 November 2013 PC 114/2 Sup.1. Para 6

⁴⁰ FAO-OED (2012) *Evaluation of FAO's role and work in food and agriculture policy*. FAO, Rome. para 338, p107

⁴¹ FAO-OED (2013) *Evaluation of FAO's Regional and Sub-regional Offices for Africa*. FAO, Rome Page xvi Executive Summary para ES22

5.3 Knowledge management

232. FAO is a knowledge organization and as such knowledge management is a key function within the organization.⁴² This is true for the organization as a whole and the area of crops is no exception to the general rule, particularly since in crops there is a long history in many countries of looking to FAO as a source of knowledge and advancement for crop technologies and management.

233. Recognizing this the IEE highlighted the need for knowledge sharing concepts, methods and tools in support of access to and flow of knowledge among both staff and external stakeholders. In an increasingly crowded field of other organizations and centres of excellence producing high-quality information and knowledge in FAO's areas of mandate, long term survival is very much dependent on how the organization can build on its comparative advantages as a world-wide multidisciplinary integrator of experiences and... *knowledge*.

234. In response to this, a concept note on corporate knowledge management was prepared by the Office of Knowledge Exchange, Research and Extension (OEK) in early 2008, setting in motion a process that eventually led to the preparation and approval of a corporate Knowledge Strategy.⁴³

235. The strategy addressed issues across the whole organization and focused on supporting its efforts to produce as well as facilitating access to and the flow of the needed information. The strategy also proposed a road map for implementation identifying (i) specific actions such as the promotion and support of networks and communities, improving the quality and effectiveness of knowledge-sharing activities in policy support, capacity development and advocacy work, working to reduce impediments to access to knowledge (i.e. copyrights, language coverage), and promoting the "interoperability" of the different information systems and repositories, and (ii) entry points to implementation, identifying here three specific projects in the context of the follow-up to the IEE: decentralisation, results-based management and human resources.

236. Later on in 2010 the concept of Functional Technical Networks (FTN) was introduced to "ensure knowledge exchange and sharing within the Organization between decentralised and headquarters officers" and to provide quality assurance of technical work and share know-how and best practices among colleagues in order to ensure FAO's standing as a centre of excellence".⁴⁴ Their objective is to offer the enabling environment for domain-specific exchange of ideas including:

- Sharing, discussing, validating and documenting innovative concepts, technologies and practices

⁴² For the purpose of this evaluation knowledge management is the process through which an organization comprehensively gathers, organizes, analyzes and shares its knowledge in terms of resources, experiences and people skills, and delivers information and services to users.

⁴³ FAO (2011) Knowledge Strategy. 27pp

http://www.fao.org/fileadmin/user_upload/capacity_building/KM_Strategy.pdf

⁴⁴ FAO Circular on Responsibilities and Relationships, 15 April 2011

- With assistance of appropriate virtual platforms and face-to-face meetings/events, engaging in knowledge sharing and peer review support to keep abreast of disciplinary development over time.

237. With these objectives in late 2012 the concept of the FTN was up-dated to make it fit with the new Strategic Thinking process and a number of rules were established regarding their organization and operation, including their possibility of accessing small budgets for their functioning and for staff formally allocating time to participate.

238. Within this general context in the area of crops the existing knowledge management system – beyond the usual informal mechanisms for knowledge and information sharing that exist in all organizations – is based essentially on three main pillars. These are: the different crop related publications series; the technical networks linking professionals working in different areas; and the AGP webpage.

239. Publications cover a very wide range of types and topics and have always constituted one of the organization's trademarks, as they have traditionally been recognized as one of the key global sources of information and knowledge about crop production in general as well as in many specific fields - plant breeding, plant nutrition, disease and pest control, seeds, plant genetic resources, soils and mechanization, water consumption, conservation agriculture, among many others.

240. Of particular relevance in terms of knowledge management are the reports on field experiences, case studies and best practice manuals. A brief review of the existing web catalogues shows that existing publications are in many cases reporting or based on field project experiences, showing a relatively active process of feedback from experience into the organization's normative work. At a more specific level, a report prepared by AGP in August 2013 about initiatives related to the *Save and Grow* paradigm confirms the existence of a healthy – though informal, mostly based on interpersonal relations – process of reflection and feedback from field experience into normative work, in this case how to move the *Save and Grow* paradigm to practice in specific situations.

241. Networking within FAO with the Functional Technical Networks does not seem to have evolved as much as was hoped, even though was established in the Corporate Knowledge Strategy, the subsequent Circular on Responsibilities and Relationships of Decentralised Offices (2011), and later reviews. Still there are a number of internal networks working on different themes – conservation agriculture, farmer field schools, biotechnology, genetic resources, etc. But they work mostly on the basis of informal relationships, and they do not receive funds.

242. This is a clear weakness that needs to be addressed. If FAO is to maintain its technical leadership, its staff working across the globe need to have day-to-day contact, knowledge exchange and collaborative work opportunities with peers in terms of subject specialization and disciplinary interests. The Reviewed Strategic Framework will, if anything, make these needs still more compelling. Implementing the new approaches implies going out of established disciplinary patterns and creating new communities of knowledge where the information and issues emerging from new experiences can be shared, discussed and best practices can start to be developed.

243. A related experience that should be pointed out, as it was highly positive, is the knowledge fair (“AGP Market Place”) organized in November of 2010 as part of the restructuring process of the Division. The “Market Place” had the purpose of bringing together the whole Division for the different “teams” to share experiences, products and methodologies and become more familiar with each other and their respective programmes. Reports from the event highlight that the experience enabled a better understanding of (i) the ecosystem approach and the concept of sustainable crop intensification (SCPI), (ii) how the different teams contribute to SCPI, (iii) the synergies existing among the teams, and (iv) areas that needed more work/improvement. In spite of the apparent success of this experience, it has not been repeated since.

244. All the above components can be found through the AGP webpage, which provides a single entry point to all core themes of the division. This webpage was developed during the “One AGP” restructuring process that followed the IEE and the initiation of the effort to bring down the “disciplinary walls” between the technical departments and establish a more multidisciplinary working environment. The webpage has a wide and informative coverage and it is quite user-friendly, especially if compared to FAO’s home page at the time (since improved).

5.4 FAO partnerships in the area of crops

245. Partnerships represent an increasingly important instrument for the delivery of the organization’s development outcomes, the more so given the stiff financial resource constraints that FAO has had to confront over the past several years.⁴⁵

246. The IEE found in 2006 that FAO “had neither a strategy nor specific plans for partnerships and for the ways in which they would contribute to defining the Organization’s comparative advantage, communicating its message and locating its role clearly in the new international development architecture” (IEE report para.155). Consequently and recognizing that “the inescapable reality is that FAO will have to fulfil its mandate of a global broker of essential knowledge only through effective and strategic partnerships” (IEE report para.156), it called for a new corporate-wide strategy to guide actions in this sense.

247. In this context, the mission found (i) that FAO works with a wide range of partners in its crops work, including UN agencies, bilateral agencies, IFIs, regional development agencies, CGIAR centres, NGOs, and different types of civil society organizations, among others, and (ii) that FAO is commonly seen as a reliable technical partner with a good name and a respected past; most partners also value FAO’s

⁴⁵ According to the recently approved corporate strategy on partnerships, “*The terms ‘partnerships’ and ‘alliances’ which are used interchangeably refer to a cooperation and collaboration between FAO units and external parties in joint or coordinated action for a common purpose. It involves a relationship where all parties make a contribution to the output and the achievement of the objectives rather than a solely financial relationship.*” It underlines the fact that the existence of a mutual will among the partners to pursue a common goal is a necessary condition for the success of a partnership.

See http://www.fao.org/fileadmin/user_upload/corp_partnership/docs/stratbrochure_en_web.pdf

convening power and ability to bring government representatives and non-state actors around the same table.

248. However, except in a few cases, relations are of an *ad-hoc* nature, staying way short of exploiting all potential synergies and benefits. Only in the case of the IFIs (through the FAO Investment Centre – mainly the World Bank, but also AfDB, IADB, IFAD, etc.), the European Union (with which FAO has a Framework Agreement), and some UN agencies are there more strategic long term interactions.

5.4.1 The International Financial Institutions

249. According to interviewees at the **World Bank** in Washington, as well reported in the recent OED Evaluation of FAO's Role in Investment for Food and Nutrition Security, Agriculture and Rural Development.⁴⁶, the WB-FAO Cooperative Programme is critical to the WB for programme design, supervision and monitoring (a view reinforced at WB country office level, e.g. Kenya and Morocco), though in some cases it is dependent on key individuals. TCI's sourcing of expertise from within FAO and externally is seen as important to WB country offices, because "FAO can find specialists who can bring both the necessary skills and experience from other, similar countries".

250. The wider aims of FAOs' Reviewed Strategic Framework and the WB (Agriculture and Environmental Services Division) are similar in that the WB wishes to work at a more integrated level spatially and at the level of the landscape including developing the means to link biophysical with productivity and markets, and to integrate agricultural response to climate change. Thus the WB wants to bring together the three co-benefits of adaptation, mitigation and productivity. This common interest should offer opportunities for collaboration and joint learning.

251. FAO's role in piloting interventions through its TCP projects, which may result in models for up-scaling in larger donor/IFI programmes, was welcomed, citing for example the sustainable rice production pilot (WB-Kenya) and the contributions made to the development of the extension service and to innovation on small-scale irrigation (WB-Morocco).

252. With the regional development banks, like the **African Development Bank (AfDB)** and the **Inter-American Development Bank (IADB)**, the level of interaction is more limited but still important in their regional contexts. AfDB considers FAO to be a very important partner from which to draw experiences with successful piloting to inform their programme, and also in other areas e.g. in climate change, where there has been technical exchange and in emergency situations where AfDB works with FAO in a number of countries in Africa.

⁴⁶ "the World Bank, EBRD and IFAD – freely recognize that nowadays they cannot deliver their lending programmes without help from TCI". FAO-OED (2013) *Evaluation of FAO's role in investment for food and nutrition security, agriculture and rural development*. 2013. FAO. Rome. para 161, p46

253. With the IADB work is mostly through project support services from TCI (recently in Suriname and Mexico, promoting conservation agriculture), and IADB also values FAO's statistics, which are used heavily both for investment projects and analytical purposes (policy and analysis of specific issues). It considers the State of Food and Agriculture (SOFA) a useful resource however felt issues were given too broad a coverage without enough policy advice (specific and clear policy options) to the countries. There is strong potential for joint work with IADB under FAO's new SOs and the bank's own new strategy, which also focuses on sustainable production growth.

254. With the **International Fund for Agricultural Development (IFAD)**, most work is also through TCI, although at country level FAO and IFAD occasionally link together in terms of integration and value addition of activities. A positive example of shared FAO/IFAD country level work is Niger with joint work on Farmer Field Schools.

255. At the technical level on crops, IFAD uses a number of FAO flagship technologies or packages specifically, which are taken up across IFAD for a range of countries and intervention contexts. Examples include vegetable production, participatory seed development, irrigation, learning from FAO in the seeds sector, IPPC and related issues, and home and school gardens where the link between crops and nutrition is central.

256. A comment was made that on some technical issues, FAO staff are sometimes seen as inflexible or dogmatic, making joint work difficult for roll-out or adaptation at scale. Examples given were Farmer Field Schools and Conservation Agriculture. This interviewee recognized the significant knowledge base of FAO, however the challenge is how to access and optimize use of this knowledge. IFAD is now working to mainstream climate adaptation and resilience through the Adaptation for Smallholder Agriculture Programme (ASAP)⁴⁷ – this is a grant programme which accompanies loans. While FAO's work is referenced, FAO is not a strategic partner in the implementation of ASAP – though clearly it ideally should be.

5.4.2 UN Agencies

257. Collaborations with UN agencies at country level are, in general, within the framework of the UNDAF process (the UN Development Assistance Framework) and they vary across countries and agencies reflecting the different levels that this process has reached in different regions and countries. With the World Food Programme (FAO, WFP and IFAD making up the "Rome-Based Agencies") there are further attempts to bring their efforts together at a more substantive level, but this is still work in progress and what prevails are the interactions on a case by case basis.

⁴⁷ The Adaptation for Smallholder Agriculture Programme (ASAP) is a programme launched by IFAD in 2012 to channel climate and environmental finance to smallholder farmers so that they can increase their resilience. Through ASAP, IFAD is driving a major scaling-up of successful "multiple-benefit" approaches to increase agricultural output while simultaneously reducing vulnerability to climate-related risks and diversifying livelihoods. <http://www.ifad.org/climate/asap/>

258. **World Food Programme (WFP).** With FAO, WFP works on issues of productivity, input provision, FFS, engaging women, building farmer organizations, advocacy and capacity building. Increasing crop yields is seen by the WFP as central to its agenda. While normally the contact point in FAO for WFP was the Emergency Division (TCE), now direct contact with AGP is more frequent. Most of the joint work between FAO and WFP takes place at country level.⁴⁸

259. There is certain level of tension between the two agencies at times, mostly due to the perception by each that the other is encroaching on its territory: increasing involvement in development activities by WFP and in emergency activities by FAO. Comments heard at WFP include the view that FAO needs to look beyond providing seeds (for emergency interventions) to a more broad-based approach to transitioning to development and building resilience within an integrated system including risk and land management (see also section 4.5.2). On FAO's operational capacity in the field, staff resources are often seen as limited and work is often outsourced to consultants.

260. There remain many gaps and opportunities: FAO must explore means for expanded collaboration with WFP at all levels of intervention in support of crop production – technical, institutional and enabling environment, including strengthening South-South learning.

261. **UNEP and UNICEF.** A number of partnerships were encountered at country level. For example in Kenya, were joint work is undertaken between ICRAF, UNEP and FAO on landscape, agriculture and environment. For UNEP, FAO is a partner of choice in the area of crops given complementary technical competencies. Future pipeline partnership projects in Kenya include work on adaptation to climate change (REDD+ preparedness supported by UNDP, UNEP and FAO).

262. An example of successful and valued cooperation between FAO and UNICEF (and WHO, though it was less active) is the preparation of the Zimbabwe National Food and Nutrition Security Policy, as a central pillar of the Zimbabwe UNDAF (known as 'ZUNDAF') and of the government's development programmes. UNICEF interviewees in Harare pointed to the fact that FAO should use opportunities to build on the successful FAO-UNICEF collaborative work on 'Healthy Harvest' (training on nutrition: growing, preparing, and processing healthy foods - mainly crops), and support implementation of the National Food and Nutrition Security Policy, providing where needed spatial data to understand why there are differential regional and household responses and development outcomes /development outcomes; areas where FAO is seen as having the necessary and needed skills and capacities.

263. Despite these examples of partnerships, opportunities for strategic and on-going learning and for seeking value-addition are not always fully exploited. For example the recent conference on '*Harnessing Ecosystems based Approaches for Food Security and Adaptation to Climate Change in Africa*' held in Nairobi in August 2013 co-organised by UNEP and FAO⁴⁹ offered relatively little exposure to the experiences of FAO and

⁴⁸ In countries with successful collaboration between WFP/FAO, interpersonal relations between representatives are key. There are a number of joint WFP/FAO programmes including some listed in section 4.5

⁴⁹ First Africa Food Security Conference 'Harnessing Ecosystem Based Approaches for Food Security and Adaptation to Climate Change in Africa' 20-21 August 2013. Nairobi, Kenya

indeed the conference did not appear to have been well promoted with the country offices visited. Interestingly however, in the context of FAO's new Strategic Objectives, conference delegates appealed to UNEP and FAO to request governments and regional bodies to institutionalize an ecosystems-based approach into national policy frameworks for food security and climate change adaptation. This is an opportunity which FAO may wish to build upon.

264. **The Centre for Alleviation of Poverty through Sustainable Agriculture (CAPSA).** CAPSA (under the UN Economic and Social Commission for Asia and the Pacific, ESCAP) works with the Ministries of Agriculture in the Asian region. Cooperation with FAO is reported as frequent and regular, especially for country level activities where CAPSA works through FAO offices, but also through joint conferences, e.g. "Investment in Agriculture", an international conference in Bogor organized together with the FAO Investment Centre (TCI), or the "Zero Hunger" campaign in Asia. A formal agreement (MoU) between FAO and ESCAP is underway to make future cooperation easier. There is strong complementarity between FAO and CAPSA as far as the technical aspects are concerned, most of which are under the FAO regional office in Bangkok (RAP), including food security strategies and sustainable agricultural technologies, research to extension linkages and IPM.

5.4.3 The European Union

265. The EU is a key operational partner for FAO and the largest funder of FAO's work, covering a wide range of activities including crops from both emergency/resilience and development perspectives.

266. The bulk of the FAO's EU-funded work on crops is with the **Humanitarian Aid and Civil Protection Directorate (ECHO)**. FAO is a key partner for ECHO, with work set within a livelihoods approach and currently some EUR 22m of investment focused mainly on seeds, tools, small livestock and food policy support. About 10% of the EUR 20-30m/year of ECHO funding to FAO emergency-related work is allocated to the strengthening of FAO's own capacity and normative work, based partly on FAO's identification of gaps and partly on EU-identified needs, and currently includes support to preparation of guidelines on livestock and energy, seed security assessment, and the development of a response analysis framework.

267. FAO is valued by ECHO as a partner of choice, which is why they continue to partner with FAO for delivery. However, this is not without occasional shortfalls. ECHO has tight 12-18 month delivery schedules, and they have to demonstrate impact within this timeframe. FAO is reported as not always delivering in a timely manner.

268. **DG-DEVCO (development cooperation)** is the other large funder of FAO in the EU, including inviting FAO to manage a significant portion of the EUR 1 billion set aside in 2008 for the EU "Food Facility," a specific rapid response tool launched after

the food price crisis.⁵⁰ FAO also works with **DG-AGRI (agriculture)** and **DG-CLIMA (climate change)** in several crop-related activities, although at a lower level of intensity than with ECHO and DEVCO. In general FAO is seen by the EU as having a unique ability to host and initiate debates on subjects such as sustainable intensification, climate change and agriculture.

269. Another large FAO programme funded by DEVCO is the EUR 30million “*Improved Global Governance for Hunger Reduction*” programme, with additional resources worth EUR 17million provided by FAO, and implemented by FAO in collaboration with IFAD and the WFP. This programme seeks to improve the way in which the global community works together to eradicate hunger and malnutrition. It also provides support to the work of the Committee on World Food Security (CFS), of which FAO is Secretariat.

270. From the crops perspectives FAO contributes to this through the preparation of policy briefs and the sharing of guidelines and training on such areas as climate smart agriculture, including the Modelling System for Agricultural Impacts of Climate Change (MOSAICC), AgrometShell (AMS) and Agriculture Stress Index System (ASIS). The programme also assists FAO in its work on sustainable intensification of smallholder crop production, including the *Save and Grow* team's work in organizing workshops and studies to gather lessons learned over the past ten years in applying sustainable crop production intensification; developing guidelines; methods and training materials to support SCPI; and seeking to apply lessons learned in the field with partner countries.

271. The above activities are part of the high level of interaction between the EU and FAO, with significant impact and visibility. There are still many more points of common interest and opportunity between the two partners which could be developed. The European Commission’s new strategy for ‘Sustainable Inclusive Growth’ – based on the three pillars of Food Security, Resilience and Nutrition – offers such an opportunity. In this context, crops and agriculture are seen as a means to an end, and thus FAO’s work on crop production has to be seen through the lens of ‘sustainable inclusive growth’ to identify opportunity for linkages, coherence, etc. FAO should identify points of convergence with the EU, particularly through the further development of the operational dimensions and the costs-benefits of *Save and Grow* at the country level. This could enable FAO to play a bigger role on key initiatives such as the G8 Agreement on Nutrition, to which the EU has committed EUR 3.5billion. While a proportion of funding is allocated to response (remedial nutrition, supplemental feeding, etc.) the bulk is allocated to work on prevention, of which crop production is a central element.

⁵⁰ It was noted by the evaluation team that to date, there has been little lesson learning from the large amount of funds that were spent on the Food Facility, not always with successful outcomes.

5.4.4 *Bilateral donors and their institutions*

272. The following are the donor institutions met by the evaluation team, and although limited, serve to illustrate some of FAO's partnerships with bilateral agencies and national development and technical institutions.

273. **United States Agency for International Development.** USAID works with FAO and others on the Monitoring African Food and Agriculture Policies (MAFAP) project, which monitors, analyses and reports on policies and policy changes in countries of Africa. It focuses on: price incentives and disincentives for key agricultural commodities; public expenditure in support of agriculture; and policy coherence, taking into account government objectives in each country. MAFAP could potentially be linked with specific crops, and provide useful information on policy aspects of crop production including inputs.

274. FAO is one of the multi-partner funders of the *Global Strategy to Improve Agricultural and Rural Statistics*, as well as being the fund administrator. Within this initiative, FAO is also working with WB/USAID/USDA on national institutional capacity building and leading on the country self-assessments. FAO has a key role to play in helping countries and partners to learn from and use the emerging insights.

275. The *Food Security Learning Framework*, developed through collaboration of eleven key food security partners⁵¹ to develop a harmonised food security monitoring and evaluation system; data feeds into a country-owned mutual accountability system, and enables evidence based decision and policy making. The system should also allow for building a common development agenda with comparable parameters. It should measure commitments and intention to commit to investments for food security. USAID suggests that FAO could provide guidance on crops within the *Food Security Learning Framework*; helping identify opportunities for innovation, shared global experiences (South-South learning), new agriculture and food business models, etc.

276. **The French International Centre for Agricultural Research for Development (CIRAD).** FAO has a long-standing relationship with CIRAD generating many important and strategic products in the area of crops. These include current work on locust control, where there is close collaborative work in the EMPRES-Locust countries, and also in conservation agriculture and IPM, where FAO played a significant role in taking CIRAD's research results to implementation for development. Other areas of collaboration included plant genetic resources and support to plant breeding – where FAO and CIRAD partnered in the development of the *Global Initiative for Plant Breeding* (GIPB – see section 4.4.1) and currently in the implementation of the *Tropical Agricultural Platform* (TAP – see section 6.4.1), a G-20 initiative to support national agricultural research institutions where CIRAD holds the chair and FAO the technical secretariat.

277. FAO and CIRAD have significant complementarities and a strong potential for mutual benefits in working together at the global, regional and national levels. However

⁵¹ USAID, FAO, the Bill and Melinda Gates Foundation, DFID, IFPRI, IFAD, US Millennium Challenge Corporation (MCC), US Government's Global Hunger and Food Security Initiative - Feed the Future, OECD, WB, and WFP.

there has not been an effective and institutionalised learning process from this collaboration, which makes it difficult to bring new and different perspectives into problem solving. A more strategic approach to this collaboration would facilitate the needed thinking ‘out of the box’, particularly on the type of knowledge required for the successful implementation of the new SOs.

278. **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.** GIZ is a federal service provider established to assist the German Government in achieving its objectives in the field of international cooperation. Through the German Ministry of Agriculture’s (BMELV) a bilateral trust fund for FAO is in place, and GIZ serves as the advisory body for technical and administrative matters for the trust. In addition there can be case by case interaction and partnering at country level wherever GIZ is involved in agricultural sector projects.

279. GIZ appreciates FAO’s leading role in providing knowledge products. For example, FAO’s publication ‘Climate Smart Agriculture’ was mentioned as an example where FAO has provided the case to bring agriculture back into the climate change agenda. Another example mentioned was ‘Conservation Agriculture’ where FAO has provided knowledge products that are used by GIZ in its agricultural projects. GIZ sees the role of FAO as being the perhaps only global comprehensive knowledge provider in agriculture for development (commercialization, from farmer field schools to farmer business schools, value chain analysis, etc.). They consider that FAO should be the world’s ‘Knowledge Bank’ for agriculture.

5.4.5 The Consultative Group for International Agricultural Research (CGIAR)

280. FAO is one the co-sponsors of the CG system acting not as a donor but to provide the systems’ international status. It also houses some of the technical institutions- the Independent Science and Partnership Council (ISPC) and the Independent Evaluating Arrangement (IEA). Since FAO has a seat at the Fund Council, it also has a voice in the shaping of the systems’ research programmes. For an analysis of interactions with the CGIAR, see section 6.4.2.

5.4.6 Global Forum on Agricultural Research (GFAR)

281. The Global Forum on Agricultural Research (GFAR), based in FAO HQ, provides a key partnership mechanism enabling all stakeholders concerned with agricultural development to come together and address global research needs in agriculture. Opportunities exist to strengthen shared learning on crops and crop related issues between FAO and the GFAR structures and processes.

282. The GFAR Secretariat raised the question of whether the Reviewed Strategic Framework takes into account the bigger picture, including demographics, increased demand for food and energy, and pressures on water resources, all set within the context of climate change. There is a critical need for strategic thinking and global debate on the interaction of these challenges with the crops sector and FAO has a central role to play

in such a debate. There are specific important opportunities to strengthen FAO-GFAR linkages in the area of crops, such as the GFAR Foresight Initiative. Such linkages would also help to develop a framework and toolkit to address the trade-offs between the new Strategic Objectives and the wider FAO Global Goals.

283. Overall it is clear for GFAR (as for the evaluation team) that FAO should do more to promote and advocate for national agricultural research systems (NARS), and build NARS capacity (see section 6.4.1). FAO must also strengthen its role as a knowledge broker, and include the testing of that knowledge through piloting. And FAO has a major role to play in the definition of the research agenda. It was pointed out that there is currently no locally owned and participatory mechanism for CGIAR to identify country and regional research and knowledge needs, and that FAO could play such an enabling role.

5.4.7 Farmer and Civil Society Organizations

284. The evaluation team did not find any significant and strategic partnerships with national or regional farmer organizations during its country visits. Those national farmer organizations met – in Kenya, Zimbabwe, El Salvador, Ecuador and Morocco - generally knew little of the work of FAO. However, in all cases it was clear that they would welcome greater opportunities to share views and participate in collaborative programmes. Ongoing FAO work in REU undertaken at the request of the Regional Conference 2012 on the cooperative sector has led to the preparation of key studies on the state of cooperatives in selected countries and a regional workshop. This should help to strengthen opportunities for future new partnerships in that region.

285. In some country contexts, FAO has a close working relationship with NGOs at country level, though in most cases this is as contractors involved in the implementation and delivery of programmes, in particular of emergency programmes. In Zimbabwe for example, two NGOs contacted by the evaluation team, Care International (CI) and Lead Trust (LT), considered that while welcoming regular FAO-NGO planning and coordination meetings, they would welcome partner NGOs being more involved in the preparation stage of programmes. They also raised questions about FAO's approach to conservation agriculture for support to small-scale farmers, and noted the need for new thinking on technical (need for mechanization and market linkages) and socio-economic aspects. Similar issues were raised by local NGOs engaged in delivering activities at farmer level in El Salvador, where it was also emphasized that year-to-year contracts significantly limited the contributions they could make, so that FAO was not using the NGOs' in-depth knowledge of local conditions in the regions where the projects operate.

5.4.8 Regional and national bodies

286. **The African Union's New Partnership for Africa's Development (AU/NEPAD)**, 42 out of 45 countries in Africa are actively engaged with the Comprehensive African Agricultural Development Programme (CAADP) process under

the auspices of AU/NEPAD. TCI currently provides long term support to NEPAD and CAADP for investment, fisheries and food security, as well as supporting a number of countries in the preparation of their CAADP Compacts and National Investment Plans.

287. The NEPAD/CAADP Office is currently reviewing its operational guidelines (rewrite was to start late 2013) and now recognise the need to pay attention to the ecosystems approach: they are asking '*what do we do to make it happen? – it will not happen by itself*'. Further NEPAD is now revisiting the 2006 decision to focus their work only on five "Strategic Commodities" (cassava, maize, wheat, rice and cotton), and they are reviewing earlier FAO supported work on commodities and ecosystems (Dixon et al., 2001). FAO can help by provision of substantive information to help make decisions, i.e., knowledge support. It can also help design key guidelines and check lists given the clear need to integrate support to commodities with ecosystems approaches.

288. NEPAD looks to FAO as a knowledge institution providing data and analytical skills, including: support to review country CAADP implementation; and support to policy design and institutional development guidelines. On the latter NEPAD is working with the FAO Regional Office for Africa (RAF) in Accra. FAO can and does play a key role to help countries to have the capacity for data collection and analysis and to ensure that the different elements used to monitor CAADP implementation are coordinated. NEPAD is now testing how to deliver CAADP at decentralised (sub-national) level and would like FAO's help. This also reflects the evaluation's observations in Kenya and Zimbabwe where there is a growing interest in addressing differentiated sub-national agricultural and rural development needs.

289. With regard to international treaties and conventions under FAO's responsibility, there is a need for FAO to advocate more strongly. Although CAADP work is already on-going in most countries, after discussing with the evaluation team, NEPAD felt that with the new operational guidelines in preparation FAO could play a greater role in raising awareness at country level regarding **international treaties and conventions** and the implications for countries that are signatories to them. NEPAD will ensure that treaties and conventions are placed on the agenda of the renewed CAADP operational guidelines.

290. The **West African Economic and Monetary Union (UEMOA)**. UEMOA, an organization which seeks to establish and promote economic integration among its eight francophone West African members, has had many activities and projects with FAO, several relating to crops. The two organizations partnered to implement the West Africa Regional Programme for Food Security, which was to assist countries in producing policies that would help to create an enabling environment for fighting hunger through improved food production. They also jointly support; use of IPM in cotton to reduce insecticide use; improved water management in the Niger River basin; and the integration across UEMOA members of crops statistics and information production.

291. The **Permanent Inter-State Committee for Drought Control in the Sahel (CILSS)**, born from an FAO project 40 years ago, undertakes crop and food supply assessment, locust control, vulnerability monitoring and mapping, and other early warning work together with FAO. They are also jointly working on pesticide residues and IPM. The CILSS leadership told the team that what it needs most from FAO is the provision of technical support to the work of CILSS, however it appeared to them that

that FAO “was too busy to provide such inputs”.

292. In Latin America and the Caribbean, FAO is also extensively involved with different regional and sub-regional organizations in supporting crop production related issues with a strong food security orientation, which is one of the priorities identified by the Regional Conference for the FAO’s work in the region. FAO has cooperation agreements with a number of regional organizations such as the **Inter-american Institute for Cooperation on Agriculture (IICA)**, and sub-regional organizations such as the **Consejo Agropecuario Centroamericano (CAC)** and the **Consejo Agropecuario del Sur (CAS)** – policy coordinating bodies bringing together all the Ministers of Agriculture of Central America and Southern Cone countries respectively. FAO also maintains a collaborative agreement on agricultural issues with the **Caribbean Community (CARICOM)**.

293. In recent years the emphasis of this work has been in relation to elaborating effective responses to the food price volatility situation that followed the 2008 food crisis. In this sense FAO, together with the **United Nations Economic Commission for Latin America (ECLAC)** and IICA, organized a series of regional workshops to promote cross-sectoral dialogue on the increase and volatility of food and agricultural commodity prices.⁵² The purpose of the seminars was to facilitate the exchange of information and the sharing of experiences regarding policies (agricultural, commercial, financial and social) implemented by countries in the last five years to deal with the threats and opportunities arising from higher and more volatile food prices.

294. As shown by these examples, FAO works with a large number of regional and national institutions of different types and at different levels; also with varying results. A common issue running through the situations observed by the team is that they value and welcome partnering with FAO, but they would prefer long-term approaches to partnership, and not just *ad hoc* interaction or project by project (and that, mostly as service providers).

295. The above wide range of institutional relationships of different nature and reach represents an invaluable resource that FAO does not always exploit to its full potential. Given the nature of the challenge of implementing the Reviewed Strategic Framework, FAO needs to reflect on this and find new and more effective ways of making partnerships a strategic resource for the implementation of its activities. As we have seen in some cases, such as that of the EU, strategic views are already convergent. In such cases FAO has to work proactively to coordinate priorities and optimize impact pathways. In other cases where there is no such closeness, FAO should move to open strategy discussions with key partners to identify existing opportunities for alignment of resources, and make the most of such opportunities. Whenever possible these efforts should also include a wider discussion of FAO’s new vision, seeking to influence the partners’ investment behaviours beyond the resources involved in the specific collaborations/joint actions with FAO.

⁵² The workshops, all held in 2010, took place in Santiago, Chile, for the Southern Cone Countries; San Salvador, El Salvador, for Central American countries; and Port of Spain, Trinidad and Tobago, for Caribbean countries. A fourth event bringing together countries from LAC and other developing regions was also held in Mexico City, Mexico.

6. Emerging issues

6.1 The Reviewed Strategic Framework: is it up to the challenge?

296. While there are significant regional variations in strategic direction and programming priorities, there is a general move by IFIs, donors and indeed governments away from ‘traditional’ and exclusively crops-based programmes towards more broad-based and multi-component programmes addressing for example: building rural resilience (particularly in emergency and post-emergency contexts and in areas of severe resource degradation); climate-smart agriculture; agriculture and food value chain development; agricultural competitiveness; the family farming approach; etc. Many IFIs and partners welcome the need to bring together agriculture (crops, livestock, fisheries and forestry) and ecosystems, and thus the five Strategic Objectives of FAO’s Reviewed Strategic Framework align well with the strategic direction of such partners as the WB, IADB and the EU. There is general agreement that applying the principles of climate-smart agriculture across ecosystems and landscapes has the potential to sustainably increase food security, enhance resilience and reduce agriculture’s carbon footprint. In fact, pursuing this approach is not seen as an option but as an imperative.

297. Notwithstanding geographic variations, agricultural productivity performance in most developing countries remains significantly below par. The crop yield productivity gap in such regions as Africa, Central Asia, South Asia and Central America means that investment in crop production will continue to be a focal area for some time to come. Furthermore, the projected population growth in sub-Saharan Africa calls for a tripling of crop production by 2050 to provide adequate food per capita – such levels of increase call for new thinking.

298. The “Strategic Thinking Process” undertaken in 2012 defined seven development challenges (see section 3.3), and placed them in the wider global context which includes the rising global demand for food. However the new FAO Medium Term Plan (MTP) 2014-17 and the five Strategic Objectives do not explicitly seem to address this growing demand for food (in which crops for food and feed are central), though of course this is implied in the overall Global Goal 1 of hunger eradication: *‘Eradication of hunger, food insecurity and malnutrition, progressively ensuring a world in which people at all times have sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.’*

299. Among the new SOs, only in SO-2, outcome 2.1.A aspires at least that production be stabilized, with an indicator which includes the following: *‘...where factor productivity growth in agriculture has remained stable or increased during the reporting period.’* Thus it is unclear, within the new MTP 2014-17, where the policy and institutional support, and the technical innovation, is focused on answering the questions emerging from the team’s analysis: How and where can global production be increased to the necessary levels to meet future demand, given the new challenges raised by embedding crop production within an environmentally, economically and socially sustainable ecosystems approach? What, if any, are the trade-offs, the intervention sequencing, and/or the quantum changes required to deliver the necessary increases in food production, and how can these be addressed?

300. The evaluation therefore sees a risk that the need to increase crop production at an unprecedented pace will not be adequately addressed within the Reviewed Strategic Framework. FAO, as the UN body with a mandate for food and agriculture, has a responsibility to ensure that this wider agenda is taken up. It will be necessary to ensure that issues of crop production and crop productivity within the Strategic Framework do not become overly subordinated to the focus on approaches to sustainable ecosystem management, and thus receive lower level of attention than is required.

301. Within the Reviewed Strategic Framework, FAO must be much more explicit and convincing about how the tension between sustainability goals and the critical need to radically increase crop production and productivity can be simultaneously addressed and tackled.

302. FAO is not unprepared to undertake the challenges implied in the transformation of the crop production behaviours required to meet these new challenges. Many of the innovative approaches it has promoted in the past, such as CA, IPM, FFS and more recently Climate-Smart Agriculture evolve out of the same sustainability principles that characterise the new strategic approach. These technologies will certainly be essential for the development of new crop production pathways that reflect the new approach, while at the same time ensuring the production and productivity increases needed to meet increased future food demand. However, as was discussed in Chapter 4, many of these concepts are controversial, are still evolving and, in some cases, are even considered to be at odds with each other. In moving towards the implementation of the concepts laid out in the new vision, FAO will have to make sure that it offers not only the necessary conceptual and policy guidance, but that its technical products are also technically coherent and consistent with achieving more productive, sustainable and resilient production systems. In this sense there is work still to be done in revising the experiences gained in the earlier implementation of these technologies and approaches, making sure that they evolve in line with the new requirements and are effectively integrated into a coherent technological platform supporting the new framework.

6.2 Climate change factors that support or reinforce the crops agenda

303. Agriculture (including crops) must simultaneously address three intertwined challenges: ensuring food security through increased productivity and income, adapting to climate change and contributing to climate change mitigation.

304. Increasing mean temperatures, changes in rainfall patterns, increased variability both in temperature and rain patterns, changes in water availability, the frequency and intensity of 'extreme events,' sea level rise and salinization, changes in pest and disease profile, behaviour and range, disturbance of ecosystems, all have a major impact on agriculture, including crops, forestry and fisheries. The extent of these impacts, as outlined in the Climate-Smart Agriculture source book (FAO, 2013), will depend not only on the intensity and timing (periodicity) of the changes but also on their combinations, which are more uncertain, and on local conditions. For crops, the current available science related to climate change and crop physiology indicates that climate change represents a credible threat to sustaining global productivity growth at rates necessary to keep up with demand. Increasing the scale of investments in crop

improvement, and increasing the emphasis of these investments on global change factors, will help to sustain yield growth over the next few decades (Lobell and Gourdji, 2012). Anticipating the impacts of climate change on agriculture requires data, tools and models at the spatial scale of actual production areas – also developed in the Climate-Smart Agriculture source book (FAO, 2013).

305. Addressing these challenges requires changes in the food systems to be both more efficient in resource use (less land, water, and inputs to produce more food more sustainably) and become more resilient to changes and shocks. Based on these challenges FAO developed the concept of climate-smart agriculture⁵³ - an approach designed to identify and operationalize sustainable agricultural development within the explicit parameters of climate change. It seeks to integrate the three dimensions of sustainable development (economic, social and environmental) by jointly addressing food security and climate challenges, and is composed of three main pillars:

- sustainably increasing agricultural **productivity** and incomes
- adapting and building **resilience** to climate change
- reducing and/or removing greenhouse gases **emissions**, where possible.

Box 6 outlines some of the core underlying elements of climate-smart crop production systems and approaches.

⁵³ Climate-smart agriculture (CSA), as defined and presented by FAO at the Hague Conference on Agriculture, Food Security and Climate Change in 2010, in vigorous dialogue with other agencies and partners. The World Bank, for instance, published its own version in 2011 (<http://documents.worldbank.org/curated/en/2011/10/17486171/climate-smart-agriculture-increased-productivity-food-security-enhanced-resilience-reduced-carbon-emissions-sustainable-development>)

Box 6. Climate-smart crop production systems

- Unpredictable and erratic climatic patterns resulting from climate change will affect crop production. Climate-smart crop production provides management options to farmers to both adapt to, and mitigate, climate change.
- Climate-smart agriculture (CSA) is sustainable agricultural production “seen from the lens” of climate change. Sustainable crop production looks at reducing reliance on non-renewable external inputs, and capitalizing on/enhancing natural biological processes to improve production in a more environmentally- friendly way and avoiding degradation of production relevant natural resources.
- To cope with the challenges of climate change, crop production must adapt (e.g. crop varietal selection, plant breeding, cropping patterns and ecosystem management approaches) and become resilient to changes (frequency and intensity).
- Crop production can contribute to mitigating climate change by reducing greenhouse gas (GHG) emissions- for example by reducing the use of/judiciously using inorganic fertilizers, avoiding soil compaction or flooding to reduce methane emissions (e.g. in paddy rice systems) and sequestering carbon (e.g. planting perennial crops and grass species).
- Farmers are the primary custodians of knowledge about their environment, agro-ecosystems, crops and cropping patterns, and local climatic patterns. Adapting cropping practices and approaches will be related to local farmers’ knowledge, requirements and priorities. Sustainable crop production provides farmers with options for farming sustainably, taking into account the local ecosystem.
- Integrated approaches — such as crop-livestock systems, rice-fish systems and agroforestry — diversify food sources and consequently strengthen the resilience of farmers’ livelihoods. They also provide opportunities for mitigating climate change.
- CSA needs to be strongly supported by sub-national and local policies. Agricultural ecosystems are site specific, with their own environmental, social and economic specificities.

Source: FAO (2013) Climate-Smart Agriculture Source book

306. While FAO has developed a CSA source book, they consider that the sustainable crop production intensification (SCPI) paradigm is inherently “climate-smart,” and thus the source book draws heavily on the FAO publication *Save and Grow*. Given the uncertainties in the way climate change will directly and indirectly impact agricultural and food systems, and related vulnerabilities, building resilience is central to being prepared for future changes. The notion of resilience makes it easier to examine various domains together – biophysical (ecosystems), economic, social and institutional – and scales of operation. It also allows the interactions between domains and between scales to be analysed. Such approaches are central to the Reviewed Strategic Framework. Analysis by Nelson et al., (2009) on the impact on agriculture of climate change and on costs of adaptation provides a set of policy and programme recommendations largely coherent with FAO’s CSA and *Save and Grow* including: increase investments in agricultural productivity; reinvigorate national research and extension programmes; and improve global data collection, dissemination, and analysis. Further they call for increased funding for adaptation programmes by at least an additional USD 7billion per year.

307. The CGIAR Research Programme on Climate Change, Agriculture and Food Security (CCAFS) recently prepared a set of climate-smart agriculture success stories from farming communities around the world (CCAFS, 2013). These go beyond the examples of innovation as set out in *Save and Grow* and the CSA source book to cases where innovations have gone to scale. Many examples are specifically crop related, including sustainable intensification of rice production in Vietnam; herbicide-tolerant crops; drought-tolerant maize in Africa; and Brazil’s farmers and low-carbon agriculture.

308. Alongside the CSA source book, FAO is active in the development of key climate change relevant tools, guidelines, partnerships and support to investment including:

- FAO-wide framework “FAO-Adapt”⁵⁴ which aims to mainstream climate change adaptation into all FAO development activities
- ‘*Best practice in investment design*’ series - Incorporating climate change considerations into agricultural investment programmes (DuBois et al., 2012)
- Modelling System for Agricultural Impacts of Climate Change (MOSAICC)⁵⁵
- AquaCrop:⁵⁶ FAO crop-model to simulate yield response to water of several herbaceous crops
- EU and FAO worked jointly on ‘Impacts of climate change and vulnerability across the world’ (2010). This was found to be sound and useful collaboration. FAO is important as a neutral partner in such assessments. Given that developing countries are poorly equipped (data is rudimentary) to look 30-40 years forward and to estimate the impacts of climate change on agriculture, a neutral provider of such knowledge and data is highly valued.
- FAO Economics and Policy Innovations for Climate-Smart Agriculture (EPIC) and the European Union launched the project ‘Climate-Smart Agriculture: capturing the synergies among mitigation, adaptation and food security’⁵⁷ in 2012
- Support to country programmes through the work of TCI in a number of regions including Asia Region, Eastern Europe, Middle East and LAC. In Africa, for example, TCI has been active in the Sahel in building drought resistant farming systems with a focus on climate-smart agriculture; and in Morocco it carried out an assessment of climate change impact on agriculture (Gommes et al., 2009) – a government initiative supported by WB with technical assistance of FAO.

6.2.1 Issues and opportunities for FAO in climate change

309. FAO needs to be providing its growing knowledge in climate change mitigation and adaptation (as well as skills in capacity development) more widely. For the moment it was felt that, FAO is a little on the periphery of this work, while climate change should be more central to FAO work with its member countries because of its extensive grasp of technical and other aspects of agriculture, forestry, and fisheries. An upcoming

⁵⁴ FAO-ADAPT Framework programme on climate change adaptation 2011

⁵⁵ The Modelling System for Agricultural Impacts of Climate Change (MOSAICC) is an integrated package of models for assessing the impact of climate change on agriculture, including the variations in crop yields and their effect on national economies. MOSAICC has been developed by the FAO in the framework of the EC/FAO Programme on “Linking information and decision making to improve food security”

⁵⁶ It is a companion tool for a wide range of users and applications including yield prediction under climate change scenarios) with agro-ecological zoning mechanisms (guides)

⁵⁷ <http://www.fao.org/climatechange/epic/projects/en/>

strategic evaluation of FAO's work in climate change in 2014 should assist in identifying the best way forward.

310. In the evaluation team's discussions with partners and country stakeholders, a number of issues and opportunities were brought up:

- Several stakeholders call on FAO to play an enhanced role in the United Nations Framework Convention on Climate Change (UNFCCC), providing the relevant technology in the field of agriculture, such as CSA, and strengthening the rural poverty focus of the Convention's work. It was felt that sustainable intensification of crop production must be looked into carefully at the level of the UNFCCC.
- The new 'Climate-Smart Agriculture Alliance,' under aegis of the US, the WB, the Netherlands and South Africa, should offer opportunities for FAO to further develop and disseminate the work on CSA and associated tools and guidelines, and enable shared learning. Though it has not done so yet, FAO should seek to engage in the new 'Climate-Smart Agriculture Alliance' at a significant level.
- FAO should move ahead with an update to the CSA source book. A major stakeholder felt that some of the sections of the CSA source book were disappointing and technically deficient (e.g. sections relating to energy and markets) and some material was outdated, such as that on soil/crop management systems, or absent, such as on nutrient use efficiency. Also, the source book was seen to over-emphasise 'mitigation' and give less attention to 'production and adaptation'. FAO should, in partnership with others, update the CSA source book and subject draft materials to external peer review
- FAO has developed a range of tools, but these have their limits and need to be further developed. It was noted by some however that FAO lacks capacity to develop and take these forward and thus be leading on such cutting edge work. This calls for much closer links with the CGIAR, as well as other centres of excellence and NARIs. FAO should play a central role in facilitating, and then harvesting information and analysing it, and then in dissemination and implementation. FAO currently does not have enough staff to perform this analysis, however, such as using climate change models.
- IFAD is now working to mainstream climate adaptation and resilience through the Adaptation for Smallholder Agriculture Programme (ASAP) (see section 5.4.1). FAO work is referenced but FAO is not yet a strategic partner. FAO should seek opportunities to work with IFAD on mainstreaming climate adaptation and resilience.

6.3 FAO and advanced science applications in agricultural development

311. FAO considers itself a "knowledge organization" and in the past it has been a major force in advancing the capacity of developing world countries to access and benefit from scientific advances in support of food security improvement and agricultural development. It had a lead role in the creation of the CGIAR system,

developed the Joint Division with IAEA, and even many of its own programmes, such as its work on locust control, have a strong link to scientific research. Nonetheless, FAO currently has an uneasy relationship with the use of advanced science and technology as a key instrument for agricultural development, and the fact is that throughout the last decade it has been significantly reducing the amount of resources and staff it devotes to related areas, such as its support to national agricultural research and extension systems.

312. Further, “new knowledge” does not receive a very high profile in the Reviewed Strategic Framework, except somewhat in Outcome 1 of SO-2 regarding supporting the development, sharing and adaptation of locally relevant technologies, seeking to overcome the barriers to large-scale adoption.

313. In the present context, looking at FAO’s role in technical assistance to crop production, this comes across as both odd for an agency such as FAO, and a particular weakness that should be addressed. We are in an age where scientific advances are evolving at a faster pace than in any other period in history. The convergence of life sciences, physical sciences and engineering is creating a new host of opportunities in all areas, including natural resource management and food production, *de-facto* setting up a new blue print (human resources, policies, institutions, investment requirements) for innovation. Can a knowledge organization such as FAO stay on the side-lines of these processes and risk seeing a further deepening of the already marked divide between the “haves” and the “have-nots” regarding access to the benefits emerging from new knowledge?

314. The answer to this question is in the very mandate and role of FAO. FAO is the only institutional space with a global mandate on food and agriculture, where all countries are able to come together on equal ground to discuss and agree on the best ways to achieve its Global Goals of eradication of world hunger, elimination of poverty, increasing economic and social progress, and assuring of full sustainability in the use of natural resources. As such, the organization cannot avoid assuming a leadership role in designing the strategies for agricultural and food security systems to move into the new scenarios. This is even more the case today, with definitions presented in the Reviewed Strategic Framework.

315. Working with systems-based and cross-sectoral approaches is not only knowledge intensive; it requires a different type of knowledge than traditional crop production approaches. Genuinely moving towards a fully integrated ecosystems approach to production is far from being “more of the same.” It will take a change of the knowledge base supporting production.

316. The convergence of the new biology, information technologies and nanotechnology is bringing technological approaches that just a few years ago were considered outside the frontier well into the realm of the possible. There is no doubt that the opportunities are there. Molecular biology and biotechnological tools are rapidly widening the reach of breeding processes and providing the basis for a more effective exploration of the value of biodiversity. Without remote sensing and GIS technologies, adaptation and mitigation strategies such as “climate-smart agriculture” could hardly be off the drawing board. New radiation and isotope applications to food safety, soils and water management research are becoming critical tools to improve the nutritional value of food as well as resource management strategies.

317. The issue, however, is how to make sure that these approaches become available at the level they are needed, and in particular, that smallholder producers and poorer countries are not left behind. To utilize them effectively, strong linkages must be created between agricultural technology development and the basic sciences. This, a difficult process in itself, is further compounded by the decreased support given in most national budgets to agricultural research and extension institutions. How much of this is in the SO-2 vision? And how well prepared is FAO to face these challenges?

318. The above are issues that go beyond crop production per se and are highly relevant for all of the areas where FAO provides technical support to production: livestock, forestry, fisheries, natural resource management, nutrition, food safety, etc. The issue is the role of science and technology in agricultural development, and FAO should consider the development of an institutional mechanism to increase its profile in the discussion on the role of advanced science in agricultural development. It must assume a stronger leadership role in helping the developing world express its interest and priorities in the different fields. FAO also has a role to play in developing better operational strategies to provide access to the benefits of the advanced science and technologies. A lack of economic and social impacts of associated policies and regulations was observed by the OED Food and Agriculture Policy evaluation⁵⁸ in the context of FAOs support to countries in biotechnology policy. Future operational strategies relating to “advanced science” should include relevant economic and social impact studies.

6.3.1 FAO and biotechnology

319. Following from the section above, the uncertain approach that FAO has had with respect to biotechnology is a good example of what needs to be changed. In recent years, FAO has had a significant level of activity in the area of biotechnology at all levels, including the only truly international conference held in the field of agricultural biotechnology (ABDC-10, see next para.), 19 e-conferences on strategic biotechnology policy and application issues, training events, donor-funded and TCP projects in countries on policy development and biosafety systems improvement, and a broad range of publications, manuals, guidelines, etc.

320. “ABDC-10,” the international technical conference support by FAO with others on “Agricultural biotechnologies in developing countries: Options and opportunities in crops, forestry, livestock, fisheries and agro-industry to face the challenges of food insecurity and climate change” was held in Guadalajara, Mexico in September 2010, with the objective of taking stock of the application of biotechnologies across the different food and agricultural sectors in developing countries, in order to learn from the past and to identify options for the future to face the challenges of food insecurity, climate change and natural resource degradation. The Conference proceedings “Biotechnologies for Agricultural Development” represents a significant contribution to the state-of-the-art of the applications, the limitations to be confronted and the possible

⁵⁸ FAO-OED (2012) *Evaluation of FAO's role and work in food and agriculture policy*. FAO, Rome Para 223, Page 71

policy pathways to better use of these technological options for the benefit of developing countries.⁵⁹

321. The series of 19 e-conferences was also organized and has been running since 2000, covering almost all the key issues linked to biotechnology. The conferences are organized on the basis of a background document, usually last for about four weeks, have substantive participation – in the last on "*Impacts of genomics and other 'omics' for the crop, forestry, livestock, fishery and agro-industry sectors in developing countries*", there were over 500 participants – and are followed by a summary report synthesizing the issues discussed.⁶⁰

322. As indicated, FAO has also worked in the development of biotechnology policy approaches and the improvement of biosafety capacities in a number of countries, including among others Bangladesh, Paraguay, Nicaragua, the Dominican Republic, a number of African countries and more recently in East European and Central Asian countries. There are also a number of more specific projects – mostly small TCPs – aimed at improving the use of molecular techniques in plant breeding and activities in the management of plant genetic resources.

323. However, in spite the range, diversity and importance of these activities, in general FAO has been reluctant to provide specific advice and guidelines to countries in relation to biotechnology. This is most probably a consequence of the usual erroneous tendency to equate “biotechnology” with “GMOs,” and the –understandable, to a point – inclination of an intergovernmental organization to avoid being drawn into the extremely politicized discussion around those issues, particularly in the European contexts and with the NGO community.

324. This is an issue that FAO must make an effort to grow out of. Biotechnology is about fundamental understandings of basic biological process and as such is much more than GMOs – this without denying importance of that issue and its political implications. Its non-GMO related applications are extensive and growing and they are increasingly being used throughout the world, including in those countries most active against the use of GMOs. Efforts should be made for the same to happen in developing countries and for the two issues to be dealt separately and in an apolitical context.

325. Three FAO contributions in this direction are the publication of the 2004 State of Food and Agriculture (SOFA) on "*Agricultural Biotechnology: Meeting the Needs of the Poor?*"; a publication prepared by the Agricultural Development Economics Division (ESA) on the economic benefits of biotechnology (FAO 2010); and the

⁵⁹ The Conference proceedings are organized in two main sections. The first contains ten chapters with a series of background documents prepared by FAO before ABDC-10 conference took place. They focus on the current status and options for biotechnologies in developing countries in crops, livestock, forestry, fisheries/aquaculture and food processing/safety, as well as on related policy issues and options, in particular about targeting agricultural biotechnologies to the poor; enabling research and development (R&D) for agricultural biotechnologies; and ensuring access to the benefits of R&D. The second section contains five chapters on the outcomes of ABDC-10: reports from parallel sessions; keynote presentations; and the conference report adopted by delegates.

See: <http://www.fao.org/biotech/abdc/conference-home/en/>

The report of the conference can be seen at:

http://www.fao.org/fileadmin/user_upload/abdc/documents/report.pdf

⁶⁰ For more information see: <http://www.fao.org/biotech/biotech-forum/forum-home/en/>

decades long work of the Codex Alimentarius Commission in developing standards and food safety guidelines for the safety of food that include material from GM crops. All these are widely respected and well-disseminated publications and guidelines.

326. FAO has to use its wealth of knowledge to develop science-based policy advice for countries grappling with the benefits and risks associated with the safe use of biotechnology in agriculture. This is particularly important for the smaller and poorer countries that often look to FAO as their premier source of informed, science-based technical and policy advice. FAO is also in a unique position to be able to broker the sharing of knowledge across the emerging economies that are safely and successfully using biotechnology to improve productivity in their agricultural systems (e.g. Argentina, Brazil, India, and South Africa) with other developing countries that are considering their technological options, including biotechnology.

327. In support of this FAO should be proactive in taking forward the findings and recommendations from the ABDC-10 conference in Guadalajara, work with others to keep abreast of developments in the field, and enhance its support to interested governments and other stakeholders to ensure that the best and most appropriate use is made of available agricultural biotechnologies. Given the opportunities offered by such technologies, new mechanisms should be identified which would systematically draw upon the available knowledge worldwide and make it accessible to all FAO's member countries, as an informed and ongoing source of science-based impartial advice on the benefits and risks associated with the use of new biotechnologies. Consideration might be given to the setting up of a new Commission on Agricultural Biotechnology as a possible mechanism to provide such services.

6.4 FAO and agricultural research and technology development for crops

6.4.1 FAO and National Agricultural Research and Innovation Systems

328. Over the past 20 years, FAO has largely withdrawn from providing support to national agricultural research and extension systems. In the 1990s, FAO still had a division for support to research and one for support to extension. By 2001 there were 34 technical staff in a combined research and extension division, and by 2013 there were only six posts left, two of them vacant.

329. Today there is evidence that FAO's decision to get out of research and extension, assuming that the "job was done" and/or that other providers could face up to the challenge, was not appropriate. National agricultural research and extension systems may have come of age in a small number of countries – essentially the BRIC countries and some of the larger developing countries - but in the large majority of developing countries in all regions, that is not the case, and there are increasing demands for capacity strengthening in national research, extension and innovation systems.

330. These demands reflect the needs in countries to deliver sustainable increases in agricultural productivity, address new issues (e.g. climate change, ecosystems sciences), and to access new knowledge and tools ('advanced sciences,' ICT, GIS, etc.). The evaluation was repeatedly confronted, both in countries visited and when discussing

with experts in partner institutions and in FAO, with the strongly expressed need for support to improve the efficiency and effectiveness of technology development and technology transfer systems. There is also the need to improve resilience, including at national institutional level, in terms of developing greater capacity within countries and communities to use knowledge to respond to shocks.

331. In the case of support to agricultural research and extension systems, the evaluation team considers that FAO has erroneously interpreted the IEE recommendation that the organization should downplay its work on technology development. Stronger national institutions are a necessary component for the countries to assume their responsibilities in the different technical fields. Downplaying support to technology development, and at the same time withdrawing support to the national institutions responsible for taking over this responsibility, is not a coherent approach.

332. The importance of these demands is clearly reflected in a workshop recently held in Nairobi on the CGIAR's future role in capacity development⁶¹, where staff from across the CG centres met to discuss alternatives to rebuild the system's capacity to work in support of national agricultural research, extension and innovation systems. This was a significant move if one considers that it is not even a decade since the CGIAR made the decision to close down the International Service for National Agricultural Research, ISNAR, the centre created in 1991 with the sole purpose of addressing capacity development for agricultural research at the national level.

333. The existence of a significant gap in global support to national agricultural research and extension systems was also discussed at the level of the G-20, which has decided to establish a facility – the **Tropical Agricultural Platform** (TAP) – to support developing countries with capacity development in innovation systems. FAO has been given the responsibility for the design and implementation of the TAP on behalf of the G-20, and currently provides its secretariat. A TAP Steering Committee has been formed, which met for the first time on November 21, 2013.⁶²

334. Leadership of the TAP represents a unique opportunity for FAO to regain a leadership role in this field of support to research, extension and innovation systems, and should be approached strategically. FAO must bring together not only the organization's technical expertise, but also its capacity as convener for the discussion of issues of global interest. Addressing the problem requires mobilizing the policy discussion at the appropriate levels about the need and priorities for investments in science and technology in support of agricultural development. Assistance will be needed in the design of more effective organizational schemes and operational methodologies, human resource development, etc. In these latter aspects FAO should work closely with the other technical actors in the field – the CGIAR, bilateral agencies and donors.

335. The CGIAR Nairobi meeting on capacity development identified an ongoing need to work systematically at three levels: (1) the policy level, on the enabling environment (including downstream and upstream policies, rules, legislation,

⁶¹ CGIAR (2013) Workshop Report from the CGIAR Capacity Development - Community of Practice. October 21-25, 2013, ILRI Campus, Nairobi, Kenya 36pp

⁶² For more information see www.tropagplatform.org

regulations, power relations and social norms); (2) the organizational level on institutional capacity (the internal policies, arrangements, procedures and frameworks that allow an organization to operate and deliver on its mandate, enabling the coming together of individual capacities for achieving common goals); and (3) the individual level (the skills, experience, knowledge and motivation of people).

336. Although stated in a slightly different way, this approach is clearly convergent with what FAO is proposing in SO-2 of the new strategic framework. The first Outcome it seeks to achieve is at the individual level: *Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in agricultural sector production systems in a sustainable manner*; and Outcome 2 is at the institutional and policy levels: *Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers - in the transition to sustainable agricultural sector production systems*.

337. In this context FAO should: (i) work with the Global Forum for Agricultural Research for Development, GFAR (see 5.4.6 above) to mobilize the political discussion about investments and priorities for science, technology and innovation at the global level, and the best ways to mobilize the needed resources; (ii) take strategic leadership in consolidating and operationalizing the TAP, as a resource for countries committed to the improvement of their agricultural research and extension systems, and (iii) with the CGIAR, develop a new joint programme in capacity development for national agricultural research, extension and innovation systems.

6.4.2 FAO and the CGIAR

338. FAO's new strategy places it at the interface between research and development, and in theory it is well positioned to play a critical role in the translation of research results into development outcomes.

339. FAO was a founding member of the Consultative Group on International Agricultural Research (CGIAR) in 1971 and one of its three original co-sponsors (with UNDP and the World Bank), acting not as a donor but to provide the international scientific status to the new system. Today FAO has a seat at the CGIAR Fund Council, which means it has a voice in the shaping of the system's research programmes. FAO also hosts the secretariat of the CGIAR's International Science and Partnership Council (ISPC), which provides independent technical advice to the Fund Council, as well as hosting the new Independent Evaluation Arrangement for the CGIAR.

340. The CGIAR system is currently going through a reform process which places greater emphasis on the pathway for delivery of research outputs, through to outcomes, intermediate development objectives and ultimately social, economic, nutritional and environmental impact. The CGIAR has reorganized itself into a new Consortium of the CGIAR institutes working under a matrix management arrangement, with 16 new cross-institute Consortium Research programmes (CRPs) addressing critical development challenges. The CRPs mobilize the necessary scientific resources to address these challenges, through the Consortium as well as with other partners, including national

agricultural research systems (NARS) and advanced research institutes (ARIs). The financial resources for the CRPs are mobilized through the CGIAR Fund Council.

341. FAO is directly involved in some of the CRPs, for example Climate Change Agriculture and Food Security (CCAFS) and the Global Rice Science Partnership (GRiSP). At present however, most of interactions with the CGIAR are at the level of specific centres and/or specific programmes, such as with CIMMYT in the control of the maize lethal necrosis outbreak in Eastern Africa, the FAO-ICARDA International Technical Cooperation Network on Cactus (CACTUSNET), and the Programme for Biosafety Services (PBS) with IFPRI, among many others. FAO is part of the advisory body of the IFPRI-CIAT HarvestPlus programme on bio-fortification, though there is scope for it to play a greater role in the promotion of the bio-fortified crops.

342. The advent of the CRPs as a means for jointly developing science-based innovations significantly expands the possibility for FAO to take greater responsibilities in the delivery of sustainable solutions for agriculture and rural development. Potentially, FAO should be playing a key operational role in terms of: partnering in the piloting and scaling-up of technological concepts developed by the CRPs; and working to mainstream research results into investment programmes for agricultural development.

343. Thus, given its wide reach and its presence in most of its developing member countries, FAO should be a key development partner working with the CGIAR in ensuring the widespread delivery of innovations arising from the work of the CRPs. In addition, in general but particularly now with the ongoing review of the CRPs, FAO has a key potential role to play in identify research gaps and provide a necessary feedback loop from development experience to research design. This can also mean refining technologies by learning from problems or weaknesses in larger scale applications, as could be the case for FAO's extensive work in conservation agriculture (see section 4.4.3).

344. In reality, the ideal arrangement between the CG system and FAO would be one of 'symbiosis': a continuous relationship between the two entities in which there would full participation in each other's strategy and philosophy, and a constant exchange and feedback regarding activities each was doing, each feeding into the other. In effect, some of the team members felt that the CG system actually should have been created institutionally as a research arm of FAO to support, complement, and, technologically, lead the operational work in countries. It could have been a part of FAO much like the FAO/IAEA Joint Division in Vienna (see section 4.4.6 above).

345. While at the current time this is not a practical possibility, FAO and the CGIAR are nonetheless slowly moving closer. A 'Memorandum of Understanding' was recently signed between FAO and the CGIAR (28 February 2013), and the follow-up working meeting was held on 2 July 2013. This Memorandum is one step towards building a more strategic relationship. The July 2013 meeting discussed the role FAO could play in helping to create the 'enabling environment' of policies, public investment, etc., to allow for the better uptake and spread of innovations emerging from CG Centres. Three themes formed the basis of debate:

- gender equity in food, agriculture and rural development

- enhanced mechanisms to support knowledge and technology transfer at country level (up-scaling or “landing strips”)
- metrics for impact assessment, monitoring and evaluation, and contribution to sustainable development goals

346. Currently, the CGIAR is mapping “the geographical focus of the CRPs,” i.e., where they are working, what results they expect to have and when, including the different partnerships needed as they move along the continuum from research to innovation and development. This should provide a basis for the identification of areas of “pilot” cooperation between FAO and CG Centres.

347. As FAO moves ahead with the implementation of the Reviewed Strategic Framework, it could actually make great use of (and help shape) the research work of the CG system to further develop many of the concepts which the Strategic Framework contains but which might turn out still to be problematic to implement from the technical point of view, including elements of the ecosystems approach and new technological tools needed to confront the effects of climate change.

348. FAO and the CGIAR Consortium should seek to formalize a more strategic and synergistic relationship by developing the internal processes needed to identify the priority CRPs where FAO can play a key role in the delivery of research results, and to identify major research needs made apparent by FAO’s wide-ranging work in developing countries – as well as by the implementation of FAO’s five new Strategic Objectives. The identification of these areas for closer joint work should take place both within the current CRP portfolio and during the design of new CRPs during 2014/15.

7. Major Recommendations

349. The sustainable intensification of crop production is a complex, multidisciplinary endeavour and FAO is approaching it as such. Activities in this field cover a wide range of interventions from support to the sustainable management and use of plant genetic resources to all aspects of crop protection. The activities in crop protection cover national issues as well as on the control of transboundary pest and diseases, including the promotion of certain key technological approaches such as IPM and conservation agriculture, areas where the organization has played a leadership role since the early days of their development and dissemination.

350. Support to crop production is deployed both through development activities and as part of emergency responses, where FAO is a key resource in helping countries to get their production capacities back on line after the crisis. And in protracted crisis situations, its efforts focus on the immediate challenges facing those communities affected, but it does so with a development perspective, working to put short term activities in the context of building resilience to the external shocks, whatever their origins may be.

351. Together with these efforts – which could be described as ‘field level’ – FAO also plays an important role in the development and management of key international components of the global governance of agriculture, and is a major platform for dealing with emerging issues relevant for the sector at the global level. Over the period of this evaluation, activities in support to crop production included 1408 projects with a total investment of nearly USD 2billion.

352. The evaluation has found that FAO interventions, in general, are highly appreciated by countries, donors and partners. FAO has played and continues to play a unique role, going from the global issues all the way to supporting the piloting of new technologies and approaches at the farm level, and feeding back field experiences into support to policy making.

353. Appreciation for crops support for the most part falls within this general view, although the team’s opinion is that over the period of the evaluation support to ‘sustainable intensification of crop production’ (Strategic Objective A under the ‘old’ Medium Term Plan 2010-13) has lacked focus, probably as a consequence of the thorough and ongoing process of programme change and reorganization that was taking place in AGP – the division responsible for the bulk of the activities in the area – and throughout FAO following the Independent External Evaluation.

7.1 A focus on exploiting the organization’s comparative advantages

354. FAO has a comparative advantage in the fact that it is an inter-governmental organization and the sole UN organization for food and agriculture, as well as a trusted knowledge broker and convener for global dialogue. Further being a members’ based

organization gives it distinctive access to country policy levels. It should seek to exploit these advantages to its fullest extent and make the most out of the resources it can invest – or attract from donor sources and partners – in support of improved crop production.

355. There are many outstanding examples of the importance and strategic value of FAO's global role, where it works successfully across political boundaries. One is its long standing global programme on locusts, another is the current experiences of global programmes to control the new wheat rust strain (Ug99), where FAO has played a pivotal role in bringing together international, regional and national programmes for surveillance to detect the presence of a new and damaging strain of wheat rust, and, in conjunction with CIMMYT and national wheat breeding programmes, the development of new rust resistant varieties. The global plant-breeding programme, through which FAO introduced modern plant breeding techniques into many national plant-breeding programmes, is also a relevant example of this type of work, despite the fact that this programme has now ceased. The Global IPM Facility, which ran from 1995-2012, was a similar global programme where FAO demonstrated leadership that mobilised international technical and financial resources around a key issue, and enabled experiences to be shared across countries.

356. In developing FAO's future work on crops and cropping systems to deliver the new strategic objectives, FAO should design and implement more such global and regional programmes, which mobilize partnerships among the best available sources of knowledge worldwide to address specific issues. Such programmes require FAO to have long term scientific and technical experts who can lead global programmes. FAO's role and major comparative advantage is to show global leadership on critical issues of food and agriculture, not simply to mobilize resources and recruit technical specialists to implement short term projects. FAO management needs to address this critical issue in its future staffing needs.

357. In particular, FAO plays a critical role as the trusted repository of **intergovernmental conventions, treaties and agreements** on a range of issues affecting crops, including the conservation of plant biodiversity, protection against transboundary pests and diseases and the safe use of pesticides. FAO provides the secretariat to support these various treaties and agreements and also assists countries to meet their obligations in implementing them for the common good. FAO is also the source of origin of many global norms, standards and guidelines for all aspects of food and agricultural production, in areas such as food safety, pesticide regulation, pest and diseases control, seed production, crop and soil/water relations among many others. FAO's global normative role is a unique one that plays to its strengths, and one which it does well, and will become even more essential in a context where existing norms and standards will be needed to reflect the sustainability principles implicit in the new strategic approach.

Recommendation 1: *As a global, inter-governmental but resource constrained organization, in order to maximise its impact on crop production, FAO should give its first priority to its work on global public goods and global and regional efforts on major issues. Country-specific technical activities in crops, while important, should be the second priority for resource allocation, except where these activities pilot or inform innovative policy and new directions.*

In particular, FAO should continue to maintain and strengthen its global role as convenor of international treaties and conventions, and as the source of global norms, standards and guidelines in food and agriculture. In doing so it should become proactive in bringing to the attention of the relevant bodies the changes in norms and standards required for effectively mainstreaming sustainability.

358. As well highlighted by the IEE and then further confirmed by the 2012 Evaluation of FAO's Policy Work, FAO as a global intergovernmental organization sits close to the "policy environment" side. Throughout the evaluation, national and international partners and donors emphasized this comparative advantage and what it means to optimizing resource use and partnership strategies at all levels. With regard to crops support, this does not mean abandoning field level work, but emphasizes the "piloting" nature that technology applications and farm level work have to have to justify themselves. Their "learning" value has been proven beyond discussion and there is recognition that to be effective in policy advice downstream experiences provide essential – and legitimizing – inputs. However, an organization like FAO can no longer justify this type of field activity as an end in itself.

Recommendation 2: *In the policy-to-technology continuum, FAO should redouble its efforts to actively reorient the focus of its crop activities away from technology-centred field projects and towards the **strengthening of national and international policies**, through the provision of the most solid and authoritative technical and scientific input to policy formulation and the creation of enabling policy environments supportive of crop production improvement.*

359. Many countries look to FAO as an informed and neutral source of science-based knowledge and technical advice on all aspects of food and agriculture. As it expands its role as a knowledge broker, FAO should ensure that the information it makes available to its member countries continues to be accurate, timely and accessible, including to its smaller and less well-endowed member countries that depend on FAO as their primary source of knowledge on matters of food and agriculture. In playing a stronger role as a knowledge broker, FAO should not shy away from addressing topical and at times controversial issues.

360. Science and emerging technologies, such as ICTs, applications of molecular biology and physics to agronomy (including the sometimes controversial GMOs), and many more, are already playing a critical role in the future development of agriculture, food and natural resource management, in general, and crop production in particular. FAO has a tendency to be overly 'neutral,' to the point of being timid in its approach to discussing the related issues and how to ensure that all interested countries can access and benefit from new developments. FAO is well positioned to put these discussions on the table, considering both their political and technical dimensions, and to assess the benefits and risks of their applications to agriculture, as guidance for national decision

makers. In this effort FAO should give due consideration to the most appropriate way of drawing its Governing Bodies into playing an active role in these discussions.

Recommendation 3: *Building on the fact that it is a trusted knowledge broker that provides accurate and timely information to decision makers in all member countries, FAO should be less timid about **taking an energetic role of advocacy** for advanced science-based technologies that may at times be controversial. As stated in Recommendation 1, it should continue to consolidate its role as a global platform for addressing strategic issues relating to crop production development.*

7.2 Human resource capacities in line with FAO's role and the new challenges

361. FAO staff capacity in the area of crop support has been on the decline for the last two decades and the present staff profile is more the result of a process of attrition than of conscious strategic decisions to adjust disciplinary balances to changing conditions and institutional needs. Furthermore, the ratio of Regular Programme to Project staff balance has also changed significantly as Trust Fund resources have increased relative to the regular budget. This makes it imperative that staffing decisions are carefully planned and new knowledge management instruments implemented, in order to gradually rebuild FAO's scientific and technical capacities in support of crop production.

362. At the same time, and recognising that FAO's resource constraints will prevent it from expanding its permanent staff to the levels required by the new challenges, the Organization needs to explore innovative ways to strengthen its technical capacities at a reasonable cost. One approach which appears both possible and reasonable to the evaluation team could be to develop a formal (and paid) network of external expertise from academia, other institutions, consultant networks, etc., who are kept available through such methods as retainers, guaranteed workdays, scheduled planning meetings, and so on. Such a network can then be used to provide conceptual and technical support as and when needed to strengthen FAO's in-house capacity.

Recommendation 4: *In order to strengthen its ability to serve member countries in improving crop production, FAO needs to develop a clear, medium to long-term **human resource strategy**, directly linked to the 'Theory of Change' (see also Recommendation 7), which should:*

- (a) **rebuild its technical capacities** in the crop sector, with a long term strategic view both in terms of the competencies and skills that are needed in-house to (i) provide the conceptual and scientific leadership necessary to enable the transition to production systems that are more sustainable – environmentally, economically and socially, and (ii) be effective mobilizers of external networks in support of its programmes.*
- (b) fully implement the internal **Technical Networks**, key to FAO's ability to play its role in technical assistance effectively, and that have been on the books for several years now but have not yet become effective. This must be done with appropriate levels of management and resources, to ensure (i) the development*

of “communities of practice” around the priority disciplinary fields needed to allow the innovative and effective implementation of the new vision, and (ii) the continued contribution of both Regular Programme and project staff to the build-up of the organization’s knowledge capital.

- (c) *build an **external group of experts** made up of the key world experts in the areas of FAO’s mandate in crops, that, on a contracted semi-permanent basis, provide conceptual and technical inputs as needed, or find an alternative method for provision of continuous expert input to FAO’s own understaffed divisions.*

7.3 The strategic role of research and innovation: FAO support to national research and extension, and the link with the CGIAR

363. The new vision that FAO seeks to achieve through its Reviewed Strategic Framework promotes the fundamental principle that improvements in productivity will only work if conditioned on full sustainability, and this implies going well beyond the present state of the art in agriculture. This puts the focus on the strength of national research and innovation systems. Years of diminished support have made it clear that national public sector capacities in research and extension are a necessary condition for any sustainable effort at improving crop production.

364. Over the last two decades, in line with donors and IFIs, FAO dramatically diminished its capacity to work in this field, going from maintaining a large research and extension division in the 1990s down to the much reduced staffing level of today. Demand for support from members is high and growing, and this trend must be reversed, but recognizing that there are other actors in the field and that the job will demand resources and capacities that, most probably, are beyond FAO’s reach in the short run without a significant reorientation of priorities and reallocation of budget. Working through supporting the establishment of the Tropical Agriculture Platform (TAP) could be an option, but beyond that FAO should explore more assertive actions through a joint effort with the CGIAR Consortium.

Recommendation 5: *FAO should rehabilitate and strengthen its capacity to support national agricultural research, extension and innovation systems. This support is requested and needed, and will help countries improve their capacities to exploit current and new scientific advances emerging from centres of excellence all over the world. In doing so FAO should a) make better use of the Joint FAO/IAEA Division on Nuclear Technologies in Food and Agriculture, b) give high priority to playing an active role in the design of the G-20-sponsored Tropical Agricultural Platform, for which it provides the secretariat, and c) seek to reinvigorate other partnerships with donors and bilateral agencies in support of national agricultural research, extension and innovation systems.*

The team recognises that this recommendation has implications on the priorities through which FAO determines allocation of its resources. However, the team feels the high importance accorded by members to this area of work in particular should lead to a thorough reconsideration by the Committee on Agriculture and the other FAO Governing Bodies.

365. In reinvigorating its support to national agricultural research, extension and innovation systems FAO should also review its conceptual approach to working with such national systems, as there is the need to recognize a much broader range of public and private stakeholders than has been the case in the past, both at the national and international levels. FAO's support should include technical assistance for the institutional and operational strengthening of the organizations involved. It should also link them to FAO's advocacy role, particularly in promoting higher investment levels in research and innovation, and in supporting the creation of national policy environments which provide the right incentives.

366. As discussed in this report, although FAO has been a co-sponsor of the CGIAR since its creation, the two organizations have always remained at "arms-length," rather than coming together to work as complementary and synergistic resources in support of crop production in particular, and agricultural development in general. The team found nearly unanimously positive opinions regarding the win-win nature of a closer interaction between FAO and the CG system, the first bringing its political/policy links and country network, and the second its scientific and technical resources. For this to happen, FAO has to become proactive and move beyond the present (2013) Memorandum of Understanding. The current CGIAR strategy is to focus on what it calls "integrated delivery," which means to get its products (research results, which are global public goods) to be adopted and put to use. The strategy states that "to achieve global impact, [...] partnerships with other actors are essential to complete delivery."⁶³ It is a propitious moment for FAO to seek a much closer synergy with the CGIAR.

Recommendation 6: *FAO must be more proactive in its relations and interaction with the CGIAR, developing a **strategic partnership**. FAO must work both to participate actively in the priority setting process of the CGIAR, and vice-versa, to give the CGIAR a voice in FAO's priority setting. Where there is consensus on the products of CG research, FAO would provide the needed support to translate the Centres' products into delivery of development outcomes, such as through support to countries in the creation of an enabling environment for uptake, including necessary piloting and up-scaling of selected new technological responses as they become available.*

367. In doing so FAO should continue to work with the CGIAR on the development of specific technologies and pilot experiences, but the more important effort should be on creating the internal political and operational processes to move the relationship to a more strategic-institutional level. To support this, FAO should more fully incorporate the CGIAR as a resource to mobilize in support of the new vision it promotes in its Reviewed Strategic Framework. A first step would be the identification of technological challenges implied in the Reviewed Strategic Framework including the related new research needs and to feed them into the CG priority setting process, particularly in the

⁶³ The CGIAR Strategy and Results Framework: Management Update, 2013-2014, page 7, CGIAR Consortium Office, December 20, 2013

context of the 2nd Call for Consortium Research Programme proposals currently underway.

368. In terms of piloting experiences, FAO should consider using the current plan to pilot the Reviewed Strategic Framework in selected countries bringing together all five SOs. These pilots could also include collaboration with the Consortium Research Programmes working on technologies relevant to the countries' specific production situations.

7.4 Crops within the Reviewed Strategic Framework 2010-19

369. In the past FAO has not had a well-defined Theory of Change regarding sustainable crop production intensification, which could strategically guide resource allocation within this technical area over time. The Reviewed Strategic Framework represents an important improvement over this situation. However, the role of crops is only articulated at a largely aggregated level and the extent and nature of crop production interventions are yet to be identified. Crop support appears across the five Strategic Objectives (see section 3.3.3 and Figure 1), but there is no clear view in the Strategic Framework about how crops capacity should evolve or grow.

Recommendation 7: *In beginning implementation of the Reviewed Strategic Framework, it is recommended that FAO carry out an exercise to highlight the role of crop production as a contributor to the respective Strategic Objectives outcomes, address the coherence of crop interventions within and between SOs, and to explore the intervention logic of the collective crop production contributions of the SOs towards the delivery of FAO's Global Goals. Such an effort is essential not only to inform prioritisation and intervention design in crops work and to support evaluation and impact assessment, but also, with a longer term perspective, to help better define the technical capacities which the organization will need to retain or develop.*

370. The bulk of programme emphasis today is in the area of crop protection and pest and pesticide management, while support to productivity appears to have a much lower emphasis. The team feels, however, that in pursuing its new Strategic Objectives, FAO must bring *more balance* to its future programmes on sustainably increasing productivity of crops and cropping systems, particularly in a context where emerging issues such as climate change are expected to upset and transform existing conditions. The balance should be between the goals of **sustainability** and of **productivity**. Both changes need to occur synergistically to achieve long lasting food security. If this is not the case, and instead FAO concentrates on social and environmental sustainability and neglects productivity issues (as the Strategic Framework currently seems to do), it runs the risk of being left behind in the global efforts to deliver a "more food secure world."

371. FAO has a long-standing and successful role in established technological approaches and tools such as Conservation Agriculture, Integrated Pest Management and Farmer Field Schools, as well as newer ones such as Climate-Smart Agriculture, all of which appear particularly suited to support the type of productive behaviour changes demanded by its new strategic vision. In developing the above mapping FAO should pay particular attention to how all these approaches it has developed and promoted in

the past come together in a solid technological platform to support the new production pathways which will be required.

372. Within that framework, due consideration should be given the issue of the “transition” from a crop focused agenda to one which seeks to embrace a multi-sectoral, ecosystems and landscape approach underpinned by principles of social, economic and environmental sustainability. This transition represents a major change of paradigm for most countries to which FAO provides assistance. Looking at SO-2 specifically, there is a key risk implicit in taking forward the new approach it promotes: what is the extent of national political interest, let alone commitment and real demand, for such an integrated approach which places such a strong priority on ‘full sustainability’? The current structure of national (and often donor) institutions, still largely silo-based, makes such a transition difficult, even with political will. Further, there is still a lack of proven models of these approaches at scale.

373. Consideration will also need to be given to issues relating to the scale of production and the role of different types of farmers in achieving a food secure world. How does FAO position itself with respect to the “subsistence farmers” to “commercially-linked farmers” continuum? How does it balance its support to the different scales and types of farmers and farming systems with regard to crop production, food production, poverty alleviation, and rural development? There are totally different sets of issues depending on who is the focus of support, and the Renewed Strategic Framework does not advance far enough with regard to recognition of these differences.

Recommendation 8: *Since the Reviewed Strategic Framework recognizes and indeed emphasizes that there will have to be a “transition” towards widespread adoption of full sustainability as a central condition for agricultural development, there is a critical need to define key sequential changes and corresponding interventions required to accompany this transition. This includes identifying the key entry points (technical, institutional, policy) at different stages of the “transition” and for different types of farmers and farming systems (e.g., subsistence versus market-linked), and forecasting the likely impact of different entry points and types of interventions, and the trade-offs and the costs and benefits of the different options.*

374. This mapping would not only be an important tool for FAO to make rational choices on the most cost-effective way to achieve its objectives, but also to help guide policy makers, development partners and researchers in managing the “transition” from a crop focused agenda to one which seeks to embrace a multi-sectoral, ecosystems and landscape approaches underpinned by principles of social, economic and environmental sustainability.

375. The evaluation wishes to recognize the efforts of the organization to advance in relation to the above recommendations during the latter part of 2013. The

documentation distributed to the team in January 2014⁶⁴ reflected the progress achieved in the discussion of a “house-wide” concept of *sustainability*, and guidelines for its mainstreaming in specific countries. This represents significant progress towards providing the needed operational framework to the new strategic approach. In moving forward the need remains for further work to (i) adjust the general principles stated in terms of their contribution to “sustainable agriculture” to the particular implications for crops, livestock, forestry and fisheries as special and distinct components, and (ii) further elaborate on the criteria to address trade-offs under different agro-ecological, social and economic circumstances.

⁶⁴ FAO (2013) “Sustainable food and agriculture: Vision, principles and approaches” and “*Strategic Objective 2: Next steps for mainstreaming agricultural sustainability at FAO, and implementing it in selected countries during 2014-2015*”

APPENDIX 1:
Coherence of crops support across the Strategic Objectives
Examples of critical linkage points on crop related issues between the SOs

SO-2 Increase and improve provision of goods and services from agriculture, fisheries and forests in a sustainable manner	<i>2.1 Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in the agricultural sector production systems in a sustainable manner</i>	<i>2.2 Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers – in the transition to sustainable agricultural sector production systems</i>	<i>2.3 Stakeholders develop, adopt, and implement international instruments and related governance mechanisms for sustainable agricultural production systems</i>	<i>2.4 Stakeholders make evidence-based decisions in the planning and management of the agricultural sectors and natural resources to support the transition to sustainable agricultural sector production systems</i>
SO-1 Contribute to the eradication of hunger, food insecurity and malnutrition				
1.1 Member countries and their development partners make explicit political commitments in the form of policies, investment plans, programmes, legal frameworks and the allocation of necessary resources		That policies promoted through SO-1 and SO-2 are coherent That a framework for addressing trade-offs between food security (increase in food production) and increase and improve provision of goods and services from agriculture is developed (SO-1 and SO-2)	That crop related international instruments and related governance mechanisms for sustainable agricultural production systems (SO-2) are embedded in political commitment promulgated in SO-1	
1.2 Member countries and their development partners adopt inclusive governance and coordination mechanisms			That crop related international instruments and related governance mechanisms for sustainable agricultural production systems (SO-2) are adopted through SO-1 supported activities	

SO-2 Increase and improve provision of goods and services from agriculture, fisheries and forests in a sustainable manner	<i>2.1 Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in the agricultural sector production systems in a sustainable manner</i>	<i>2.2 Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers – in the transition to sustainable agricultural sector production systems</i>	<i>2.3 Stakeholders develop, adopt, and implement international instruments and related governance mechanisms for sustainable agricultural production systems</i>	<i>2.4 Stakeholders make evidence-based decisions in the planning and management of the agricultural sectors and natural resources to support the transition to sustainable agricultural sector production systems</i>
1.3 The decisions of member countries and their development partners regarding food security and nutrition are based on evidence and high-quality, timely and comprehensive food security and nutrition analysis				That there is agreement on key crop related data requirements for the different SO-1 and SO-2 needs – as well as SO-3 and SO-4
SO-3 Reduce rural poverty				
3.3 The rural poor have enhanced and equitable access to productive resources, services, organizations and markets, and can manage their resources more sustainably.	That crop technologies are coherent (SO-3/SO-2) and informed by good practice. SO-2 generates technology packages and policy and institutional guidance appropriate for differentiated hh types/gender sensitive and for rural poverty reduction	That a framework for addressing trade-offs between rural poverty and increase and improve provision of goods and services from agriculture is developed (SO-2 and SO-3)		
3.2 The rural poor have greater opportunities to access decent farm and non-farm employment.	That crop technologies are coherent (SO-3/SO-2) and informed by good practice. SO-2 generates technology packages and policy and institutional guidance appropriate for differentiated hh types/gender sensitive and for rural poverty reduction			
3.3 Social protection systems are strengthened in support of sustainable rural poverty reduction	Crop related social protection interventions are informed by SO-2 principles			

<p>SO-2 Increase and improve provision of goods and services from agriculture, fisheries and forests in a sustainable manner</p>	<p><i>2.1 Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in the agricultural sector production systems in a sustainable manner</i></p>	<p><i>2.2 Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers – in the transition to sustainable agricultural sector production systems</i></p>	<p><i>2.3 Stakeholders develop, adopt, and implement international instruments and related governance mechanisms for sustainable agricultural production systems</i></p>	<p><i>2.4 Stakeholders make evidence-based decisions in the planning and management of the agricultural sectors and natural resources to support the transition to sustainable agricultural sector production systems</i></p>
<p>SO-4 Enable more inclusive and efficient agricultural and food systems</p>				
<p>4.1 International agreements, mechanisms and standards that promote more efficient and inclusive trade and markets are formulated and implemented</p>		<p>That a framework for addressing trade-offs between more inclusive and efficient agricultural and food systems and increase and improve provision of goods and services from agriculture is developed (SO-2 and SO-4)</p>	<p>SO-4 and SO-2 work is coherent on crop issues relating to Codex Alimentarius and the International Plant Protection Convention</p>	
<p>4.2 Agribusinesses and agrifood chains that are more inclusive and efficient are developed and implemented by the public and private sectors.</p>	<p>Crop production technologies generated by SO-2 are coherent to SO-4 for differentiated HH types</p>			
<p>4.3 Policies, financial instruments and investment that improve the inclusiveness and efficiency of agrifood systems are developed and implemented by the public and private sectors.</p>				
<p>SO-5 Increase the resilience of livelihoods to threats and crises</p>				

SO-2 Increase and improve provision of goods and services from agriculture, fisheries and forests in a sustainable manner	<i>2.1 Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in the agricultural sector production systems in a sustainable manner</i>	<i>2.2 Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers – in the transition to sustainable agricultural sector production systems</i>	<i>2.3 Stakeholders develop, adopt, and implement international instruments and related governance mechanisms for sustainable agricultural production systems</i>	<i>2.4 Stakeholders make evidence-based decisions in the planning and management of the agricultural sectors and natural resources to support the transition to sustainable agricultural sector production systems</i>
5.1 Countries and regions adopt and implement legal, policy and institutional systems and regulatory frameworks for risk reduction and crisis management.		That a framework for addressing trade-offs/ coherence between risk reduction and crisis management and increase and improve provision of goods and services from agriculture is developed (SO-2 and SO-5) Principles of good crop production practice and sustainable ecosystem management (SO-2) can feed into risk reduction and crisis management (SO-5).		
5.2 Countries and regions provide regular information and early warning against potential, known and emerging threats.		Early warning systems for crop risk/threats align SO5 and SO-2 and feed into policies		
5.3 Countries reduce risks and vulnerability at household and community level.	That efforts to reduce risk and vulnerability for crop related interventions take into account knowledge generated by SO-2 and the steps towards transition resilience to development are articulated			
5.4 Countries and regions affected by disasters and crises prepare for, and manage effective responses.				

APPENDIX 2:
Suggestions, advice and other recommendations
contained in the report

The following are key points providing advice and suggestions which are highlighted in the main body of the report and which form additional guidance to FAO on the future crop production agenda. For convenience these have been broadly clustered by topic. Where there are explicit linkages with a Major Recommendation, this has been indicated.

Para no.	Specific advice or suggestion	See also Rec. no.
Framing issues relating to crop production within the Renewed Strategic Framework		
301	Within the Reviewed Strategic framework, FAO must be much more explicit and convincing about how the tension between sustainability goals and the critical need to radically increase crop production and productivity can be simultaneously addressed and tackled.	7
302	In moving forward towards the implementation of the concepts laid out in the new vision, FAO will have to make sure that it offers not only the necessary conceptual and policy guidance, but that its products are also technically coherent for the building-up of more productive, sustainable and resilient production systems. <i>In this sense there is work still to be done in revising the experiences gained in the earlier implementation of the mentioned concepts and approaches and making sure that they are made to evolve in line with the new requirements and effectively integrate into a coherent technological platform supporting the new framework.</i>	7
59	With regard to the Regional SO Pilot Initiatives, when the pilots are complete, a full analysis of the lessons learned should be drawn from these experiences to benefit future design of interventions from the point of view of effective integration of technical areas and team building.	7
64	There is a critical need to define and map key sequential changes in a given context and the corresponding interventions required to accompany the “transition” to sustainable agricultural sector production systems. <i>SO-2 recognizes and emphasizes that there will have to be a “transition” towards sustainable agriculture sector production systems (SO-2. Outcome 2.4). Such a sequential mapping would address questions such as: what are the key entry points (technical, institution and policy) in different stages of the “transition,” what are the trade-offs and the costs and benefits, etc.</i>	8
42	FAO should clarify the role of <i>Save and Grow</i> within the future work	7

	<p>plan and address shortfalls.</p> <p><i>The MTP 2014-17 and associated work plans need to articulate explicitly the position of Save and Grow within future programming, as well as seek to address the shortfalls of Save and Grow as listed in Section 3.2.3 namely: type of farmer focus; enabling environment required to move to sustainable intensification; addressing balance between local knowledge and modern science applications for Sustainable Crop Production Intensification (SCPI)</i></p>	
	Reinvest and build FAOs' technical expertise on key areas	
214	<p>FAO should continue to work to rebuild its technical capacities in the crop sector, and do it with a strategic view both in terms of the competencies that are needed to have in-house and the skills needed to be an effective mobilizer of external networks in support of its programmes.</p> <p><i>For FAO to regain its role as the world's primary "knowledge broker" for global technical knowledge in the field of crops sector development, AGP will have to continue to fill vacancies strategically to allow it to rebuild and maintain its global technical resources</i></p>	4
215	<p>FAO should develop career pathways for crop experts with a consistent set of denominations indicating growing responsibility and authority in their own specialized field (concurrently with the above para 205).</p>	4
216	<p>FAO should explore beyond traditional networking approaches and consider the possibility of approaches linking external expertise to FAO on more permanent basis. This could be through such approaches as creating a mechanism of monetary rewards (such as retainers) that support more integrated participation in the organization's conceptual development and operational process.</p>	4
228	<p>Consider the creation of focused and non-permanent regional hubs of expertise with small teams of highly qualified crop experts with locally appropriate specializations focused on a current need, located in Regional Offices or even larger country offices.</p> <p><i>These experts would also need a good understanding of the broader development issues and ability to work at technical as well as policy levels. They would need to maintain strong linkages with research.</i></p>	4
142	<p>To achieve the potential of IPM within the SCPI framework, it will be necessary for FAO to allocate sufficient resources (i.e., sufficient priority) for appropriately specialized staff, and put in place an appropriate incentive system so that FAO specialists can play the role of highly respected knowledge brokers able to meet the needs of their member countries.</p>	4
	Develop new and upgrade and promote current key normative products	
289	<p>FAO should play a greater role in raising awareness regarding international treaties and conventions and their implications for countries that are signatories to them.</p>	1

	<p><i>With regard to international treaties and conventions under FAO's responsibility, there is a need for FAO to advocate more strongly. For example although CAADP work is already on-going in most countries, NEPAD felt that with the new CAADP guidelines FAO could play a greater role in raising awareness regarding these treaties and conventions and thus mainstreaming.</i></p>	
113	<p>FAO should establish a transparent peer review process for all major normative products.</p> <p><i>For FAO to maintain its unique service relating to normative work within its mandate, maintaining quality through both partnership with others and robust independent peer review is central. While FAO has a formal policy providing that all information products must be subject to external peer review, the application of this policy must be more consistent across technical areas</i></p>	
114	<p>FAO should address any possible anomalies between the different crop related normative products and ensure coherence and linkage.</p> <p><i>There needs to be strong linkage between normative work in different areas, for example between work on plant genetic resources (germplasm and seed banks) and that of seed and seed systems. All aspects of normative crop support work of FAO should be coherent, and, where there are different perspectives, trade-offs and challenges, these need to be clearly and transparently articulated.</i></p>	7
119	<p>FAO, working closely with others, should ensure that priority normative work in the crops sector (as illustrated in for example para. 118) continue to be developed and taken forward.</p>	
310	<p>FAO should update to the Climate-Smart Agriculture (CSA) source book in partnership with others and given the global interest subject draft materials to external peer review.</p> <p><i>The update should address deficiencies and shortfalls including the balance between 'mitigation' and 'production and adaptation'</i></p>	
310	<p>FAO should play a central role in facilitating support to Climate-Smart Agriculture, collating, analyzing and disseminating information and supporting implementation.</p> <p><i>FAO has developed a range of tools potentially useful for Climate Smart Agriculture however these need to be further developed. It was noted that FAO may lack capacity to develop and take these forward and thus be leading on such cutting edge work. This calls for much closer links with the CGIAR, as well as other centres of excellence and NARIs.</i></p>	
151	<p>FAO should take the results of work on Conservation Agriculture and conduct its own in-depth internally commissioned external review of CA as a component of its sustainable development paradigm under SO-2.</p> <p><i>The purpose being to refine the CA concept and build on the lessons learned from at least two decades of CA experience as a basis to develop a minimum set of standards for an up-to-date conservation agriculture</i></p>	

	<i>concept, which then can be promoted (where applicable) through FAO's programmes</i>	
174	<p>A focused effort is required to understand the underlying technical, social, economic and institutional factors limiting uptake of Conservation Agriculture (CA) is required.</p> <p><i>CA uptake has been inconsistent and questions have been raised about FAO's approach. FAO should look at new thinking on technical and socio-economic aspects of CA. This should be accompanied by deeper lesson learning and linkages with ongoing research such as that of the CGIAR, CIRAD and national universities</i></p>	
161	<p>FAO should institutionalise its effort to consolidate FAO's vast and worldwide experience with Farmer Field Schools.</p> <p><i>It should lead to development of packages of FFS products for different types of technical cooperation projects financed by different donors, including regional development banks and the World Bank</i></p>	
162	<p>FAO should consider the establishment/revival of a mechanism of the type of the Global IPM Facility, to support dissemination of IPM, where FFS is a major component.</p>	
129	<p>In view of the strategic role that plant breeding activities offer for achieving sustainable productivity increase in agriculture, the evaluation team advises that FAO should not abandon its support to the Global Initiative on Plant Breeding Capacity Building (GIPB), particularly in its advocacy and capacity building roles.</p>	
	Enhance the use of TCP as a vehicle for taking forward FAOs normative work	
122	<p>Enhance the use of TCP as a vehicle for taking forward FAOs normative work.</p> <p><i>TCP offers real potential, only partially realised, for piloting and validating (and adapting and learning) FAO's normative work on crops both as a path to mainstreaming at national/regional levels, and also for FAO's strategic learning and upgrading of normative products. It would be beneficial to have a coherent plan of action across countries and themes for such systematic learning to be encouraged, funded and monitored</i></p>	1/6
	Knowledge management	
216	<p>There is a need to create a knowledge sharing and exchange system on crop production and related topics and an institutional memory for this technical knowledge, and develop the appropriate mechanisms – as part of the corporate knowledge management strategy – for its wider utilization in support of the institution's strategic objectives.</p>	4
242	<p>If FAO is to maintain its technical leadership, its staff working across the globe need to have day-to-day contact, knowledge exchange and collaborative work opportunities with peers in terms of subject specialization and disciplinary interests.</p>	4

	<i>The Reviewed Strategic Framework will make the need for knowledge exchange and collaborative work, still more compelling</i>	
68	Promote the establishment of an FAO technical learning network on crops, or commit to, strengthen and support the “ Technical Network ” model.	4
231	FAO needs to strengthen the links between technical staff in HQ and staff in the decentralised offices. <i>A mechanism to do this is through the “ Technical Networks”</i>	4
112	There is a critical need to enhance the ease of access to FAOs’ normative work and products on crops and present them in ways suitable for the range of beneficiary/user groups. <i>While the FAO master search engine provides a means to search for specific topics, there is limited capacity to link across the crop focused work of the different Departments and Divisions, making it difficult to obtain an overview of FAOs entire work on crops, the core activities, the key current crop issues and key seminal products.</i>	3
	Strengthen gender mainstreaming	
191	Evidence of the implications of gender inequality on crop production outcomes should be collated, widely shared within FAO and with partners to address gender inequality and mainstream gender equality into project and programme work. <i>More evidence-based gender advocacy needs to be undertaken at the level of ministries. Given the relatively weak explicit mainstreaming of gender across the SOs, it is clear that adequate resources will be need to be allocated to cross-cutting gender mainstreaming under the Reviewed Strategic Framework to ensure that critical gender dimensions are indeed addressed.</i>	7
	Build new and stronger alliances to take key crop related agendas forward and seek out strategic entry points for partnership	
295	FAO needs to find new more effective ways of making partnerships a strategic resource for the implementation of its activities. In some cases strategic views of partners and FAO are already convergent. In such cases FAO has to work proactively to coordinate priorities and optimize impact pathways. In other cases where there is no such closeness, FAO should move to open strategy discussion with key partners to identify existing opportunities for resources alignment and make the most of such opportunities. <i>Whenever possible these efforts should also include a wider discussion of FAOs’ new vision, seeking to influence the partners’ investment behaviours beyond the resources involved in the specific collaborations/joint actions with FAO.</i>	1
271	FAO should identify points of convergence with the European Union , particularly through the further development of the operational dimensions and the cost benefits of <i>Save and Grow</i> at the country level.	1

	<p><i>This could enable FAO to play a bigger role on key initiatives such as the G8 Agreement on Nutrition. While a proportion of funding is allocated to response (remedial nutrition, supplemental feeding, etc.) the bulk is allocated to work on prevention, of which crop production is a central element.</i></p>	
275	<p>FAO could provide guidance on crops to the multi-donor supported Food Security Learning Framework.</p> <p><i>The Food Security Learning Framework aims to develop a harmonized food security monitoring and evaluation system and enable an evidence-based decision and policy making. USAID suggests that FAO could provide guidance on crops for the system, helping identify opportunities for innovation, shared global experiences (South-South learning), new agriculture and food business models, etc.</i></p>	
310	<p>FAO should seek to play an enhanced role in the United Nations Framework Convention on Climate Change (UNFCCC), providing the relevant technology in the field of agriculture, such as CSA, and strengthening the rural poverty focus of the Convention's work.</p> <p><i>It was felt that sustainable intensification of crop production must be looked into carefully at the level of the UNFCCC.</i></p>	
310	<p>FAO should seek to engage in the new 'Climate-Smart Agriculture Alliance' at a significant level.</p> <p><i>The new 'Climate Smart Agriculture Alliance' should offer opportunities for FAO to further develop and disseminate the work on CSA and associated tools and guidelines, and enable shared learning. Though it has not done so yet, FAO should seek to engage in this Alliance at a significant level.</i></p>	
310	<p>FAO should seek opportunities to work with IFAD on mainstreaming climate adaptation and resilience.</p> <p><i>IFAD is now working to mainstream climate adaptation and resilience through the Adaptation for Smallholder Agriculture Programme. FAO work is referenced but is not yet a strategic partner</i></p>	
287	<p>FAO can help the NEPAD/CAADP processes by provision of substantive information to help make decisions i.e., a knowledge support.</p> <p><i>The NEPAD/CAADP Office is currently reviewing its operational guidelines. There is a clear need to balance the commodities and the ecosystems approaches. FAO can help design key guidelines and check lists given the clear need to integrate support to commodities with ecosystems approaches.</i></p>	2
230	<p>FAO must go beyond the limits of its primary counterpart, the Ministry of Agriculture, and seek new partnerships in the area of crops.</p> <p>One area that could be strengthened would be to more effectively link up with the academic (university) system in agriculture, which can be used</p>	2

	as an effective way to influence policy	
282	<p>There are specific important opportunities to strengthen FAO-GFAR linkages in the area of crops, such as the GFAR Foresight Initiative</p> <p><i>Such linkages would also help to develop a framework and toolkit to address the trade-offs between the new Strategic Objectives and the wider FAO Global Goals.</i></p>	8
	Risk assessment in planning for the transition from emergency to development	
182	<p>Given the extent of the emergency and resilience interventions, a more comprehensive approach is required, implying a deeper understanding of the ‘emergency-resilience-development’ continuum and addressing technical, socio-economic and institutional aspects as well as the sequencing of interventions.</p> <p><i>The ongoing OED evaluation of FAO Work in Post-Crisis Transition should contribute to this understanding</i></p>	8
173	<p>There are opportunities for FAO to develop a toolkit – a road map – of alternative scenarios of the future development landscape to accompany emergency interventions, and in particular longer term emergency and resilience work.</p> <p><i>This would help minimize the risks that interventions may pose in the longer term – environmental, social, economic and institutional in the transition from emergency to development. It would also help to identify accompanying processes which could be put in place concurrently with emergency activities, or be ready for early action when development interventions are ready to begin.</i></p>	8
176	<p>The development of accompanying tools for risk assessment to inform and prepare for the transition from emergency to development would inform interventions.</p> <p><i>For example: the rapid mobilization of new farmer groups as a vehicle for receipt of the interventions, for example the P4P project in Uganda and South Africa, or for Farmer Field School training, affords limited time for associated institution building and human capacity development. This runs the risk of weak future sustainability or, worse, of damaging the pace of evolution of self-determined organizational structures.</i></p>	
260	<p>FAO must explore means for expanded collaboration with World Food Programme (WFP) at all levels of intervention in support of crop production – technical, institutional and enabling environment, including strengthening South-South learning.</p>	
130-131	<p>FAO must continue to explore ways to ensure the transition from emergency seed supply to farmers to helping countries achieve a viable seed sector, driven by local business and not dependent on emergency funds or other public subsidies.</p> <p>While FAO support for developing the seed sector is seen as appropriate and positive, FAO must take care that support is provided in ways that</p>	

	assist the long term development of the seed sector in a country, including enabling the development of local private sector seed suppliers who are able to provide high quality seed at affordable prices to farmers in the long term.	
	FAO and the science agenda including biotechnology	
	In the context of support to National Agricultural Research and Innovation Systems .	5/6
337	FAO should: (i) work with the Global Forum for Agricultural Research for Development (GFAR) to mobilize the political discussion about investments and priorities for science, technology and innovation at the global level, and the best ways to mobilize the needed resources; (ii) take strategic leadership in consolidating and operationalizing the Tropical Agricultural Platform (TAP) , as a resource for countries committed to the improvement of their agricultural research and extension systems, and (iii) with the CGIAR , develop a new joint programme in capacity development for national agricultural research, extension and innovation systems.	
282-283	Work more strategically in partnership with Global Forum for Agricultural Research for Development (GFAR) including to promote and advocate for national agricultural research systems (NARS). FAO should do more to promote and advocate for national agricultural research systems (NARS), and build NARS capacity.	
318	FAO should consider the development of an institutional mechanism to increase its profile in role of science and technology in agricultural development . It must assume a stronger leadership role in helping the developing world express its interest and priorities in these different fields. Further FAO has a role to play in developing better operational strategies to provide access to the benefits of the advanced science and technologies.	1
326	FAO has to use its wealth of knowledge to develop science-based policy advice for countries grappling with the benefits and risks associated with the safe use of biotechnology in agriculture.	3
199	FAO should seek to develop a more strategic and symbiotic relationship with the FAO/IAEA Joint Division in the context of the new Strategic Objectives, aiming at better exploiting its capacities in support of (i) the ecosystems services approach, in particular, and the development of innovative sustainable practices and approaches, in general, and (ii) the strengthening of national innovation systems.	5
327	FAO should be proactive in taking forward the findings and recommendations from the ABDC-10 Conference in Guadalajara, work with others to keep abreast of developments in the field, and enhance its support to interested governments and other stakeholders to ensuring that the best and most appropriate use is made of available agricultural biotechnologies.	3
327	New mechanisms should be identified which would systematically	3

	<p>draw upon the available knowledge worldwide and make it accessible to FAO's member countries, as an informed and ongoing source of science based impartial advice on the benefits and risks associated with the use of new biotechnologies.</p> <p>Consideration might be given to the setting up of a new Commission on Agricultural Biotechnology as a possible mechanism to provide such services.</p>	
	FAO Partnership with the CGIAR on crops	
342	FAO should be playing a key operational role in terms of: partnering in the piloting and scaling up of technological concepts developed by the CGIAR Research Programmes (CRPs); and working to mainstream research results into investment programmes for agricultural development.	6
348	FAO and the CGIAR Consortium should seek to formalize a more strategic and synergistic relationship by developing the internal processes needed to identify the priority CGIAR Research Programmes (CRPs) where FAO can play a key role in the delivery of research results, and to identify major research needs made apparent by FAO's wide-ranging work in developing countries – as well as by the implementation of FAO's five new Strategic Objectives. The identification of these areas for closer joint work should take place both within the current CRP portfolio and during the design of new CRPs during 2014/15	6
283	<p>FAO has a major role to play in the definition of the research agenda.</p> <p>It was pointed out that there is currently no locally owned and participatory mechanism for CGIAR to identify country and regional research and knowledge needs, and that FAO could play such an enabling role.</p>	6

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APPENDIX 4

Advisory Panel Note on the draft Evaluation Report

The Panel appreciates that it was brought into the process at an appropriate and important juncture. The documents were shared with in-house colleagues and the Panel in time for incorporation of suggestions by a receptive Evaluation Team. The Panel brought a diversity of views, worked collegially and interacted with the Evaluation Team. Members of the Panel sent written comments on the report in advance of the review meeting which facilitated discussion with the Evaluation Team. In addition, extensive feed-back on the draft Evaluation by FAO staff synthesized in tables brought up a wealth of perspective and demonstrated their positive engagement. Members of FAO Senior Management made themselves available for discussion with the Panel and their views helped to shape its final work.

The Panel recognizes that the Evaluation was purposely not a traditional ex-post evaluation but rather a proactive look at the role of crops within an evolving Strategic Framework. The account of this evolution was necessary to place the Evaluation in context of a still moving target.

For wider understanding of the report it will be necessary to clarify key concepts and boundaries of what is included in “crops”, which obviously goes beyond the AGP division, and relates the role of crops to the Strategic Objectives and Global Goals of FAO. The Panel acknowledges the Team’s effort to present graphically the interrelationships among Strategic Objectives and Global Goals, which is a useful step towards elaborating a cogent Theory of Change. The Panel suggests that FAO consider a wider definition of crops. A definition of other key concepts as used in the report, such as sustainable crop production intensification (SCPI), is necessary. A list of acronyms would have been helpful, as would a draft Executive summary.

The Panel believes that the approach by the Evaluation Team was appropriate and covered the critical issues. It made recommendations dealing with 1) the role of crops in the new Strategic Framework, 2) the strategic role of new knowledge, 3) human resource capacities and partnerships to meet FAO’s role and new challenges, and 4) exploiting FAO’s comparative advantage.

The draft evaluation report goes beyond “crops” to deal with core functions of FAO under the new Strategic Framework. In the Panel’s discussion with Senior Management they confirmed their welcome of the forward-looking approach taken by the evaluation. However, the Panel recognized that FAO does not yet have a common view of the actions to be taken in support of crops in the new Strategic Framework. Senior Management expressed the view that the spirit of the Evaluation should be the guiding force and not specific programmatic details.

The Evaluation did not make recommendations on the structure of FAO around crops. The Panel notes that the strategy must come together at the local level. The reasoning in the document is largely at the global scale but operationally it has to be applied at the local scale, specifically the trade-offs between productivity and sustainability. The performance of mechanisms such as the Technical Networks will be critical in achieving this integration.

The Evaluation makes several formal recommendations but within the analytic body of the report there are many observations and suggestions that should not be overlooked.

Jock R. Anderson
Howard Elliott
Etienne Hainzelin
Juan Lucas Restrepo

7 February 2014

EVALUATION OF FAO'S ROLE IN SUPPORT OF CROP PRODUCTION

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ANNEX 1:
Concept Note and Terms of Reference
July 2013

**Evaluation of FAO's Role in Support of the Sustainable Increase and Improvement of
Goods and Services from Crop Production**
(tentative title)

An evaluation of FAO action since the IEE (2007-2012), analysing support to crop production through the lens of the new Strategic Objective 2: *Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner*

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Abstract

This evaluation is taking an unusual approach because of the profound changes which FAO is undergoing at this time. In order to maximise its usefulness as a tool to learn from experience and improve future strategy, the evaluation will measure experience of the recent past in terms of the new set of objectives which FAO formulated during 2012. The analysis of crop production support will be treated as a case study of FAO's role and work in the context of the wider vision of the five new Strategic Objectives, using Strategic Objective 2 (SO-2), focused on the sustainable increase and improvement of goods and services from agriculture¹, as an entry point, but also recognizing that crop production activities are present in an important way in the other four SOs. The emphasis in SO-2 is to use an integrated natural resource and ecosystem approach to achieve a level of sustainability which goes beyond just seeking to do no harm, but produces positive ecosystem and social outcomes, while supporting economic growth. The evaluation will analyse and assess recent

¹ "Agriculture," here and elsewhere in this Note, is meant in the wider sense used by FAO, including livestock, forestry and fisheries as well as crops.

FAO crop production support and draw lessons to provide guidance on how FAO can and should reorient its role and work to achieve its new strategy.

A. The Background: FAO and Crops

1. As part of its Global Goals of (1) eradication of world hunger; (2) (a) elimination of poverty and (b) economic and social progress; and (3) achievement of full sustainability in the use of natural resources, FAO seeks to increase and improve agricultural production, of which a major part is crops. FAO's historical role as the food and agriculture arm of the United Nations has meant that it always had a specific focus on the production of crops, meaning mainly food crops, but also including commercial and industrial crops. From its earliest days and well into the 1990s, the majority of projects requested by members and implemented by FAO were related to crop production.
2. A major thematic evaluation of FAO's support to crop production was carried out ten years ago, in 2003. At that time, it identified the important areas of FAO work in crops to be mainly technology transfer, training, information, and promotion of research and development.
3. Since then, FAO's role overall, and especially FAO's role in technology transfer, have changed significantly. In 2006-07, FAO as a whole was evaluated in the context of the "IEE," or Independent External Evaluation of FAO. That exercise marked a turning point for FAO, as the IEE stressed that its days as a technology-transfer agency should end, replaced by a higher-level role as a policy and capacity development agency. The direct field-level project work in agriculture in which FAO had been the dominant player for several decades had now become a crowded playing field, occupied by NGOs, bilateral aid agencies, private foundations and developing country governments themselves. The IEE recommended that as an intergovernmental agency advising governments, serving as repository for critical information and knowledge resources and acting as normative agency for a wide range of global governance instruments, FAO should accelerate its shift of focus to policy-level work.
4. However, issues that are now central to rural development and food security, such as climate change and biotechnologies, mean that the evolution of technological solutions is once again central to achieving FAO's global goals. Demand is again growing for FAO to provide advice or endorsement for specific technologies, as well as methods for development (research) and diffusion (extension) of these technologies. The emphasis for the past few years has been not just to increase production, but to do so in a way that conserves and improves the environment and is socially and economically sustainable. With regard to crops, the term FAO has adopted and is now using to refer to this is "Sustainable Crop Production Intensification," or SCPI.

B. The Challenge: To analyse how past work contributes to new objectives

5. It is in this context that the FAO member countries requested the Office of Evaluation to carry out a new evaluation of FAO's role in supporting crop production. The evaluation was to be based on strategic objective 'A' from the Strategic Framework which launched in 2010: "*Sustainable intensification of crop production.*" That document identified four areas of intervention under strategic objective A: increase agricultural (crop) productivity; enhance

sustainable crop protection (e.g., using IPM); efficiently manage biodiversity and ecosystem services; and strengthen livelihoods through support to crop-related value chains. Attention was focused mainly at the level of policy and the enabling environment, at global and at country level.

6. However, in the time that has passed since the original request was formulated, a new Director-General has been elected, and he has launched a thorough strategic rethinking of the way FAO does business. This has led to the formulation of five broad new strategic objectives for the organization:

- SO-1: Contribute to the eradication of hunger, food insecurity and malnutrition
- SO-2: Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner
- SO-3: Reduce rural poverty
- SO-4: Enable more inclusive and efficient agricultural and food systems at local, national and international levels
- SO-5: Increase the resilience of livelihoods to threats and crises

7. This thematic evaluation is being conceived as a “formative evaluation,” where the aim is principally to support institutional learning through drawing lessons from the in-depth analysis of recent experience. As the activities of FAO in support of crop production which the evaluation will be analysing were developed and implemented under two different and rapidly changing strategic frameworks (before and after 2010) which will soon be made irrelevant by the launch of the new and very different one in 2014, it is proposed that, to maximise usefulness of this exercise, the evaluation will examine FAO’s work *through the lens of the new strategic objectives* which go into effect just as the evaluation will be concluding.

8. It will then use its analysis to provide recommendations to FAO on how it can most effectively structure its work in this area to (a) meet the needs of its member countries, (b) make best use of its comparative advantages and resources, and (c) move toward the achievement of its Global Goals.

9. SO-2 is the objective which most directly covers the thematic area of this evaluation, and will be guiding FAO’s work in this area for several years to come. Therefore, the evaluation team will be tasked with reviewing FAO’s work to understand whether, and how well or poorly, this work has been providing support to “*increase and improve the provision of goods and services from crop production in a sustainable manner.*” The evaluation will be looking at the components of SO-2 with the intention of understanding if the Theory of Change which would lead from this SO to the Global Goals is a valid one (see Appendix: Theory of Change diagram).

10. The details of SO-2 are given below, and they will be used to examine FAO work during the six years which have elapsed since the analysis made by the IEE.

C. Elements of Strategic Object 2 around which the evaluation will be designed²

² This section paraphrases from the FAO Medium-Term Plan 2014-17, which presents the latest developments in the DG’s Strategic Thinking Process with regard to the new strategic objectives.

11. As noted above, Strategic Objective 2 (SO-2) is about sustainable intensification, where the key term is “sustainable.” It seeks to be innovative by focusing attention (a) on the fact that sustainability is not only about the environment, but rather has three equally important “pillars” of environmental, economic and social sustainability; and (b) on moving ‘sustainably produced’ out of its current niche market and achieving genuinely wide-scale adoption of sustainable practices. The whole Strategic Framework also adopts a ‘systems approach’ to agricultural development, viewing agricultural production as part of a whole that goes from farm to table.

12. SO-2 is also innovative in taking the range of natural resources for production as an integrated system, rather than as discreet areas of crop production, livestock production, forestry and fisheries. For this reason, the evaluation will be considering **crop production as a case study within the full human/agro-ecosystem approach to agricultural production.**

13. The key global issues identified to define FAO’s work under Strategic Objective 2 are:

- scarcity and degradation of the natural resource base
- the importance of ecosystem services and biodiversity
- impacts of climate change
- impacts of growing human migration (rural-urban, crisis/climate driven, international)
- new threats from emerging pathogens such as avian flu, or from invasive species
- weaknesses in governance and policy-making
- the importance of the broad variety of local conditions
- the need for a dynamic process of innovation

14. Four principles are to guide the design of activities and initiatives under SO-2:

- increasing resource use efficiency,
- management of ecological, social and economic risks,
- identifying and enhancing the role of ecosystem services,
- facilitating access to information and knowledge, including on new technologies.

15. The four particular areas of support which have been identified in order to achieve this objective are considered traditionally FAO areas of comparative advantage. The first is FAO’s historic role in **facilitating the development and dissemination of relevant technologies/practices** through better policies, capacity development and fostering of innovation, seeking to overcome the barriers to large-scale adoption. In its evolving role as primarily a policy support and capacity development organization, FAO would also work to **foster enabling frameworks and good governance** for sustainable – in all three aspects – production systems. In its UN-mandated global governance role, FAO must work to ensure the development of **effective international instruments and governance mechanisms** for sustainable resource use in agricultural production. This would in particular entail **providing information and developing capacity for evidence-based policy and planning** for sustainable production.

16. It is with these elements in mind that the evaluation will examine the work that FAO has been carrying out in recent years. The evaluation will assess the extent to which it has or has not – and how well if it has – already been providing members with assistance in these four areas. The four areas of support identified in the new framework were all among FAO’s “Core Functions” as defined in earlier Strategic Frameworks, which should facilitate making links between current work and future goals.

D. Purpose of the Evaluation

17. This evaluation was planned in agreement with the FAO Programme Committee, in view of the time passed since the 2003 crop production evaluation and the changing international and development context. The report of the evaluation will be presented at the 115th session of the Programme Committee in March 2014.

18. The main purpose of the evaluation will be to **assess the evolving role, capacity, and comparative advantage of FAO in providing support to the global community in the areas of crop production**. It will evaluate the extent to which FAO's crop support work over the past six years fits with the direction it is now mapping in its new strategic framework, to understand how this work will need to evolve to achieve FAO's goals. It will also assess FAO's internal structure and mechanisms for carrying out its crop support work and its mechanisms for communicating normative outputs both internally and externally. The evaluation will make recommendations with regard to the future of FAO's global role in supporting crop production, internal organization of this work, and approach to assistance to its membership.

19. As a strategic (process) exercise, this evaluation will be placing less emphasis on the technical content of FAO's crops support messages than on the institutional role, capacities and processes through which FAO prioritises and undertakes this work.

E. What is Crop Production Support in FAO?

1. Who does what

20. FAO's involvement in crop production takes many forms. It also cuts across the work of several technical divisions. The main division for support to crop production is the **Plant Production and Protection Division, AGP**. Over the years, AGP's crop support work has evolved, and its activities are currently organized around the following themes:

- **Sustainable Crop Production Intensification (SCPI)** aims to increase crop production per unit area, taking into consideration all relevant factors affecting the productivity and sustainability and working on three dimensions: policy, technologies and farmers. Special attention is paid to smallholders through Farmer Field Schools (FFS) and local participatory research. At technological level SCPI focuses on conservation agriculture, agricultural mechanization, and integrated management of pests (IPM), plant nutrients, weeds and pollination.
- **Pest and Pesticide Management** including IPM, management of pesticide stocks and residues
- **Preventive control of transboundary and migratory pests** (such as locusts) including the mitigation measures to control pests plagues
- **Seeds and Plant Genetic Resources**, working on national seed systems, and on conservation of genetic resources for food and agriculture
- **Biodiversity and Ecosystem Services** working on ecosystem-based production practices, crop and crop associated biodiversity
- **Agricultural Mechanization**, recently moved to this division from AGS (see below).
- **Plant Production and Climate Change**, focusing on Climate Smart Agriculture

- **Horticulture and Industrial Crops**, whose initiatives include the FAO-WHO Fruit and Vegetable Initiative for Health, Global Cassava Development Initiative, International Year of the Potato, Urban and Peri-Urban Horticulture. This area is also shared with the Trade and Markets Division (EST), and their work on agricultural commodities.
- **International Treaties, Conventions, Advisory Bodies** including the International Plant Protection Convention (which, with regard to the new Strategic Framework, is actually under SO-4 as part of food safety), the Rotterdam Convention, the Joint Meeting on Pesticide Residues, the FAO Commissions for Locust Control, the Commission on Genetic Resources for Food and Agriculture, the International Rice Commission and the International Treaty on Plant Genetic Resources for Food and Agriculture

21. Several other FAO divisions work on issues related to crop production and management. The degree of collaboration between these divisions and AGP varies considerably.

22. **The Rural Infrastructure and Agro-Industries Division (AGS)** focuses mainly on post-production activities, such as *post-harvest losses, marketing, processing, agro-industry* and *value-chain analysis and management*, which to a great extent take up where AGP work – at the start of the value chain – lets off. AGS also is responsible for *rural finance* activities at FAO, which are a key element of on-farm investment which supports production. Another relevant activity of AGS is on *rural infrastructure* (mainly transport and markets), though this area has been given lower priority in recent years.

23. In the **Natural Resource Management and Environment Department (NR)**, the areas covered by the **Climate Change, Energy and Tenure Division (NRC)**, including land tenure and bioenergy issues, are closely related to the work on SCPI. These include cross-divisional activities in the framework of *climate-smart agriculture* approach that “sustainably increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation) while enhancing the achievement of national food security and development goals.” The **Land and Water Division (NRL)** also is focused on issues of direct relevance to production, including *soil nutrition and management, irrigation, land and water resource mapping*, and collaboration with the *Global Soils Partnership*. Also in the NR Department, work on *biodiversity and genetic resources for food and agriculture* is an important part of the ‘sustainability’ issue in SCPI. Recently moved to the NR Department is **the Office of Knowledge Exchange, Research and Extension (OEK)**, which houses FAO’s small *research and extension* unit, greatly reduced over the past 15 years as donors and the World Bank diminished their support to governments of these key areas in favour of privatization. However, renewed attention to the importance of responsive national agricultural research institutions and effective national dissemination systems may lead to greater attention in future. The **Joint FAO/IAEA Programme** has also recently moved to the this department, and works on *nuclear techniques in food and agriculture*, such as for *plant breeding and genetics* using radiation induced mutation, mutation detection and pre-breeding technologies. Work in *insect pest control* focuses mainly on the environmentally-friendly ‘sterile insect technique.’

24. **The Trade and Markets Division (EST)**, while mostly concerned with trade issues, has a significant amount of activity centred on supporting small producers of *cash and industrial crops* for marketing and trade. The division supports FAO’s Committee on Commodity Problems and its Intergovernmental Commodity Groups which work on such crops as oilseeds, rice, grains, tropical fruits, tea and hard fibres. EST also houses FAO’s Global Information and Early Warning System (GIEWS), responsible for monitoring agro-

meteorology, pest infestations, market and price fluctuations, and other factors affecting crop production.

25. **The Emergency and Rehabilitation Division (TCE)**, in its work aimed at accelerating *post crisis rehabilitation of agricultural production* and rural development, as well as building resilience into production and food systems, is often closely engaged in crop related work. Among the main activities TCE has carried out over the years is the distribution of seeds and inputs to accelerate resumption of production following crises, support to rehabilitation of seed systems and markets, and playing a role in developing and promoting resilient crop production systems. This includes working with other divisions in such areas as conservation agriculture, climate change mitigation, early warning, and strengthening of needed policy frameworks and institutions.

26. **The Investment Centre Division (TCI)**, which provides technical and policy advice and support to countries for *investing in agriculture and rural development* (in particular but not limited to investing funds from international financial institutions - IFIs), is frequently involved in projects with strong agronomic and crops-related components. TCI also provides support to the rest of FAO in the encouragement and facilitation of investment. It supports countries in developing national agricultural investment strategies, for example in support of the African Union's Comprehensive African Agricultural Development Program (CAADP). As such, TCI itself includes staff with significant crops expertise and experience, and in some cases works closely with AGP in providing support.

27. Other parts of FAO also have some less obvious roles in support to crop production, such as **the Forestry Department (FO)**, which has linkages to crops from the fact that forests are often a major source of agricultural/crop lands, as well as having an important role in water availability, and even a direct link through agroforestry production systems; or the **Animal Production and Health Division (AGA)**, which does some work on *animal feeds*, including production of crops for animal feed.

2. *Recent Past Assessments of FAO's Crops Work*

28. As mentioned above, a thematic "**Evaluation of FAO Activities in Crop Production**" was carried out in 2003, with a particular focus on the Plant Production and Protection Division (AGP) and within it the Crops and Grasslands Service (AGPC), as well as, to a lesser extent, the Joint FAO/IAEA Division (AGE). That evaluation focused on what at the time were seen as the four areas of concentration of FAO work in crops: (i) technology transfer and training; (ii) providing a neutral forum; (iii) providing information; and (iv) promoting initiatives in strategic research and development. It concluded that while AGP's field activities were adequately designed and had a positive impact in the countries, they lacked interdisciplinarity and focus.

29. The evaluation recommended that FAO's crop production work should be organized in a more multi-disciplinary manner, and that FAO should act more as an adviser on crops policy and strategic development. It suggested reorganizing the Crop and Grassland Service into teams responsible for major tropical production systems and agro-ecologies. The evaluation recommended a focus on raising strategic awareness and promoting appropriate policy and technical initiatives in plant breeding, as well as promoting a specific focus on horticulture. It was recommended to bring in greater expertise on biotechnology. A closer interaction and partnership with the CGIAR institutes was identified as a necessary evolution given the changes in their mandates which brought them closer to the work of FAO.

30. The other important recent independent review of FAO's work in this area was that conducted by the 2007 **Independent External Evaluation of FAO (IEE)**. In the context of a complete overview of FAO's technical work, that IEE conducted an overview of the work in crop production, agro-engineering, plant protection and pesticides. The evaluation found that FAO's work in treaties and conventions and associated policy and capacity building work remained highly relevant and important. This included plant genetic resources, the International Plant Protection Convention (IPPC) and the work on conventions and codes for pesticides and other agricultural chemicals.

31. However, the IEE concluded that crop production was one of the areas where FAO has lost its comparative advantage and greater expertise and funds were available through other organizations, and governments themselves. It suggested de-emphasizing work on crop production and processing technologies in the overall set of FAO priority areas, and redistribution of the resources away from crop production. In the short term, the IEE recommended keeping up work on only two areas of crop production that at the time it identified as important and within FAO's comparative advantage: plant nutrition and peri-urban horticulture. It also made the following specific recommendations:

- a) In order to ensure greater synergies and more effective use of resources, the activities of the Crops and Grassland Service and the Seeds and Plant Genetic Service were to be merged;
- b) Given that two CGIAR centres deal exclusively with rice and that in FAO, the trade aspects are addressed by EST, it was recommended that the International Rice Commission should be discontinued.
- c) FAO's role in supporting Integrated Pest Management (IPM) was to move away from piloting and demonstration and involvement at community level, now done by many others, while its role in the development of policy and regulation remained critical.

32. It must be noted however that most of the IEE recommendations to reduce priority of work in crops were ultimately not accepted, in large part as a result of the effects of the soaring food price crisis of 2007-08, shortly after the IEE delivered its report.

F. Preliminary Consideration of Issues to be Addressed

33. During the first stage of the evaluation process, the Team Leader, with the support of the Office of Evaluation, will prepare the Inception Report which will explore the key issues to be examined by the evaluation and the approach that the evaluation team will adopt. An Expert Panel will be convened (see paragraph 51) to discuss this document with the team and arrive at the final design of the evaluation.

34. A preliminary list of issues that have been raised in preparatory discussions and research for this evaluation is presented below.

1. Questions related to the Strategic Objective 2 'lens'

35. SO-2 is focused mainly on two aspects of production support work: **integrating cross-cutting issues** in agricultural, fisheries and forestry production, and ensuring **sustainable approaches** are used, including three aspects of sustainability: economic, social and

environmental. The evaluation should consider FAO's crops support work through a *cross-cutting 'integrated natural resource management' lens* to identify linkages that could or should exist across FAO interventions in all sectors to achieve better impacts.

36. The revision of the strategic framework has devoted considerable discussion to the position of FAO with regard to provision of knowledge: **is FAO's role that of a developer and producer of knowledge, or rather of harvester, analyser and broker of knowledge developed elsewhere?** FAO has always had a mix of these two roles, but the balance now seems to be shifting more to the 'knowledge broker' and 'clearinghouse' role. What does this mean for future support to crop production?

37. **Transitions to systems-based and cross-sectoral approaches are knowledge intensive.** This can be challenging because of decreased support given in most national budgets to farmer training and extension. In addition, input suppliers (e.g. pesticides, fertilizers etc.), who currently provide a considerable amount of advice to farmers, will often find it contrary to their interests to emphasize efficiency and greater reliance on biological inputs or an ecosystem approach. How well prepared is FAO to face these challenges in moving toward the vision of SO-2?

38. Some observers note that there has been some difficulty in attracting **donor interest in supporting the type of systemic or holistic approaches** envisaged by SO-2 and the whole Strategic Framework, as opposed to more narrowly focused technical work. These approaches are becoming progressively more complex and harder for donors to sell to their constituents. In addition, donor funding generally comes with a time-frame that is too short to achieve clearly measurable impact for an integrated and multi-sectoral project, working across often highly fragmented sub-sectors at national level. Has recent – more integrated – FAO crops work suffered from these constraints? What can be done to overcome them?

2. *Questions about crop production support at global, regional and country level*

39. **Renewed focus on technological solutions:** Because of such game-changing factors such as climate change, smallholders' traditional technologies that have worked for decades or even centuries may not be a good guide for what will work in the future. New technologies will need to be developed, and systems found to get them to those who will need them. Two inputs will be needed to deal with climate change: policies (to provide incentives for innovation) and technologies. What should FAO's role be?

40. Among FAO's new strategic objectives is SO-5 on resilient agriculture. In a world where production difficulties caused by climate, conflict, natural events and fragile states are more and more frequent, FAO's recently renewed efforts to overcome the **separation between "emergency" (or "humanitarian") support and development work** are still quite far from achieving the desired integration. FAO has extensive activities in the post-crisis rehabilitation of crop production, but there is still a issue with the links between this work and the development support work of the organization. The evaluation will need to look at the emergency work as well as non-emergency, and assess how FAO balances and coordinates between the two.

41. **Many of the 'technological' issues on which FAO is focusing in crop production present a delicate or controversial political side**, such as for example the use of genetic modification to increase production, or biofuel crop production and its impact on food prices. In the first case, the issue is often both about intellectual property rights and about the possible dangers in the creation and use of transgenic organisms, both sensitive areas. In the

case of biofuels, while great concern is expressed in some quarters that they raise global grain and food prices, the use of renewable agricultural production to ease problems of both fossil fuel use and pollution is just as clearly in line with a focus on sustainability and ecosystem services. How does the organization arrive at its positions on these kinds of sensitive crop-related issues, and how does it defend them?

42. At global and also regional levels, the evaluation will need to consider **links (e.g., partnerships, leadership) and coherence between FAO's work and global and regional initiatives**, such as the Global Partnership for Agriculture and Food Security, the L'Aquila Initiative, the World Summit on Food Security, the Comprehensive Africa Agricultural Programme, etc. Regional partnerships and alliances among governments, donors and multilateral agencies continue to emerge (e.g., AGIR in West Africa), in which FAO needs to be positioned to play a contributing or leading role suited to its strengths. Also at regional level, coordination with and support to regional bodies (the regional economic commissions) will be an important consideration.

43. FAO as a UN presence and an advisor in member countries has two main obligations: to bring **'global public goods' and 'global governance' issues** in the areas of its mandate to national attention, and to respond to and assist with **country priority demands and requests** (in line with the Paris-Accra-Busan initiatives). It will be important understand how FAO has dealt with these obligations, and especially when there are discrepancies between them. Is FAO crop production work is primarily driven by country priorities or by FAO (global governance) priorities? The evaluation will need to consider how FAO should balance these obligations under its Country Programming Framework, and how it can best **translate its global role and normative resources into country-level work**.

44. When using 'demonstration' or 'pilot' type approaches, as is most often the case with FAO field projects, **scaling-up successful results to national or regional levels is usually a serious challenge**. Among others, this could be due to lack of political commitment by national governments to support or ensure a multi-sectoral approach, to general institutional weaknesses (education, research, extension, decentralized governance structures) at all levels (especially community and district-levels), and/or to a lack of cooperation or differing priorities between neighbouring countries. As the scaling up of the sustainability and ecosystem services approach to production is a central tenet of SO-2, the evaluation will want to better understand which factors have impeded large up-scaling and suggest ways, if any, by which FAO might overcome them.

3. Some in-house issues with respect to crop production support

45. A recurrent issue raised in reviews of FAO's technical work is **the reduced staff resources, both in terms of numbers and in narrowed skills and capacity mix**, which is the result of years of diminishing budgets and the great difficulty the organization has in setting priorities. This is just as true for provision of effective crop production support and assistance as it is for other areas. In addition, while as noted above FAO's support to members is moving quickly toward a more strategic, policy-level role, for historical reasons, FAO technical staff is often selected based mainly on technical-scientific capacity. The work these staff then carry out however generally has a strong policy element. This can result in a tendency towards 'technology-driven' responses to policy issues and problems in crop production. This is an important issue for the evaluation to investigate. Who is responsible for crops work, and what are their professional profiles, skills and capacities? What resources are available, and what resources are needed?

46. In all reviews of FAO, including a rapid assessment in the preparation of this concept note, **the problem of disunity, a ‘silo’ culture**, poor inter-departmental and inter-divisional cooperation, lack of information sharing and collaboration, always emerges as a major issue for the organization. The evaluation will need to consider whether and to what extent this has been an issue for FAO crops work, which cuts horizontally across many divisions and departments. It will need to consider whether the measures being taken under the current reforms for cross-organizational collaboration are likely to overcome these problems in the future.

47. Closely related is the nature and quality of **the links between headquarters and decentralised offices**, including in particular the five regional offices and their sub-regional offices, but also the FAO country representations. At regional and sub-regional levels, decentralised technical officers and ‘multi-disciplinary teams’ bear much of the responsibility for backstopping country crops support work. However, technical capacities in the decentralized offices in several disciplines are insufficient to meet the demands of member countries. Country offices, with their single international officer (the Representative), have a direct assistance role due to their proximity to government technical departments and policy makers. The evaluation will want to assess the interaction between the different levels of the organization for crop production support, and consider the changes underway (or needed) in these interactions and technical linkages under the reform process.

G. Scope of the Evaluation

48. The evaluation will examine FAO's crops support work at global, regional and country level looking in particular at the following areas:³

- a) Changing national and international demands and the role of various international organizations in meeting individual countries' needs with respect to crop production (the context);
- b) The development of and advocacy for corporate crop production messages, including those deriving from international instruments under FAO responsibility;
- c) FAO's role in the generation, management and provision of the data, information and knowledge needed for analysis of production issues and approaches of importance to members (at all levels);
- d) FAO's role in facilitating and informing policy dialogue, e.g., through support to and organisation of international meetings, working groups, committees, etc. on crop production related issues;
- e) FAO support to development of evidence-based national and regional policies, investments and programmes;
- f) FAO's direct and indirect assistance to specific member countries on practices and technologies which support sustainably improved and increased crop production;
- g) FAO's role and capacity in promoting and facilitating partnerships to support improved crop production; and

³ These areas include the 7 new “Core Functions” of FAO in the Revised Strategic Framework.

- h) FAO's assistance to the regional economic bodies and other multi-country institutions dealing with agriculture production support.

49. More specifically, the evaluation will analyse FAO's work according to the standard evaluation criteria of relevance, efficiency, effectiveness, impact and sustainability. The general issues it will need to cover under these headings are given below.

- 1) **Relevance and responsiveness** to members needs and global imperatives for crop production support, including:
 - a) the extent to which the resources for and main outputs of crop support work since 2010 were being applied towards achieving the objectives and results sought under FAO's previous Strategic Framework and Medium Term Plan (2010-19);
 - b) The extent to which FAO crop production work supports the achievement of the UN Millennium Development Goals, works within the principles of the Paris, Accra and Busan initiatives, and supports other internationally agreed strategies, approaches, goals and standards;
 - c) the degree to which crops support work has focused on topics and problems assigned priority by countries, regions and international bodies, and also the role FAO's new Country and Regional Programming processes can play in better focusing this work;
 - d) the relevance of the activities to the intended final beneficiaries;
 - e) the degree of (and attention to) complementarity between FAO's crop production support and that provided by other sources;
 - f) the extent to which work represents the most appropriate response from FAO, takes advantage of FAO's comparative advantages, and takes account of the work of other organizations and institutions; and
 - g) the flexibility of response in the light of changing demands.

Under the heading of Relevance, the evaluation will also assess the relevance of recent FAO crop production work to the new direction the organization is taking under the Revised Strategic Framework and MTP 2014-17. This assessment will focus on the new Strategic Objective 2 (section C, above), and the extent to which crop production support work in the period under review is found to support the eight key factors which SO-2 seeks to affect, the four principles it seeks to apply, and the four types of support it uses to achieve change

- 2) **Efficiency** (in terms of use of limited resources) of FAO's work in support of crop production, including:
 - a) the extent to which the Organization makes use of its multi-disciplinary strengths. FAO's internal mechanisms will be reviewed under this heading, including integration of crops work with relevant ongoing organizational programmes and initiatives across the natural resource spectrum, interaction, harmonisation and collaboration between the many different institutional units dealing with crops-related work, and the impact of the current reform process. This assessment will specifically consider FAO's recent crops support work in terms of the core functions, cross-cutting themes and functional objectives described in the MTP 2014-17.
 - b) partnership and coordination with other international and national organizations providing crop production assistance and advice. Under Efficiency, this refers in particular to the extent to which FAO is able to extend its resources through partnering on activities and initiatives, where partners invest their resources in a manner that supports FAO goals;

- c) the quality of outputs of crop support work, including such factors as appropriateness, relevance and implementability;
 - d) cost-effectiveness in production of these outputs; and
 - e) balance of staff and non-staff resources available for crop production support work.
- 3) **Effectiveness**, in terms of achieving **impact** on the primary and ultimate target beneficiaries, and the **sustainability** (likelihood of continued positive outcomes in the longer term in the three dimensions: environmental, social and economic) of these outcomes and impacts, including the:
- a) the extent of synergy and balance between FAO's global governance and global public goods role in agriculture (genetic resources, pesticides management, locust and other pest control, early warning and agro-meteorology, etc.), and its country-level service role in support of national priorities, requests and needs;
 - b) degree to which assistance led to increased national skills in crop production policy formulation, management and resource allocation;
 - c) extent to which crop production support and capacity development work has led to strengthened institutional capacity for improving sustainable crop production in member countries; and
 - d) to the extent that it can be measured or estimated, the impact of FAO crop production assistance on countries' agriculture sector, environment and food security situation.

H. Evaluation Methodology

50. The evaluation will gather, analyse and report information mainly through the following means:

- a thorough review of relevant documentation from within FAO as well as from other agencies working in crop production support;
- in-depth interviews with a range of stakeholders in FAO, including senior management, the staff of the Agriculture Department and in particular AGP, and the staff and managers of other units identified in section E above;
- ongoing discussions with members of the Strategic Objective 2 coordination teams on the evolution of that SO and the links with existing FAO crops work;
- questionnaires to key stakeholders in FAO HQ and decentralised staff, and to recipients of assistance and users of FAO's crop production support products, to gather their views on usefulness, relevance, quality and comparative advantages of FAO crops work, and where that work should go in future in the context of the Revised Strategic Framework;
- visits to 8-12 case-study countries (two-three countries in each of the regions), for in-depth information gathering and analysis of crops support needs and expectations, and assessment of the provision of support (both projects and normative work) by FAO and others; the country missions will discuss with FAO country staff, government from technical to senior political levels, national stakeholders in crop production (including NGOs and civil society organizations, academic institutions, private sector organizations, etc.), other development agencies present in the country, and donors.
- convening of an Expert Panel (see below) of specialists and practitioners of global repute to provide insights and input to the evaluation team, meeting at the start and end of the evaluation process;

- a workshop in Rome at the end of the evaluation to discuss the findings and conclusions of the Team.

51. In addition to the evaluation team, an independent Expert Panel composed of 4-6 senior authorities in the field of agricultural development assistance and crop production will be brought together in Rome at two crucial moments in the evaluation process: first to review the Inception Report and provide input on the design of the evaluation; second to review the draft final report and provide advice for the finalisation of the recommendations of the evaluation.

52. The final output of the evaluation will be the Evaluation Report, which will be presented to FAO Management for preparation of the Management Response. The Response formulation process will include the evaluation team, to ensure full and accurate consideration of the evaluation report's findings in order to maximise the benefit to FAO of this complex exercise. The team leader will carry responsibility for producing the report, which will then be published as an FAO Office of Evaluation document. In case of diverging views during finalisation, the Office and the team leader will therefore need to reach an agreed joint position on the final content and recommendations.

I. The Evaluation Team

53. The evaluation team will consist of:

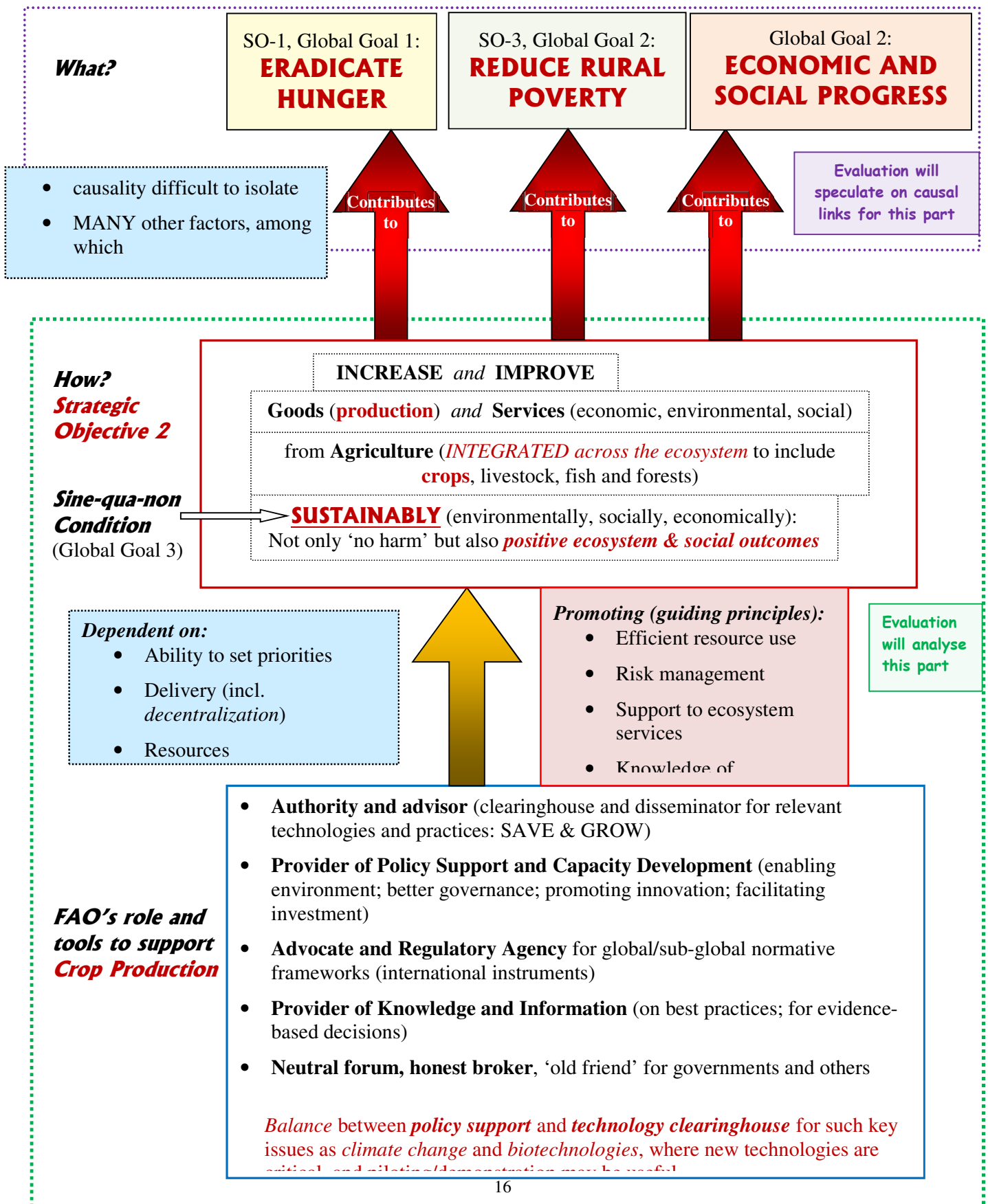
1. an independent team leader, recognised at global level for his/her expertise in agricultural production and rural development, in agricultural policy change, and in strategic evaluation in a multilateral institution. The Team Leader should ideally have a good familiarity with FAO, its history and its current work;
2. two to three independent core team members with experience in various aspects of crop production and agricultural development, institution and capacity development in governments, corporate and institutional organization of UN or other international bureaucracies, specific regional experience, or other areas as appropriate;
3. an evaluator from the FAO Office of Evaluation acting as team member and evaluation manager, and
4. one or two evaluation analysts.

54. The evaluation will be managed by the FAO Office of Evaluation. The evaluation team leader will participate in the whole evaluation process starting as early as possible, including the preparatory phase during which he/she will prepare an Inception Report. To the extent possible, team composition will be balanced in terms of regional and gender representation. The FAO Office of Evaluation will participate in the regional and country missions and will support the preparation of regional reports and the overall evaluation report.

J. Tentative Timetable

May-June 2013	<ul style="list-style-type: none"> • Identification and selection of evaluation team • Evaluation Analyst (starting earlier) gathers and analyses background information and documentation, preparing information notes and syntheses • Identification of Peer Review Panel members
Late June 2013	<ul style="list-style-type: none"> • Team Leader in Rome for one week for initial discussions, interviews, document review, planning • TL returns home and prepares Inception Report/Issues Paper
Early July 2013	<ul style="list-style-type: none"> • Inception Report circulated for comment
July 2013	<ul style="list-style-type: none"> • Full team gathers in Rome - planning and HQ interviews
August 2013	<ul style="list-style-type: none"> • 1 week full-team field visit to a country or Regional Office • Preparation questionnaire(s) by team and preparation for implementation of survey of member countries by Evaluation Analyst in Rome
Starting August 2013	<ul style="list-style-type: none"> • Country visits (about 12) and visits to other development institutions and donors in Europe and North America
October 2013	<ul style="list-style-type: none"> • 1 or 2 week meeting of the full team in Rome to wrap up the information gathering phase and plan report writing, and present initial findings to HQ stakeholders
October-November 2013	<ul style="list-style-type: none"> • Preparation of draft evaluation report (4-5 weeks)
Late-November 2013	<ul style="list-style-type: none"> • Circulation of Draft Report for comments from FAO stakeholders – comments received and consolidated by late-November.
1st half of January 2014	<ul style="list-style-type: none"> • Team in Rome for discussion of comments • Meeting/workshop of FAO stakeholders to provide feedback on comments and discuss how they will be considered; • Peer Review Panel meeting • Team Leader stays on for 1 week to incorporate comments (with possible follow-up individual meetings with commenters)
End January 2014	<ul style="list-style-type: none"> • Final Report delivered
by end-February 2014	<ul style="list-style-type: none"> • FAO Management Response prepared
May 2014	<ul style="list-style-type: none"> • Discussion of the final report and management response at the Spring session of the FAO Programme Committee

Appendix: Diagram of the Theory of Change
(preliminary version)



ANNEX 2:
Profiles of Evaluation Team Members and Advisory Panel Members

(to be completed)

**ANNEX 3:
List of Persons and Institutions Interviewed**

FAO Headquarters

name	position	Institution
Dan Gustafson	Deputy Director General Operations	FAO
Ren Wang	Assistant Director General, Agriculture and Consumer Protection Department	FAO
Kostas Stamoulis	SO-1 Strategic Objective Coordinator (SOC), Director, Agricultural Development Economics Division (ESA)	FAO
Rob Voss	SO-3 SOC, Director, Social Protection Division (ESP)	FAO
Eugenia Serova	SO-4 SOC, Director, Rural Infrastructure and Agro-Industries Division (AGS)	FAO
Dominique Burgeon	SO-5 SOC, Director, Emergency and Rehabilitation Division (TCE)	FAO
Yao Xiangjun	Director, Climate Change, Bioenergy and Tenure Division (NRC), Deputy SOC for SO2	FAO
David Hallam	Director, Trade and Markets Division (EST)	FAO
Boyd Haight	Director, Office of Strategic, Planning and Resources Management (OSP)	FAO
Minà Dowlatchahi	Deputy Director (OSP)	FAO
Douglas McGuire	Team Leader Forest Resources Management Team	FAO
Mette Loyche-Wilkie	Senior Forestry Officer (SO2 Alternate Deputy Coordinator)	FAO
Pasquale Steduto	Deputy Director, Land and Water Division (NRL)	FAO
Andrea Sonnino	Chief, Research and Extension Unit	FAO
Magdalena Blum	Extension Systems Officer	FAO
Karin Nichterlein	Agricultural Research Officer	FAO
Mona Chaya	FAO Food Chain Crisis Coordinator, Deputy SOC 5	FAO
Guy Evers	Deputy Director, Investment Centre Division (TCI)	FAO
Alex Jones	Senior Programme Officer, Africa (TCI)	FAO
Kazim Kemal-Ur-Rahim	Marketing and agribusiness officer (TCI)	FAO
Yasmeen Khwasa	Policy officer (TCI)	FAO
Dino Francescutti	Senior Economist (TCI)	FAO
Yomina Cherrou	Agronomist (TCI)	FAO
Hermann Pfeiffer	Senior Agronomist Africa/CAADP (TCI)	FAO
Turi Fileccia,	Senior Agronomist Central Asia (TCI)	FAO
Thomas Muenzel	Senior Economist (TCI)	FAO
Zhijun Chen	Irrigation and Rural Infrastructure Engineer (TCI)	FAO
Benjamin O'Brien	Agriculture Officer (TCI)	FAO
Giovanni Munoz	Land and Water Development Engineer, Investment Centre Division	FAO
Jean Marc Faures	Land and Water Division	FAO
Patricia Mejias Moreno	Land and Water Division	FAO
Pietro Gennari,	Director, Statistics Division ESS	FAO
Joseph Schmidhuber	Deputy Director, Statistics Division ESS	FAO
	Plant Production and Protection Division (AGP):	
Clayton Campanhola	SO-2 SOC and Director, AGP	FAO
Masahito Enomoto	Deputy Director, AGP	FAO
Bill Murray	Senior Programme Officer	
Yukio Yokoi	Team Leader, AGPMI (IPPC)	FAO
Stefano Diulgheroff	Plant Genetic Resources and Seeds, AGPMG	FAO
Elisabetta Tagliati	Hazardous Pesticides, Rotterdam Convention AGPMR	FAO
Alison Hodder	Team Leader a.i., Livelihoods, health and income (AGPML)	FAO
Winfred Hammond	Locust Officer (AGPMM)	FAO
Yang Yongli	Pesticides Management, AGPMC	FAO
Shakeel Bhatti	Secretary, Treaty on Plant Genetic Resources for Food and Agriculture	FAO
Mario Marino	Treaty on PGRFA, AGPMT	FAO
Aia Idemitsu	Treaty on PGRFA, AGPMT	FAO

Anne-Sophie Poisot	Integrated Pesticides Management, AGPMC	FAO
Harry van der Wulp	Integrated Pesticides Management, AGPMC	FAO
William Settle	Integrated Pesticides Management, AGPMC	FAO
Mohammed Ammati	Pesticide Risk Reduction	FAO
Caterina Batello	Team Leader, AGPME, Ecosystem Approach to Crop Intensification	FAO
Chikelu Mba	Agriculture Officer (AGPMG)	FAO
Josef Kienzle	Agricultural Engineer (AGPME)	FAO
Kakoli Ghosh	Team Leader, Plant Genetic Resources and Seeds (AGPMG)	FAO
Samuel Kugbei,	Agricultural Officer (AGPMG)	FAO
Arshiya Noorani,	Agricultural Officer (AGPMG)	FAO
Manuela Allara	Agricultural Officer (AGPME)	FAO

Others in Rome

Name	Position	Institution
Thomas Elhaut	Director, Statistics and Studies for Development	IFAD
Wafaa El-Khoury,	Senior Agricultural Advisor, Technical Division,	IFAD
Nicole Leigh Carta	Partnership and Resource Mobilization	IFAD
Mark Holderness	Executive Secretary	GFAR
Volli Carucci	Policy Division, Resilience and Prevention team	WFP
Edouard Nizeyimana,	Senior Programme Advisor & M&E specialist. P4P (Purchase for Progress)	WFP
Clare Mbizule Chipimo	Senior Programme Adviser, Learning & Sharing. P4P	WFP
David Nowell	Senior Information Exchange Officer	International Plant Protection Convention (IPPC)
Friedel Cramer	Deputy Permanent Representative	Permanent Representation, Federal Republic of Germany

Kenya

name	position	Institution
Rajeev Agarwal	Acting FAOR-Kenya, Senior Admin Officer FAO-Somalia	FAO
Augusta Abate	Assistant FAOR Program	FAO
Daniel Muchiri Wachira	Assistant FAOR Administration	FAO
Jean-Jacques Franck de Ferrière	Agribusiness Advisor, Agribusiness Support for Smallholders Project	FAO
Paul Omanga	Crop Production Officer	FAO
Tito Arunga	National Agriculture Value Chain Officer	FAO
Paul Mutungi	Pastoral Field School Officer	FAO
Beatrice Mwangela	M&E officer	FAO
Queen Katembu	Gender Officer	FAO
Tito Arunga	Value Chain Officer	FAO
Franc Ferreira	Agribusiness Advisor	FAO
Thiery Ntambwiza,	Operations Officer	FAO
Johnson Irungu Waithaka	Director of Agriculture	Ministry of Agriculture, Livestock and Fisheries.
Johnson Irungu	Director of Crop Management,	Ministry of Agriculture, Livestock and Fisheries.
Abnev Togosi	Food security and early warning	Ministry of Agriculture, Livestock and Fisheries.
Clement Muyesu	Food Crops	Ministry of Agriculture, Livestock and Fisheries.
Abraham Barno	Agro Industry Development	Ministry of Agriculture, Livestock and Fisheries.

Dorcas Mwakol	Senior Programme Officer, CAADP focal point	Agricultural Sector Coordination Unit (ASCU)
Mary Mwale	Programme Officer	Agricultural Sector Coordination Unit (ASCU)
Francis Muthami	Programme manager, GoK	GIZ (Germany)
Jackson Muchoki	Senior Programme Officer, Private Sector Development in Agriculture	GIZ (Germany)
Andrew Karanja	Senior Agricultural Economist, World Bank	World Bank
David Mwangi Njuru	Rural Development Officer	EU Delegation
Luca Alinovi	FAOR Somalia	FAO
Jacob Mignouna	Senior Program Officer	Bill and Melinda Gates Foundation
Abed Kagundu	Plant Health Inspection Service	KEPHIS
David Githaiga	Programme Specialist Energy, Environment and Climate Change Unit	UNDP
Tsedeke Abate	Drought Tolerant Maize for Africa	CIMMYT
Saidu Koala	Coordinator of AFNET	CIAT
Boaz S. Waswa	Program Coordinator for CIAT Africa	CIAT
Juliet Braslow	Soils Research Area Coordinator	CIAT
Daphne Muchai	Institutional Development and Organizational Strengthening Manager,	Kenya National Farmers Federation
Judith Libaisi,	Agribusiness and Value Chains Manager	Kenya National Farmers Federation
Roda Kelonsi	Training	Kenya National Farmers Federation
Jimmy Smith	Director General	ILRI
Suzanne Bertrand	DDG Biosciences	ILRI
Shirley Tarawali	Director of Institutional Planning and Partnerships	ILRI
Stephen Kemp	Biosciences	ILRI
Maria Alexandra Jorge	Manager Genebank	ILRI based in Ethiopia)
Ethel Makila	Communications Officer	ILRI
Ravi Prabhu	DDG Research	ICRAF
Fergus Sinclair	Agroforestry systems	ICRAF
Daniel Ofori	Tree diversity, domestication	ICRAF
Ingrid Oborn	Tropics research	ICRAF
Katja Kehlenbeck	Fruit trees nutrition and health	ICRAF
Ingrid Oborn	Senior Research Fellow	ICRAF
Mohamed Sessay	Chief of Biodiversity/Land deg/Biosafety & Portfolio Manager, DEPI GEF	UNEP
Jane W Karuku	President	AGRA
Joseph DeVries	Director Program for Africa's Seed Systems (PASS)	AGRA
Paul Ngaruiya	Registration Officer,	Pest Control Products Board
Erik Kamau	Project Management Unit team	Pest Control Products Board
Joseph Ochieng	Deputy director, Food Crop division, KARI	KARI
Dan Kithinji Marangu	Senior Assistant Director, Multilateral Environmental Agreements,	Ministry of Environment, Water and Natural Resources
Hippolyte Affognon	Social science unit, African Insect Science for Food and Health	ICIPE
Anna Njui	Manager Grants Partnerships and Projects	ICIPE
Samira Abuelgasim	Fruit fly program	ICIPE
Komi Fiaboe	Entomologist	ICIPE

Zimbabwe and FAO Sub-Regional Office for Southern Africa (SFS)

Name	Position	Institution
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David Phiri	Sub-regional Coordinator for Southern Africa/Representative for Zimbabwe and Swaziland	FAO
Aubrey Harris	Senior Fisheries Officer, SFS	FAO
David Mfote	Assistant FAO Representative	FAO
Jean-Claude Urvoy	Emergency Coordinator	FAO
Obert Maminimini	Programme Officer	FAO
Kasto Kwazira	Crops Officer	FAO
Mildred Mushurje	HIV-Gender-Livelihoods Officer	FAO
Felix Dzvuruni	Crops Officer, Emergency Unit	FAO
Barbara Mathemera	Policy Coordination Officer	FAO
Levison Zimori	Programme Quality Manager	CARE International
Joseph Gondo	Principal Director, AGRITEX	AGRITEX
Dansile Hikwa	Principle Director, Dept. of Research and Special Services (DR&SS)	AGRITEX
Godfrey Chikwenherie	Head of Plant Protection, DR&SS	AGRITEX
Fitsum Assefa	Nutrition Officer	UNICEF
Danisile Hikwa	Principal Director, Dept of Research and Specialist Services	Ministry of Agriculture
Johnson Irungu	Director of Crops Management	Ministry of Agriculture
Abrev Tangosi	Head of Food Security	Ministry of Agriculture
Clement Muyesu	Head of Food Crops	Ministry of Agriculture
Abraham Barno	Head of Agro-Industry Development	Ministry of Agriculture
David Bunyatta	Head of Rice Promotion Unit	Ministry of Agriculture
Fambaoga Myambo and colleagues	Research and Development	Ministry of Industry and Commerce
Tasiana Chris Nyadzayo	National Nutritional Manager	Ministry of Health and Child Welfare
Omar Lyasse	Sr Agriculture Economist	World Bank
Ruth Wutete	Social Protection Expert	World Bank
Abdur Rahim Siddiqui	Deputy Country Director	World Food Programme
Gift Magaya	VAM Unit	World Food Programme
Arnold Bray Masingaidze	Department of Crop Science	Chinhoyi University of Technology
Florence Mtambanengwe	Lecturer, Soil Fertility Management	University of Zimbabwe, Crop Sciences
Regis Chikowo	Lecturer, Crop Production	University of Zimbabwe, Crop Sciences
Mandi Rukuni	Director	International Business Service Consulting (Zimbabwe) Director
Paul Zakariya	Executive Director	Zimbabwe Farmers Union
Prince Kuipa	Chief Economist	Zimbabwe Farmers Union
Elinon Maponde	Executive Manager, Crops	Zimbabwe Farmers Union
Anthea Kerr	Livelihoods and Food Security Adviser	DFID
Liesl Karen Inglis	Attache Food Security	EU
Lee Absolom Marwa	Executive Director	Linkages for Economic Assistance of the Disadvantaged (LEAD)
Walter Chigodora	Chair of the Association, and Managing Director, Agriseeds (PvT) Ltd	Zimbabwe Seed Trade Association

South Africa for NEPAD/CAADP

Name	Position	Institution
Tobias Takavarasha	FAO Representative -South Africa	FAO
Lot Mlati	Assistant FAO Representative - South Africa	FAO
Koleka Mbane	Director, Special Projects DAFF Secondment to FAO, South Africa	FAO
Sina W. S. Luchen	Regional Agronomist, Risk Reduction Office (Southern Africa)	FAO
Martin Bwalya	CAADP Coordinator	NEPAD
Mwanja Ng'anjo	Programme Officer	NEPAD

Burkina Faso

Name	Position	Institution
Djimé Adoum	Secrétaire Exécutif	CILSS - Comité Inter-Etats pour la Lutte contre la Sécheresse dans le Sahel
Blamsia Braoussala	Secrétaire Exécutif Adjoint	CILSS
Ibrahim L. Idi Issa	Chef, Unité Suivi-Eval., Planification, Genre, Stratégie	CILSS
Moussa Cissé	Coord. PRA/Marchés	CILSS
Guy Marcel Bouafou Kouaré	DG AGRHYMET	CILSS
Antoine Some	DG Institut du Sahel (INSAH)	CILSS
Mahalmoudou Hamadoun	Coordonateur Régional PRA/SA-LCD-POP-DEV	CILSS
Aboulaye Désiré Traoré	Chargé Sécurité Alimentaire	EU Delegation
Amadou Hébié	Chargé Prog. Dev. Rural, Environment, Société Civile	EU Delegation
Moussa Kaboré	Secrétaire Général	Ministère de l'Agriculture et de la Sécurité Alimentaire (MASA),
Bouma Thio	Directeur Général	DG des Production Végétales (DGPV)
Lucien Sawadogo	Directeur Production des Végétaux	DGPV-MASA
Bania	Rep. du Directeur de la Vulgarisation	DGPV-MASA
Moussa Maïga	DESS	DGPV-MASA
Oblé Neya	Directeur	Direction des Etudes et Planification, Ministère de la Recherche Scientifique
M. Ouédraogo	Chef d'unité	Direction des Etudes et Planification, Ministère de la Recherche Scientifique
Dr. François Lompo	Directeur	Institut de l'Environnement et Recherches Agricoles (INERA)
Hamidou Traoré	Directeur Scientifique	INERA
Erevé Marcel Ouédraogo	Chargé des Ressources en Eau, Directeur Agriculture par intérim	Union Economique et Monétaire Ouest Africaine (UEMOA)
Ouola Traoré	Coord. PAFICOT (coton)	UEMOA
Gilbert Zongo	Chargé Agriculture	UEMOA/DSAMC
Jean-Pascal Kaboré	Country Programme Officer	IFAD
François Rasolo	FAO Representative	FAO
Rémy Courcier	Emergency Coordinator	FAO

Morocco

Name	Function	Institution/Organisation
Michael George HAGE	FAOR	FAO
Ahmed Belfqik	Manager, Federation Interprofessionnelle des Activités Cerealieres	Confederation Marocaine de l'agriculture et de developpement rural (COMADER) FIAC
Mohammed SADIKI	Secretary General	Ministry of Agriculture and Maritime Fishery (MAPM)
Soufiane LARGUET	Director of Strategy	Ministry of Agriculture and Maritime Fishery, Directorate for Strategy and Statistics
Nabil CHAOUKI	Director	Ministry of Agriculture and Maritime Fishery, Direction de Développement des Filières de Production
Asma HAMZAOUI	Chief of the Planning and Piloting Service	Ministry of Agriculture and Maritime Fishery, Direction de Développement des Filières de Production
Khadija BENDRISS	Chief of Labelling Division ('labélisation')	Direction de Développement des Filières de Production

Jaouad BHAJJI	Directeur	DEFR (Directorate for Teaching, Training and Research) Ministry of Agriculture and Maritime Fishery
Zouattane EL MADANI	Chef de Division de l'Enseignement Supérieur et de la Recherche et Développement	DEFR (Directorate for Teaching, Training and Research) Ministry of Agriculture and Maritime Fishery
Jamal BOUJENDAR	Chef de Division de l'Enseignement Technique et de la Formation Professionnelle	DEFR (Directorate for Teaching, Training and Research) Ministry of Agriculture and Maritime Fishery
Salaheddine BAKKALO YAKHLEF	Chef de Service de la Recherche et Développement	DEFR (Directorate for Teaching, Training and Research) Ministry of Agriculture and Maritime Fishery
Said FEGROUCHE	Director, Project Engineering, (project design), Division de l'Ingénierie des Projets	Agricultural Development Agency (ADA)
Abdellah MDAFRI	Chef de la Division des Financements Division Administration et Finance	Agricultural Development Agency (ADA)
Mohammed DAOUAYRY	Relations avec le Bailleurs	Agricultural Development Agency (ADA)
Matthew Burton	Director, Economic Growth Office	USAID – Morocco
Fatine Bellamine	Program Management Specialist	USAID – Morocco
Mohamed MEDOUAR	Senior Rural Development Specialist	World Bank – Morocco
Olivier BRETECHE	Chargé des Opérations	African Development Bank – Morocco
Driss KHIATI	Agriculture Sector Specialist	African Development Bank – Morocco
Mme. Loubna CHAMIM	Chef de la Division Coopération	Ministry of Agriculture and Maritime Fishery, Division de la Coopération (DSS), Direction de la Stratégie et de la Statistique
Mme. Noura CHARRAT	Chef de Service de la Coopération Multilatérale	Ministry of Agriculture and Maritime Fishery, Division de la Coopération (DSS), Direction de la Stratégie et de la Statistique
Dr Rachid MRABET	Directeur de Recherche, Chef Division Scientifique	Institut National de la Recherche Agricole (INRA)
Dr Riad BALAGHI	Chief, Dept. for Environment and Natural Resources	Institut National de la Recherche Agricole (INRA)
Prof. Mohamed ETTARID	Deputy Director for Science Research and Doctoral Study	Institut Agronomique et Vétérinaire Hassan II – IAV
Prof. Ahmed BAMOUN	Dept. of Plant Production	Institut Agronomique et Vétérinaire Hassan II – IAV
Noureddine CHTAINA	Dept. of Plant Protection and Production, Pesticides and Environment Lab	Institut Agronomique et Vétérinaire Hassan II – IAV
Prof. El Houssine BARTALI	Dept. of Agricultural Engineering, Water infrastructure	Institut Agronomique et Vétérinaire Hassan II – IAV
Fatima BERICHE	Direction de la Coopération	Institut Agronomique et Vétérinaire Hassan II – IAV
Mohammed Amal RAHEL	Chief, Plant Protection Division	ONSSA- Office National Sécurité Sanitaire des Produits Alimentaires
Malika BOUNIOUR	Plant Health Specialist, Plant Protection Division	ONSSA- Office National Sécurité Sanitaire des Produits Alimentaires
Mariam EL AKEL	Plant Protection Specialist, IPM/FFS National Coordinator	ONSSA- Office National Sécurité Sanitaire des Produits Alimentaires
Salah RITOUNE	Plant Protection Specialist	ONSSA- Office National Sécurité Sanitaire des Produits Alimentaires

Mohamed BELGHITI	Ingénieur Général	Direction de l'Irrigation et l'Aménagement de l'Espace Agricole – DIAEA
Zakaria EL YACOUBI	Ingénieur du Génie Rural	Direction de l'Irrigation et l'Aménagement de l'Espace Agricole – DIAEA
Mme. Loubna CHAMIM	Chef de la Division Coopération	Ministry of Agriculture and Maritime Fishery, Division de la Cooperation (DSS), Direction de la Stratégie et de la Statistique
Mme. Noura CHARRAT	Chef de Service de la Coopération Multilateral	Ministry of Agriculture and Maritime Fishery, Division de la Cooperation (DSS), Direction de la Stratégie et de la Statistique
Olivier BRETECHE	Chargé des Opérations	African Development Bank – Morocco
Driss KHIATI	Agriculture Sector Specialist	African Development Bank – Morocco
Ahmed Belfqih	Representative	Fédération Interprofessionnelle des Activités Céréalières (FIAC)

Tunis (FAO Sub-Regional Office for North Africa – SNE)

Name	Position	Institution
Benoit Horemans	Sub-Regional Coordinator SNE and FAO Representative to Tunisia	SNE FAO
Noureddine NASR	Plant Production and Protection Officer	SNE FAO
Malek Hayder	Animal production/forestry	SNE FAO
Mohammed Bengoumi	Animal production and Health	SNE FAO
Abdelwahab Belloum	Land and Water Officer	SNE FAO
Alfredo Impiglia	Coordinator Regional IPM Programme in the Near East	FAO
Bruno Minjauw	Emergency and Rehabilitation Coordinator for North Africa	SNE FAO
Ali Nefzaoui	Livestock and Rangeland Production Scientist	ICARDA
Steve Kayizzi-Mugerwa	Director, Development Research Department	African Development Bank
Gilbert Galibaka	Economist	African Development Bank

Budapest (FAO Regional Office for Europe and Central Asia – REU)

name	position	Institution
Tony Alonzi	O-i-C, Regional Office for Europe and Central Asia	FAO
David Sedik	Senior Agricultural Policy Officer	FAO
Avetik Nersisyan	Crop Production and Plant Protection Officer	FAO
Andrea Veres	Junior Technical Officer	FAO
Raimund Jehle	Senior Field Programme Officer	FAO
Dmitry Zvyagintsev	Junior Professional Officer	FAO

Bangkok (FAO Regional Office for Asia and the Pacific)

name	position	Institution
Hiroyuki Konuma,	Assistant Director-General and Regional Representative	FAO
Adnan Quereshi	Senior Administrative Officer	FAO
Subash Dasgupta	Senior Plant Production Officer	FAO
David Dawe	Senior Economist	FAO
Bui Ba Bong	Rice Production Expert	FAO
Ramesh Sharma	Senior Policy Officer	FAO
Naoki Minamiguchi	Senior Food Security Consultant	FAO

Johannes Ketelaar	Chief Technical Advisor, Pesticide Risk Reduction in South-East Asia project	FAO
Yuji Niino	Land Management Officer	FAO

India

name	position	Institution
Peter Kenmore	FAOR	FAO
Prof. Ramesh Chand	Director, National Centre for Agricultural Economics	National Center for Agricultural Economics
Rajeshwari Sarala Raina	Principal Scientist	National Institute of Science, Technology and Development Studies NISTADS/CSIR (Council of Scientific and Industrial Research)
P.K. Joshi	Director-South Asia	International Food Policy Research Institute
Lise Grande	UNRC	UN
Tinni Sawhney	Programme Director South Asia Pro Poor Livestock Policy Programme Regional Livestock Policy Forum	FAO
S Ayyappan,	Secretary, DARE and DG,	ICAR (Indian council of agricultural research)
Sanjeev Chopra	Joint Secretary & Mission Director, National Horticulture Mission	Department of Agriculture & Cooperation, MoA
Satya Priya	National Programme Coordinator, FAO Land and Water Programme	FAO
Animesh Shrivastava	Lead Agriculture Economist, South Asia Agriculture and Rural Development	World Bank
Sitaramachandra Machiraju	Senior Rural Development Specialist	World Bank
R.S. Pathak	Senior Water Resources Specialist, South Asia Sustainable Development Department	World Bank
Anju Gaur	Senior Water Resources specialist, Agriculture and rural development unit	World Bank

Indonesia

name	title	Institution
Mustafa Imir	FAOR in Indonesia	FAO
Ageng Herianto	AFAOR Programme	FAO
Satya Tripathi –	Director of UN Office for REDD+ Coordination in Indonesia	UNORCID
Ibu Linda Rupidara	Programme Officer	EU
Nono Rusono	Director, Food and Agriculture	The National Development Planning Agency (BAPPENAS)
Fabricio Breciani,	Director, Rural Development and Natural Resources	World Bank
Anissa Lucky Pratiwi	Liaison officer	IFAD
Suryadi Abdul Munir	International Cooperation Centre, – Joint meeting with staff	DG of Food Crops, Ministry of Agriculture (MOA)
Yasid Taufic	Director General, a.i. & Executive Secretary	DG of Agriculture Processing and Marketing, Ministry of Agriculture (MOA)
Nugroho Winarto	Professor	
Yunita Winarto	Professor	
Ernan Rustiandi,	Dean, Faculty of Agriculture	IPB
Peter Holmgren	Director General	CIFOR
Katinka Weinberger,	Director	CAPSA
Douglas Broderick	UN Resident Coordinator	UN

Santiago, Chile (FAO Regional Office for Latin America and the Caribbean – RLC)

Name	Position	Institution
Alejandro Flores	Oficial de Acuicultura y Pesca y FAOR-Chile a.i.,	RLC FAO
Alberto Pantoja	Oficial de Producción y Protección Vegetal,	RLC FAO
Mario Mengarelli	Oficial Principal Programa de Campo,	RLC FAO
Pilar Roman	Desarrollo de Aguas y Tierras,	RLC FAO
Benjamin Kiersch	Oficial Tenencia de Tierras y Recursos Nat.,	RLC FAO
Hivy Ortiz	Oficial Forestal,	RLC FAO

Ecuador

Name	Position	Institution
Juan Arroyo	Responsable Programas	AECID - Spanish Cooperation
Cristina Diaz	Asistente Programas	AECID - Spanish Cooperation
Eduardo Noboa	Sub-secretario Cambio Climatico	Ministerio del Ambiente
Emilio Cobo	Especialista Cambio Climatico	Ministerio del Ambiente
Ricardo Valdarieso	Jefe Unidad Coop. Internacional	Ministerio del Ambiente
Patricio Vásquez	Coordinador de Planificación	Ministerio del Ambiente
Daniel Segura	Gerente Evaluación Forestal	Ministerio del Ambiente
Sofía Panchi	Responsable Coop. Internacional	Ministerio del Ambiente
Juan Manuel Domínguez Andrade	Director Ejecutivo	INIAP
Javier Ponce Cevallo	Ministro	Ministerio de Agricultura, Ganaderia, Acuacultura y Pesca (MAGAP)
Liseth Moreira	Directora Relaciones Exteriores	Ministerio de Agricultura, Ganaderia, Acuacultura y Pesca
Santiago Kingman	Senior Advisor to the Minister on "Shoulder to Shoulder Program"	Programa Ombro a Ombro - MAGAP
Roberto Conejo	Coordinador Zonal MAGAP	Provincia de Imbabura
Lucy Montaldo	Subsecretaria de las Sierras, MAGAP	Chimborazo District Office, Riobamba
Edwin Lara	Coordinator of the Agriculture Unit	Universita de Bolivar, Guarana
Xavier Mera	Tecnico Semillas Andinas	Universita de Bolivar, Guarana
Anibal Coronel	Director Provincial	Universita de Bolivar, Guarana
Nelson Monar	Decano Facultad Ciencias Agropecuarios	Universita de Bolivar, Guarana
Polivio Rosano Moya	Tecnico de campo Semillas Andinas	Universita de Bolivar, Guarana
Edwin Pallo	Tecnico fortalecimiento organizativo IEPS	Universita de Bolivar, Guarana
Pedro Pablo Peña	FAO Representative	FAO
Jorge Samaniego	Assistant FAOR - Programme	FAO
Vanessa Cáceres	Assistant FAOR - Administration	FAO
Diana Hermida	Communications Officer	FAO

El Salvador

Name	Position	Institution
Alan Gonzalez	FAO Representative	FAO
Delmy Linares	Assistant FAOR - Programmes	FAO
Carlos Mario Garcia Berries	CTA Proyecto Semillas para el Desarrollo GCP/RLA/182/SPA	FAO
Ana Hernández	Nutrition Specialist, 'Plan de Agricultura Familiar'/PESA	FAO
Jaime Tobar	Coordinator of the PAF/PESA	FAO
Xenia de Morán	Coordinator of the Agro Value Chains project	FAO

Agustín Martínez	President, COMAGRO, and Director of 'Sello de Oro' poultry company	COMAGRO - Chamber of Agriculture and Agroindustry
Ing. Alirio Edmundo Mendoza Martínez	Executive Director	CENTA - Centro Nacional de Tecnología Agropecuaria y Forestal
Dr. Mario Parada Jaco	Head of Research	CENTA
Ing. Miguel Martínez	Head of Extension	CENTA
Ing. Mario Alarcón	Head of Planning	CENTA
Ing. Joel Monge	Head of District Office	CENTA- San Miguel
María Isabel Rodríguez	Minister	Ministry of Health
Ana Daysi Cardoza de Márquez	Exec. Dir. CONASAN National Food Security and Nutrition Council	Ministry of Health
María Sanchez	Assistant to Minister	Ministry of Health
Ing. Luis Ibarra	Director	ENA - National Agriculture School
Ing. Osmin Martínez	Head of Technical Programme	ENA - National Agriculture School
Ing. Luis Felipe A. Torres Vasconcelos	Head of Planning Dept.	ENA - National Agriculture School
Natalia Otamendi Vallet	Head of Poverty and Sustainable Devt.	AECID - Spanish Cooperation
Jaime Hernandez	Coordinator Purchase for Progress (P4P)	World Food Programme
Bernardo Belloso	President	CORDES – farmers' organization Asociación para la Cooperación y el Desarrollo Comunal de El Salvador
Emilio Espin Amprimo	Head of Partnership and Administration	CORDES
Arnulfo Franco	Manager	CORDES
Jesus Mauricio Orellana	Regional Manager, San Vicente	CORDES
Rafael Cuellar	Proj. Mgr., Economic Growth	USAID
Mario Castañeda	Loan Specialist	Inter-American Development Bank
Fabrizio Zarcone	Country Director	World Bank
Roberto Valent	Resident Coordinator	UNDP
Rémy Llinares	Development Cooperation Attaché	EU Delegation
Sra. Roselia Herrera	President	Mesa Nacional de Mujeres Rurales
Sra. Gertrudis Mejía	Vice-President	Mesa Nacional de Mujeres Rurales
Lic. Cristobal Ríos	Dean	Universidad de El Salvador (UES), San Miguel

Brussels

name	function	Institution
Suzanne Malloun	Deputy Head of Unit, Specific Thematic Policies	EU Humanitarian Aid and Civil Protection Department (ECHO)
Alexandre Castellano	Food and Nutrition and Cash Transfer	EU Humanitarian Aid and Civil Protection Department (ECHO)
Francisco-Javier Alcazar Sirvent	International Relations Officer (ACP, S.Afr., FAO and G8/G20), DG-AGRI	EU, DG-AGRI
Simon Kay	Policy Officer, Climate Finance and Deforestation, DG-CLIMA	EUI, DG-CLIMA

Herwig Ranner	Policy Officer, Bioenergy, Biomass, Forestry and Climate Change, DG-AGRI	EU, DG-AGRI
Philippe Thomas	Chief of Section 'Food Crises, Agricultural Economics'	DG-DEVCO Rural development, FS, Nutrition Dept
Pierpaolo Piras	Policy Officer, Rural development, FS, Nutrition	DG-DEVCO Rural development, FS, Nutrition Dept
Lucia Castillo Fernandez	Policy Officer, Rural development, FS, Nutrition	DG-DEVCO Rural development, FS, Nutrition Dept
Richard China	Director, LOB	FAO Liaison Office in Brussels (LOB)
Isabelle Denis	Liaison Officer	FAO Liaison Office in Brussels (LOB)

Montpellier, France

name	position	Institution
Philippe Petithuguenin	DG délégué, adjoint à la recherche et à la stratégie	CIRAD
Philippe Vernier	Chargé de mission Relations avec les institutions internationales (ex-roots and tubers researcher)	CIRAD
Sélim Louafi	Research Fellow, Genetic improvement and adaptation of Mediterranean and tropical plants	CIRAD
Florent Maraux	Director Annual Cropping Research	CIRAD
Nour Ahmadi	Chercheur en riz	CIRAD
Jean-Michel Vassal	Desert Locust, migratory locusts, red locusts	CIRAD
Frank Rijsberman	CEO	CG Consortium
Philippe Ellul	Senior Science Officer	CG Consortium
Anne-Marie Izac	Chief Scientific Officer	CG Consortium

Germany

name	position	Institution
Gerd Fleischer	Head of Section Agricultural Trade, Agribusiness and Standards	GIZ
Dieter Nill	Advisor for Sustainable Agriculture	GIZ

Washington, D.C.

Name	Position	Institution
Manuel Lantin	Science Adviser	CGIAR
Maxine Garvey	Governance and institutional development	CGIAR
Jose Falck-Zepeda	Research Fellow	IFPRI
Howarth Bouis	Director	HarvestPlus CIAT/ IFPRI
Emily Hogue	M&E Specialist	USAID
Jim Oehmke	Policy Division	USAID
George Douvelis	Senior Advisor Multilateral Affairs Division	USDA
Micah Rosenblum	Policy coordination and planning	USDA
Kelly Skupnik	International Trade	USDA
Amy Freitas	International Programs	USDA
Eija Pehu	Science Adviser, Agriculture and Environmental Services	World Bank
Ademola Braimoh	Senior Natural Resources Management Specialist	World Bank
Hector Mallarin	Chief Agricultural and Natural Resources Division	IADB
Cesar Falconi	Senior Agricultural Specialist	IADB
Morgan Lorraine Roach	Policy Analyst, Committee on Foreign Relations	US Senate

ANNEX 4: Analysis of the Survey of External Stakeholders and FAO staff

Summary

Electronic surveys were undertaken as an essential part of the evidence base of the evaluation and were designed to contribute to the improved strategic direction of FAO's work in crop production. Questionnaires were completed by 96 External Stakeholders (including 38% from national governments 38%, development funding and UN Agencies 31% and research organisations 15%), and 82 FAO regular programme staff and donor-funded project staff (for the purpose of the survey collectively called 'FAO Staff'). The surveys were during the period October-November 2013. Both groups of respondents provided broad geographic coverage. In the case of the FAO Staff survey 53% of respondents were from country offices; 19% from Regional and Sub-regional offices; and 21% FAO HQ.

Emerging from an analysis of the results of the questionnaires is a series of issues. These are presented under the key subject headings which framed the surveys.

Key factors and players influencing crop production outcomes

The surveys confirmed the widely held view that multiple factors influence crop production outcomes from technical aspects limiting crop production to wider issues associated with access including land and water, markets and services and infrastructure with some regional diversity in the prioritization of factors. There appeared to be less concern by both the FAO Staff and the External Stakeholders on '*Low priority given to crop production in national policies and investments*' and '*Inadequate focus on gender equality*' as factors which influence crop production outcomes.

Both the FAO Staff and External Stakeholders respondents felt that national governments have a significant influence in shaping crop production policy and practice in developing countries. FAO and development funding agencies were seen as almost equally influential by the external stakeholders however FAO Staff felt that FAO was also significantly influential i.e. FAO Staff felt that FAO has a higher level of influence than that felt by the External Stakeholders. Both FAO and External Stakeholders felt that the UN agencies and Civil Society Organisations were 'moderately influential'.

It was noteworthy that in terms of influence some FAO Staff (33%) and External Stakeholders (21%) felt that the CGIAR was either 'not applicable' or that they 'do not know'. Overall the CGIAR was not seen as 'significantly influential' by either group in shaping crop production policy and practice. National and regional research organisations were seen as more influential by both groups of respondents.

The role of gender in influencing crop production outcomes was weakly recognised and valued by both FAO Staff and External Stakeholders.

Priorities for work on crop production

The External Stakeholders were invited to give their priority to a set of crop based issues that are likely to influence crop production for development. For each of the nine measures

provided in the questionnaire over half of all respondents ranked the issue as being of 'high priority'. Whilst the respondents were not invited to prioritise between the factors, '*Integrating principles of land and water management into crop production policy and interventions*' received the highest score and in equal second were: '*Linking crop production policy and intervention with other farming practices including livestock, agroforestry, fisheries*'; and '*Crop productivity policy and investment*'. The first two listed are in line with the FAOs' Reviewed Strategic Framework.

Overall the lowest priority as a factor likely to contribute to crop production for development was seen by External Stakeholders as '*Better management and access to plant genetic resources*'.

FAO Staff rated key functional activities which were seen as high priority and likely to influence crop production outcomes. '*Strengthening human capacity*' and '*Promoting improved practices and technologies*' were given higher ranking with a lower ranking placed by FAO Staff on '*Enabling and advocating international instruments/conventions*' – a key functional and normative role of FAO.

The same functional activities were explored by both groups for levels of FAO activity in relation to crop production. The results were broadly comparable although for almost all activities the FAO Staff respondents saw FAO as having higher levels of activity than perceived by the External Stakeholders. The picture changed in two areas: External Stakeholders see FAO most actively in '*Generation and provision of crop data and statistics*' and did not share with FAO, the FAO self-assessment of both priority and perceived high level of activity in the '*Strengthening human capacity*'. This raises the question of a possible gap between FAO Staffs' perception of priorities and activity level and thus their contribution compared with the views of the External Stakeholders on FAO's contribution to the development of crops.

The focus of FAO on enhancing '*crop productivity including support to policy and investment*' could be raised up the priority agenda and remain central whilst FAO take forward the planned holistic and integrated approach to agricultural development.

A comparison of FAOs' delivery of key services with that of others and future priorities for FAO

Both FAO Staff and External Stakeholders were invited to assess the relative strength of FAO in comparison with other organisations (e.g. World Bank, bilateral donors, CGIAR, national research systems, NGOs, private sector, etc.) as providers of a range of crop related services. The response from FAO self-assessment was broadly similar to that of the External Stakeholders – both groups rated FAO 'better than others' to a level of over 40% on '*Generation and provision of knowledge*'; '*Supporting formulation and processes of national policies, laws and regulations*'; '*Facilitating policy dialogue at regional and international levels*'; '*Enabling and advocating international instruments/conventions*' and '*Generation and provision of crop data and statistics*' (for the latter over 50%). For many areas a significant proportion of respondents of both FAO self-assessment and External Stakeholders see FAO as the same as others in the relative strength to deliver.

There were diverging views on '*Promoting improved practices and technologies*' where FAO self-assessment felt FAO was 'better than others' (50%) as compared to the response from External Stakeholders at 27%. Again there was agreement as to where 'others were better' with over 20% for both groups of respondents for '*Institution building*' and '*Strengthening human capacity*'.

Although 40% of both groups felt that FAO did better than others on *'Enabling and advocating international instruments/conventions'* still over 10% of both respondent groups were unable to make an assessment.

Between 4-12% of External Stakeholder respondents reported that they received support from FAO in one or more of these areas over the past 5 years mostly in the areas of *'Generation and provision of knowledge (publications, conferences, tools and guidelines)'* and *'Facilitating policy dialogue at regional and international levels'*.

Both FAO Staff and External Stakeholders were invited to look to the future and consider the priority which FAO should place on key activities in FAO's support to crop production. All respondents gave over 60% priority to each of the key eight service areas listed in the questionnaires. External Stakeholders gave the highest rating to *'Generation and provision of crop data and statistics'* whereas FAO Staff were almost unanimous in their high rating of *'Promoting improved practices and technologies'*. Both groups gave somewhat lower rating to *'Enabling and advocating international instruments/conventions'*.

The relative high priority given by FAO Staff to *'Strengthening human capacity'* is noteworthy given the view by some that *'others do better'*.

It may be concluded that FAO should seek to raise awareness of its activities relating to *'Enabling and advocating international instruments/conventions'* internally as well as with the wider external stakeholders and broaden and deepen activities in what is a key functional and normative role of FAO.

Further a critical examination of FAOs comparative advantage in key crop related services and the resulting implications could be taken forward given that in many areas FAO is seen as the same as others in terms of relative strength.

Use and promotion of key FAO crop products

Both FAO Staff and External Stakeholders were asked if they have used any of a set of key FAO crop related publications in their work and the FAO self-assessment asked if such materials had been promoted at country level. Over half of the listed publications have never been used by over 50% of FAO staff and consultants. With two exceptions most of the publications listed are *'never used'* by over 50% of External Stakeholder respondents - these exceptions being *'State of the World's Land and Water Resources for Food and Agriculture (2011)'* and *'Save and Grow'* these two publications with *'Climate-Smart Agriculture – a source book (2013)'* are the three *'used occasionally'* and *'most used'* publications of External Stakeholders. For all products and for both groups of respondents there were a low but not insignificant number of respondents who *'do not know'* of these publications.

FAOSTAT is the most often used of the six websites reviewed by both FAO Staff and External Stakeholders and is also the most promoted by FAO Staff. Overall there was a low respondent usage of these websites in particular by External Stakeholders and even for FAO Staff a significant number who *'never use'* the home page of FAO's Plant Production and Protection Division (AGP) – the lead division working on crops.

Combining the *'never use'* with *'don't know and not applicable'* responses well over 50% of External Stakeholders imply the non-use or lack of knowledge for all listed crop related international conventions and treaties. A somewhat similar level of response is seen for the FAO Staff respondents. External Stakeholders engagement with the conventions seems

also low with a high percentage of respondents recording that they have never had FAO support in their participation in or in the use of the listed conventions. The three conventions which received the greatest engagement (over 20% response) are: *International Treaty on Plant Genetic Resources for Food and Agriculture; International Plant Protection Convention (IPPC)* and *CODEX Alimentarius*.

FAO should seek to raise awareness of its activities relating to ‘*Enabling and advocating international instruments/conventions*’ internally as well as with wider external stakeholders and broaden and deepen activities in what is a key functional and normative role of FAO (recommendation above).

Understanding the reasons for a lack of awareness of key products, websites and conventions and the low levels of usage by both FAO Staff and External Stakeholders would be helpful.

FAOs capacity to deliver in support of crop production

Overall FAO Staff felt most confident in the adequacy of FAO to deliver ‘*Relevant knowledge and evidence base available*’ and that there was adequate ‘*Human capacity to work at policy level available at HQ*’. For most key functions FAO Staff considered FAO to be ‘moderately adequate’ (32-54%) however over half felt that FAO was ‘inadequate’ in its ‘*Human capacity to work at policy level available at country level*’ on work relevant to crop production. A weak capacity for work on crop policy within AGP was noted.

FAO Staff were invited to consider how well FAO is doing in relation to particular institutional delivery mechanisms and how well such interventions add value to FAOs work on crop production. Three activities scored an over 30% rating as doing well in ‘*Implementing donor funded field projects*’; ‘*Using TCP projects to provide technical assistance*’; and ‘*Coordination and secretariat functions in international treaties and conventions*’ but this must be balanced with 30% for the same activities being ranked as ‘inadequate and could do better’. There are therefore mixed views on how well FAO is adding value. Whilst for all areas there is considerable scope for improvement, two areas were seen as ‘inadequate/could do better’ in terms of adding value to crop production activities – these being ‘*Mobilising capacity of donors around shared interest*’ and ‘*Using the Investment Centre for scaling-up and outreach by influencing IFIs and government investments*’.

Both FAO Staff and External Stakeholders were invited to comment on how well FAO is doing on partnerships and on key organisational aspects of their work which relate to crop production. For all aspects the ratings were spread fairly evenly across the spectrum ‘Inadequate/ could do better - doing moderately well - doing well’ and with fairly similar spreads for both groups surveyed. Over 30% considered that FAO is doing well - ‘*FAO’s support is seen as of high quality*’ and ‘*Acts as a convenor and provides a forum for dialogue*’

One area of significant weakness, as recorded by FAO Staff and also although somewhat less so by the External Stakeholders, was ‘*Builds alliances with the CGIAR and other centres of excellence*’. A significant proportion of respondents from both groups did not know how FAO builds such alliances and thus were unable to give a ranking.

Implications emerging from this relates to the need to bridge the human capacity gap between FAO HQ and the Decentralised Offices (DOs) in the provision of support to policy debate at global and corporate level and FAOs support to national policy development and implementation relevant to crop production.

The Investment Centre could play a stronger role in adding-value, scaling-up, and outreach of FAO crop related tools, instruments and recommended practices through their partnerships with IFIs and thereby to IFI and government investments.

FAO in comparison with others is seen as relatively weak in its capacity to build alliances with the CGIAR and other centres of excellence.

The impact of FAO assistance in crop production over the past six years

Only 10% of FAO Staff felt that the impact of FAO's assistance on eradication of hunger, food insecurity and malnutrition through assistance in crop production during the past six years had been one of 'high impact'. External Stakeholders rated FAO's impact in this area somewhat higher than the FAO self-assessment but overall the scores were not high for these outcome areas which are central to the Global Goals of FAO. Crops should be seen as central to the delivery of these goals. Further given the perception that agriculture is a driving force in the elimination of poverty, the low ranking by FAO Staff on the perceived impact of their work on crops for the elimination of poverty is noteworthy (over 50%). A Theory of Change which reflects, monitors, and articulates the contributions made by FAO to the goals of its members and specifically, within that, the contribution made by the crops sector, would help shape institutional understanding as well as the programme of work.

Satisfaction with the technical support and back-stopping provided by FAO Headquarters and by the Regional/Sub-regional Offices

The FAO self-assessment explored staff perception on the levels of satisfaction in the provision of policy and technical information relating to crops. For most categories of provision – around 40% of respondents were “somewhat satisfied”.

Over 30% of FAO Staff tended to be “very satisfied” with the provision of ‘*information on technical issues in response to their specific requests*’ as compared with lower scores for all other types of provision from HQ provision and 33% for Regional/Sub-regional provision. Staff were “least satisfied” with both service providers in the provision of regular technical information policy information provided without a specific request but which may affect their country.

The modalities of knowledge and information management for crops within and across the institution should be central. This would also enhance professional and technical skills and ensure that staff – in particular in the country offices have access to information of importance to their country context as well as just-in-time services of specific requests and queries.

Suggestion:

These two surveys could be used to form a baseline for monitoring how FAO Staff feel about their work on crops and the views of External stakeholders on the work on FAO. Such surveys if repeated on a regular basis, for example every two years could help to monitor change, inform FAO management practice and guide investment in the sector.

Background and approach

The Evaluation organised two electronic questionnaire surveys to hear from respondents their views on FAOs role in crop development, explore key issues and future opportunities. These surveys were seen as an essential part of the evidence base of the evaluation and were designed to contribute to the improved strategic direction of FAO's work in crop production.

The two target groups for the questionnaires were: a) stakeholders external to FAO including government and non-government, research institutions, donor organizations, etc. FAO's Decentralised Offices (DOs) were invited to share the weblink to the questionnaire with their broad base of constituencies within their region. In addition links to the questionnaires were shared by OED with country representatives and delegations based in Rome. The questionnaire was made available in the three languages of English, French and Spanish; and b) FAO Staff and consultants engaged in crop related work including based both in HQ and in DOs including short and long term consultants. This questionnaire was prepared in English, French and Spanish. The questionnaires followed a similar set of questions with some variation i.e. specifically and in addition the questionnaire to FAO Staff sought to explore the professional linkages between the decentralised offices (country offices to Regional and Sub-regional offices) and between all DOs and HQ.

The questionnaires were run between 16-29 October 2013 with a close date of 15 November 2013.

For the External Stakeholders' questionnaire, 96 persons completed fully or in part the questionnaire including 38% from national governments, 31% development funding and UN Agencies and 15% research organisations. No responses were received from the private sector. With the External Stakeholders the percentage breakdown of the different language version of completed questionnaires was English (58%), French (20%) and Spanish (22%). Tables 1 and 2 provide the breakdown of the respondents' role and their geographic coverage.

Table 1 External stakeholders' questionnaire: respondent role and function

	%	Number of respondents
Policy maker – National government policy maker	38	36
Development funding agency	11	10
UN agency	20	19
Service provider (inputs, technical, advisory, etc.)	13	12
Research organisation or university	15	14
Civil Society Organisation	4	4
Private Sector	0	0
	<i>answered question</i>	95
	<i>skipped question</i>	1

Table 2 External stakeholders' questionnaire: Geographic focus of respondents' work

	%	Number of respondents (95)
Asia and the Pacific	24	22
Sub-Saharan Africa	21	20
Middle East and North Africa	5	5
Latin America and the Caribbean	34	32
Europe and Central Asia	10	10
Global	6	6

Figure given in brackets provides the total number of respondents

For the FAO staff questionnaire, 82 FAO regular programme staff and donor-funded project staff (for the purpose of the survey collectively called 'FAO Staff') completed all or part of the FAO staff questionnaire including 53% from country offices; 19% from Regional and Sub-regional offices; and 21% FAO HQ. The breakdown of FAO staff respondents' location and the geographic coverage is given in Tables 3 and 4. The geographic responsibility spread was broadly balanced across the regions with a strong response (29%) from staff whose key focal geographic responsibility is work in sub-Saharan Africa. With the FAO staff and consultants the percentage breakdown of the different language version of completed questionnaires was English (76%), French (18%) and Spanish (6%).

Table 3 FAO staff questionnaire: respondent position and location

	%	Number of respondents
FAO staff based in Rome	21	17
FAO staff based in a Sub-regional or Regional Office	15	12
FAO staff based in a Country Office	41	34
Long term consultant (more than 10 months) with FAO based in Rome	0	0
Long term consultant with FAO based in a Sub-regional or Regional Office	4	3
Long term consultant with FAO based in a Country Office	12	10
Short term consultant	7	6
Total		82

Table 4 FAO staff questionnaire: Geographic focus of respondents' work

	%	Number of respondents (80)
Asia and the Pacific	19	15
Sub-Saharan Africa	29	23
Near East and North Africa	15	12
Latin America and the Caribbean	12	10
Europe and Central Asia	9	7
Global	16	13

Figure given in brackets provides the total number of respondents to this question

Key factors influencing crop production outcomes

Both questionnaires sought to learn from respondents their views as to technical, institutional and organisational factors they considered as having different levels of influence on crop production outcomes in the country or region to which their work was most closely associated.

Taking only the measure of "Has significant influence", Table 5 presents the response from FAO Staff respondents and from the External Stakeholder group with the latter differentiated also by region.

Table 5 Factors which “Has significant influence” on crop production outcomes (%)

	FAO Staff (79-82)	External stakeholders (all 93-95)	Asia and Pacific (21-22)	Sub-Saharan Africa (19)	Middle East and North Africa (4-5)	Latin America and Caribbean (31-32)	Europe and Central Asia (10)
Poor access by farmers to land and water resources	70	57	73	53	60	50	30
Weak ecosystems resilience	51	36	41	42	20	42	10
Lack of climate change adaptation mechanisms	51	52	60	58	50	56	20
Lack of access to appropriate technologies	68	57	68	68	40	43	60
Risk from pest and disease	57	60	68	63	20	63	50
Lack of appropriate plant genetic resources	47	42	36	42	60	38	50
Lack of risk mitigation mechanisms	56	53	60	37	40	63	50
Restricted access to services and inputs, including financial resources	68	63	50	84	40	56	80
Poor infrastructure and access to markets	73	66	64	84	40	60	70
Low priority given to crop production in national policies and investments	37	45	50	53	20	48	20
Inadequate focus on gender equality	20	23	10	37	20	26	10

Figures given in brackets provides the range of number of respondents by factor

Question 3 to both FAO and External Stakeholders: *Please assess the consequences of the following problems on crop production outcomes in the country or region to which your work is most closely associated?*

Most factors were seen as having moderate or significant influence on crop production outcomes with some intra-regional variation. For example both sub-Saharan Africa and Europe and Central Asia place somewhat higher importance on ‘*Restricted access to services and inputs, including financial resources*’ and ‘*Poor infrastructure and access to markets*’ compared to others. Both Asia and Pacific and the Middle East and North Africa regions focus ‘*Poor access by farmers to land and water resources*’. Latin America and the Caribbean share with Asia and the Pacific the importance of ‘*Risk from pest and disease*’. ‘*Lack of access to appropriate technologies*’ is prioritised in the Asia and Pacific region; ‘*Lack of appropriate plant genetic resources*’ in the Middle East and North Africa and ‘*Lack of risk mitigation mechanisms*’ in Latin America and the Caribbean. There appeared to be less concern by both the FAO Staff and the External Stakeholders on ‘*Low priority given to crop production in national policies and investments*’ but perhaps the most noteworthy observation is the overall low rating given by both groups to ‘*Inadequate focus on gender equality*’ as a factor influencing crop production outcomes.

Further both questionnaires sought to learn from respondents what **type of institutional players most shaped through their influence crop production policy and practice in developing countries**. Table 6 summarises the response from both questionnaires.

Both the FAO Staff and External Stakeholders respondents clearly felt that national governments have significant influence (85 and 77% respectively) in shaping crop production policy and practice in developing countries. FAO and development funding agencies were seen as almost equally influential by the External Stakeholders however FAO Staff felt that FAO was also significantly influential (59%) i.e. FAO Staff felt that FAO has a higher level of significant influence than that felt by the External Stakeholders. Both FAO and External Stakeholders felt that the UN agencies and Civil Society Organisations were ‘moderately influential’ (40-50%).

It is noteworthy that some 33% of FAO Staff respondents and 21% of External Stakeholders felt that the CGIAR was either ‘not applicable’ or that they ‘do not know’. Overall the CGIAR was not seen as ‘significantly influential’ by either group in shaping crop production policy and practice. National and regional research organisations were seen as more influential by both groups of respondents. In the free text, farmer organisations and cooperatives were mentioned as having influence although it was also noted that the extent of their influence was influenced by their perceived weak capacities.

Table 6 Assessment of the influence of key players engaged in shaping crop production policy and practice in developing countries: FAO Staff and External Stakeholder response summary (%)

	FO Staff respondents (77-82)				External Stakeholder respondents All regions and all stakeholder categories combined (92-96)			
	Not very influential	Moderate influence	Has significant influence	Not applicable / Do not know	Not very influential	Moderate influence	Has significant influence	Not applicable / Do not know
FAO	10	29	59	2	12	43	43	2
National government	5	10	85	0	6	16	77	1
Development funding agencies	14	46	38	2	13	40	44	3
Private sector	16	41	36	6	23	38	37	2
Civil Society Organisations	33	51	12	4	35	45	18	2
UN	27	41	26	6	27	54	15	4
CGIAR	24	27	15	33	30	37	12	21
National and regional research organisations	12	45	38	5	18	48	30	4

Figures given in brackets provides the range of number of respondents by player type

Question 4 to both FAO staff and External Stakeholders: *Among the following list of key players engaged in shaping crop production policy and practice in developing countries, how strong do you assess their influence?*

Priorities for work on crop production

The External Stakeholders were invited to give their priority to a set of crop based issues that are likely to influence crop production for development. Table 7 presents the levels of ranking for nine key areas. For each measure over 50% of respondents ranked the issue as being of ‘high priority’. Whilst the respondents were not invited to prioritise between the factors, ‘*Integrating principles of land and water management into crop production policy and interventions*’ received the highest score and in equal second were: ‘*Linking crop production policy and intervention with other farming practices including livestock, agroforestry, fisheries*’; and ‘*Crop productivity policy and investment*’. This prioritisation is in line with the FAOs’ Reviewed Strategic Framework.

Overall the lowest priority as a factor likely to contribute to crop production for development was seen by External Stakeholders as ‘*Better management and access to plant genetic resources*’.

Table 7 External Stakeholders prioritisation of issues that are likely to influence the contribution of crop production for development – presented in order of ‘high priority’ ranking (95-96) (%)

	Low priority	Moderate priority	High priority	Not relevant/ Do not know
Integrating principles of land and water management into crop production policy and interventions	0	14	86	0
Linking crop production policy and intervention with other farming practices including livestock, agroforestry, fisheries	1	17	81	1
Crop productivity policy and investment	2	17	81	0
Integrated pest management	0	33	67	0
Conservation agriculture	5	29	66	0
Placing crop production in the broader context of an ecosystem approach	3	32	63	2
Reducing the risks from use of pesticides	5	36	58	1
Risk and management of transboundary pests and diseases	4	39	56	1
Better management and access to plant genetic resources	11	35	54	0

Figures given in brackets provides the range of number of respondents

Question 5 External Stakeholders: *What priority do you place on the following issues that are likely to influence the contribution of crop production for development?*

One questionnaire then explored **FAO Staffs’ priority given to the key types of interventions** in support for crop development. This was followed by both FAO Staff and External Stakeholders rating the perceived level of activity of FAO’s contribution to these key areas.

Firstly Table 8 presents the priority placed by FAO staff on key activity types. Overall FAO Staff felt that they gave high priority to ‘*Strengthening human capacity*’ and ‘*Promoting improved practices and technologies*’. The lowest priority was placed by FAO Staff to ‘*Enabling and advocating international instruments/conventions*’ – a key functional and normative role of FAO.

Table 8 Priority placed by FAO Staff on key activities actions likely to influence the contribution of crop production for development (78-82) (%)

	Low priority	Moderate priority	High priority	Not relevant/ do not know
Generation and provision of knowledge (publications, conferences, tools and guidelines)	2	36	58	4
Promoting improved practices and technologies	0	16	80	4
Institution building	1	36	62	1
Strengthening human capacity	0	11	88	1
Supporting formulation and processes of national policies, laws and regulations	9	33	51	7
Facilitating policy dialogue at regional and international levels	18	30	42	10
Enabling and advocating international instruments/ conventions	23	37	28	12
Generation and provision of crop data and statistics	15	37	41	7

Figures given in brackets provides the range of number of respondents by type

Question 5 FAO Staff: *What priority have you placed in your work on the following actions that are likely to influence the contribution of crop production for development?*

On the rating given by each FAO Staff and External Stakeholders on the perceived level of activity of FAOs’ contribution to these key areas, see Table 9.

FAO self-assessment ranked broadly consistently in terms of contribution measured by level of activity with their view (Table 8) of the priority of the key crop related services although overall at somewhat of a lower level of activity.

However when comparing FAOs’ self-assessment of activity level with the perception of FAO by External Stakeholders the picture changed in two areas: External Stakeholders see FAO most actively in ‘*Generation and provision of crop data and statistics*’ and did not

share with the FAO Staff self-assessment, the priority and perceived level of activity in the area of ‘*Strengthening human capacity*’

This raises the question of a possible gap between what FAO Staff feel that they prioritise (Table 8) and levels of FAO activity perceived by FAO Staff and External Stakeholders on FAO’s contribution to the development of crops.

10% of External Stakeholders ranked ‘*Facilitating policy dialogue at regional and international levels*’ in the context of FAOs’ contribution to crop production as ‘not relevant/do not know’ – mostly the latter.

Table 9 FAOs contribution to key crop related services: FAO self-assessment compared to External Stakeholders’ view of FAOs contribution (per cent)

	FAO Staff self-assessment (68-70)				External Stakeholder assessment of FAO’s contribution (87-88)			
	Low activity	Moderate activity	High activity	Not relevant/ do not know	Low activity	Moderate activity	High activity	Not relevant / do not know
Generation and provision of knowledge (publications, conferences, tools and guidelines)	10	27	63	0	10	38	51	1
Promoting improved practices and technologies	7	31	62	0	15	48	32	5
Institution building	13	41	46	0	20	40	34	6
Strengthening human capacity	7	30	63	0	13	51	34	1
Supporting formulation and processes of national policies, laws and regulations	6	37	54	3	17	37	40	6
Facilitating policy dialogue at regional and international levels	13	43	41	3	15	33	41	10
Enabling and advocating international instruments/ conventions	18	38	41	3	16	36	40	8
Generation and provision of crop data and statistics	14	30	54	2	7	33	58	2

Figures given in brackets provides the range of number of respondents by type Question 6 FAO Staff and Question 6 External Stakeholders: *How do you assess FAO’s contribution to the following issues relating to crop production?*

A comparison of FAOs’ delivery of key services with that of others

Both FAO Staff and External Stakeholders were invited to assess the relative strength of FAO in comparison with other organisations (e.g. World Bank, bilateral donors, CGIAR, national research systems, NGOs, private sector, etc.) as providers of a range of services relating to crop production. The response from FAO Staff self-assessment was broadly similar to that of wider stakeholders where both groups rated FAO ‘better than others’ to a level of over 40% on ‘*Generation and provision of knowledge*’; ‘*Supporting formulation and processes of national policies, laws and regulations*’; ‘*Facilitating policy dialogue at regional and international levels*’; ‘*Enabling and advocating international instruments/conventions*’ and ‘*Generation and provision of crop data and statistics*’ (for the latter over 50%). For many areas a significant proportion of respondents (both FAO Staff self-assessment and External Stakeholders) see FAO as the same as others in the relative strength to deliver.

There were diverging views on ‘*Promoting improved practices and technologies*’ where FAO self-assessment felt FAO was better than others (50%) as compared to the response from External Stakeholders at 27%. Again there was agreement as to where others were

better with over 20% for both groups of respondents in the areas of ‘*Institution building*’ and ‘*Strengthening human capacity*’.

Although 40% of both groups felt that FAO did better than others on ‘*Enabling and advocating international instruments/conventions*’ still over 10% of both respondent groups were unable to make an assessment. Between 4-12% of External Stakeholder respondents reported that they received support from FAO in one or more of these areas over the past 5 years mostly in the areas of ‘*Generation and provision of knowledge (publications, conferences, tools and guidelines)*’ and ‘*Facilitating policy dialogue at regional and international levels*’.

Table 10 The relative strength of FAO in comparison with other organisations as providers of key crop production services (%)

	FAO Staff self-assessment (64-71)				External Stakeholder assessment (84-87)				
	Others are better	Others and FAO are the same	FAO is better	Do not know	Others are better	Others and FAO are the same	FAO is better	Do not know	Received support from FAO in past 5 years
Generation and provision of knowledge (publications, conferences, tools and guidelines)	14	35	47	4	5	47	45	3	12
Promoting improved practices and technologies	13	33	50	4	17	50	27	6	8
Institution building	22	51	21	6	20	43	27	10	4
Strengthening human capacity	20	43	34	3	21	41	31	7	7
Supporting formulation and processes of national policies, laws and regulations	12	34	45	9	12	35	44	9	9
Facilitating policy dialogue at regional and international levels	18	29	44	9	8	38	41	13	12
Enabling and advocating international instruments/conventions	15	33	41	11	7	37	42	14	8
Generation and provision of crop data and statistics	10	27	59	4	8	32	53	7	7

Figures given in brackets provides the range of number of respondents by service type

Question 7 for both FAO Staff and External Stakeholders: *Regarding the following aspects of crop production, how do you assess the relative strength of FAO in comparison with other organisations (e.g. World Bank, bilateral donors, CGIAR, national research systems, NGOs, private sector, etc.) as providers of the following?*

FAO priorities for the future in key service areas in support of crops

Both FAO Staff and External Stakeholders were invited to look to the future and consider the priority which FAO should place on key activities in FAOs support to crop production. All respondents gave over 60% priority to each of the key eight service areas (Table 11). External Stakeholders gave the highest rating to ‘*Generation and provision of crop data and statistics*’ whereas FAO Staff respondents were almost unanimous in their high rating of ‘*Promoting improved practices and technologies*’.

Both groups gave somewhat lower rating to ‘*Enabling and advocating international instruments/conventions*’.

The relatively high priority given by FAO staff to ‘*Strengthening human capacity*’ is noteworthy given the view by some that others do better (Table 10).

Table 11 Priority FAO should place on key service activities in support to crop production (%)

	FAO Staff (68-69)				External Stakeholders (86-88)			
	low priority	moderate priority	high priority	not applicable/ do not know	low priority	moderate priority	high priority	not applicable / do not know
Generation and provision of knowledge (publications, conferences, tools and guidelines)	0	23	77	0	1	24	75	0
Promoting improved practices and technologies	0	7	93	0	2	17	81	0
Institution building	1	25	74	0	7	26	67	0
Strengthening human capacity	0	13	87	0	5	14	80	1
Supporting formulation and processes of national policies, laws and regulations	1	19	80	0	4	24	69	3
Facilitating policy dialogue at regional and international levels	6	28	66	0	3	31	64	2
Enabling and advocating international instruments/conventions	7	32	60	1	3	32	62	2
Generation and provision of crop data and statistics	0	17	80	3	1	14	84	1

Figures given in brackets provides the range of number of respondents by service type Question 8 for both FAO Staff and External Stakeholders 'In the future, what priority would you place on FAO's activity in the following aspects of support to crop production?'

Use and promotion of key FAO crop products

Publications Both FAO Staff and External Stakeholders were asked if they have used any of a set of key FAO crop related publication in their work and the FAO self-assessment asked if such materials had been promoted at country level (Table 12).

Over half of the listed publications have never been used by over 50% of FAO Staff respondents. With two exceptions, most of the publications listed are 'never used' by over 50% of External Stakeholder respondents - these exceptions being '*State of the World's Land and Water Resources for Food and Agriculture (2011)*' and '*Save and Grow*' these two publications with '*Climate-Smart Agriculture – a source book (2013)*' are the three 'used occasionally' and 'most used' publications of External Stakeholders (65%, 52%, 44% respectively).

The three 'used occasionally' and 'most used' (figures combined) by FAO Staff were '*Save and Grow*' (88%); '*Technical Guidelines for International Code of Conduct on Pesticide Management*' (65%) and '*State of the World's Land and Water Resources for Food and Agriculture (2011)*' (63%).

For all products and for both groups of respondents there was a low but not insignificant number of respondents who responded with 'don't know/ not applicable' – the majority of these where in the category of not knowing of the publication.

The most promoted products by FAO Staff (48-50 respondents) of those listed in Table 12 are: '*Save and Grow*' (74%); '*SOFA 2001: Economic impacts of transboundary plant pests and animal diseases*' (50%); '*Seeds in Emergencies: A technical handbook (2010)*' (48%) – the rest in the range 25-45% indicating that for many publications there is no or little promotion by FAO staff of key FAO crops related publications. Indeed between 2-8% of FAO Staff did not know of some of the listed publications and in the free text one respondent noted "*I do not know about the existence of all these publications - master documents should be advertised among the field staff*". In the free text other FAO documents were listed as used including those on mechanisation and extension.

Table 12 Use of key FAO publications and their promotion (%)

	FAO Staff usage (61-65)			Promoted by FAO staff (48-50)	External Stakeholder usage (84-88)		
	Never use	Use occasionally /use often	Don't know/ not applicable		Never use	Use occasionally /use often	Don't know/ not applicable
SOFA 2008: Biofuels: prospects, risks and opportunities	58	34	8	28	66	24	10
SOFA 2007: Paying farmers for environmental services	56	34	10	25	61	28	11
SOFA 2003-4: Agricultural Biotechnology: Meeting the needs of the poor?	49	41	10	27	56	37	7
SOFA 2001: Economic impacts of transboundary plant pests and animal diseases	30	57	13	50	56	33	11
State of the World's Land and Water Resources for Food and Agriculture (2011)	33	63	4	40	26	65	9
Save and Grow: Guide to the sustainable intensification of smallholder crop production (2011)	9	88	3	74	39	52	9
Climate Smart Agriculture – a source book (2013)	34	59	6	43	48	44	8
Growing Greener Cities (2010)	41	54	5	45	58	28	12
Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture (2011)	40	54	5	41	48	43	9
Biotechnologies for Agricultural Development (2011)	58	37	5	27	62	29	9
Technical Guidelines for International Code of Conduct on Pesticide Management	33	65	2	55	47	43	10
Seeds in Emergencies: A technical handbook (2010)	47	46	7	48	64	27	9
Procedures for post border weed risk management (2011)	70	22	8	25	70	19	11
Modernizing Irrigation Management – the MASSCOTE Approach (2007)	63	29	8	29	68	24	8

Footnotes: Figures given in brackets provides the range of number of respondents by publication type

Question 9 FAO Staff: *Have you used or specifically promoted within country level operations any of the following publications*

Question 9 External Stakeholder: *Have you ever used any of the following sources of information for your work?*

FAO databases/websites. Six websites were reviewed (Table 13). *FAOSTAT* is the most often used by FAO Staff and External Stakeholders and is also the most promoted by FAO Staff. Overall there was a reported lower usage of all the websites by External Stakeholders as compared with FAO Staff with a significant number never using these sites.

Nearly 20% of FAO Staff respondents report to never use the '*FAO's Plant Production and Protection Division (AGP) home page*' and despite apparent FAO Staff promotion at country level (64%), External Stakeholders are not often users of the site (13%). Some sites, such as *AquaCrop*, which may have been anticipated to be of a wider crops interest have a very low usage by both stakeholder groups.

Table 13 Use and promotion of FAO databases/websites (%)

	FAO Staff usage (62-65)				FAO promote at country level (49-54)	External Stakeholder usage (82-84)			
	never use	use occasionally	use often	don't know/ not applicable		never use	use occasionally	use often	don't know/ not applicable
FAOSTAT	8	39	50	3	80	29	43	27	1
Global Strategy to improve Agricultural and Rural Statistics (2012)	52	24	16	8	40	51	35	10	4
FAO's Plant Production and Protection Division (AGP) home page	18	42	40	0	64	38	45	13	4
Locust Watch – Desert locust: guidelines and alerts	59	22	13	6	30	68	17	5	10
AquaCrop	62	25	3	10	24	71	19	4	6
FAO Emergency Prevention System (EMPRES)	32	40	22	6	51	58	30	5	7

Figures given in brackets provides the range of number of respondents by database/website type

Question10 FAO staff: *Have you used or specifically promoted within country level operations any of the following databases/websites?*

Question10 External Stakeholders: *Have you ever used any of the following databases/websites a source of information for your work?*

Conventions Ten international conventions and key areas of crop related normative work of FAO were selected for review. FAO staff was asked if they have used or specifically promoted within country level operations any of listed conventions and External Stakeholders were asked to consider the extent that FAO has supported their participation in or use of the convention (Table 14).

Between 17-28% of the External Stakeholders reported 'don't know/ not applicable' - the majority don't know.

Combining the 'never use' with 'don't know and not applicable' responses well over 50% of External Stakeholders imply the non-use or lack of knowledge for all listed conventions. A somewhat similar level of response is seen for the FAO Staff respondents. External Stakeholders engagement with the conventions seems also low with a high percentage of respondents recording that they never have FAO support in their participation in or in the use of the listed Conventions. The three conventions which received the greatest engagement (over 20% response) are: *International Treaty on Plant Genetic Resources for Food and Agriculture; International Plant Protection Convention (IPPC)* and *CODEX Alimentarius*.

FAO Staff themselves however report fairly high levels of promotion of these conventions with some convergence of those most promoted and the External Stakeholder usage. However there remains a not insignificant number of FAO Staff who are unaware of the conventions and or never use them in their country or other work.

Table 14 The promotion and use of key crop related Conventions (%)

	FAO Staff respondent use and promotion (62-65)					Extent FAO supported stakeholder participation in and/or use of (84-86)			
	Never use	Use occasionally	Use often	Don't know/not applicable	Promoted by FAO (47-49)	Never	Occasionally	Often	Don't know/not applicable
Commission on Genetic Resources for Food and Agriculture	34	34	23	9	58	38	24	18	20
International Treaty on Plant Genetic Resources for Food and Agriculture	30	41	25	4	65	34	19	26	21
Convention on Biological Diversity	30	50	14	6	44	38	29	14	19
International Plant Protection Convention (IPPC)	27	41	28	4	67	34	27	21	18
Stockholm Convention on Persistent Organic Pollutants	50	32	8	10	45	45	26	6	23
Rotterdam Convention	42	31	19	8	51	41	27	8	24
FAO/WHO Joint Meeting on Pesticide Residues	44	44	7	5	47	42	25	8	25
CODEX Alimentarius	30	39	28	3	69	38	25	20	17
Global Soil Partnership	54	30	10	6	39	52	20	6	22
FAO Desert Locust Control Committee and Regional Commissions	63	16	11	10	30	56	10	8	26

Figures given in brackets provides the range of number of respondents by commission type

Question 11 FAO Staff: *Have you used or specifically promoted within country level operations any of the following?*

Question 11 External Stakeholders: *To what extent has FAO supported your participation in and/or use of the following?*

For both groups of stakeholders, most are 'don't know/not applicable' were recorded as 'don't know' with the exception of 'FAO Desert Locust Control Committee and Regional Commissions' where understandingly there was a higher 'not applicable response'.

FAOs' capacity to deliver

Questions were then asked to explore the capacity of FAO to deliver key services in support of crop development as considered by FAO Staff (Table 15). Overall FAO Staff felt most confident in the adequacy of FAO to deliver 'Relevant knowledge and evidence base available' and that there was adequate 'Human capacity to work at policy level available at HQ' level. For most key functions, FAO Staff considered FAO to be 'moderately adequate' (32-54%). However, 52% of FAO Staff felt that FAO was inadequate in its 'Human capacity to work at policy level available at country level' on work relevant to crop production.

Table 15 FAO staff self-assessment on capacity to deliver (65-66)

	Inadequate	Moderately adequate	Adequate	Don't know
Relevant knowledge and evidence base available	3	42	52	3
Human capacity to work at policy level available at HQ	11	32	47	10
Human capacity to work at policy level available at regional/sub-regional level	21	44	23	12
Human capacity to work at policy level available at country level	52	33	14	1
Necessary political influence	22	54	18	6
Capacity to convene and mobilise others	22	49	28	1

Figure given in brackets provides the range of number of respondents by intervention type

Question 12 FAO Staff: *In its effort to provide support at the national level in crop production, how would you rate FAO's capacity in the following areas?*

A number of comments were made by FAO Staff respondents in the free text in the context of this question, most related to the perceived weak or inadequate capacity in country offices to support sustainable intensified production and the need for country offices to be strengthened urgently. Concern was also expressed on *‘There is no relevant capacity at HQ or region in crop production - none in AGP have experience in policy work’* and one respondent noted *‘Missing a management model of the knowledge to the users of the products delivered by FAO, enabling innovation with their knowledge’* raising questions on the efficiency of targeting of knowledge products.

In a related question FAO Staff were invited to consider how well FAO is doing in relation to particular institutional delivery mechanisms and how well such interventions add value to FAOs work on crop production (Table 16).

Three activities scored an over 30% rating as doing well *‘Implementing donor funded field projects’*; *‘Using TCP projects to provide technical assistance’*; and *‘Coordination and secretariat functions in international treaties and conventions’* but this response must be balanced with 30% for the same activities being ranked as ‘inadequate and could do better’. Whilst for all areas there is considerable scope for improvement, two areas were seen as least adequate/could do better in terms of adding value to crop production activities – these being *‘Mobilising capacity of donors around shared interest’* and *‘Using the Investment Centre for scaling-up and outreach by influencing IFIs and government investments’*.

In the free texts a number of specific issues were raised. These concern *‘that many TCP interventions/outputs are not sustainable and....need options for longer term funding’*; the work of TCI was questioned *‘their missions come to my country with little warning and no interaction with the country based team..’* yet *‘TCI may consider it a possible conflict of interest to work to bring FAO into play in the implementation’*. Further, respondents added *‘Implementation of field projects must be accompanied by effective technical support of country offices’* and *‘The model used by FAO to intervene in countries should be revised’*.

Table 16 The added value of FAO interventions on crops production (FAO Staff Questionnaire – 66-67) (%)

	Inadequate/ could do better	Doing moderately well	Doing well	Don't know /not applicable
Implementing donor funded field projects	31	36	30	3
Using TCP projects to provide technical assistance	31	31	34	4
Mobilising capacity of donors around shared interest	64	19	14	3
Production and promotion of normative products (e.g. Save and Grow)	43	36	20	1
Coordination and secretariat functions in international treaties and conventions	30	25	31	14
Committee on Agriculture	30	26	21	23
Using the Investment Centre for scaling-up and outreach by influencing IFIs and government investments	48	20	10	22

Figure given in brackets provides the range of number of respondents by activity

Question 13 FAO Staff: *Do the following means of FAO's intervention effectively add value to work on crop production?*

FAO in comparison with others on key organisational aspects of support to crop production

Both FAO Staff and External Stakeholders were invited to comment on how well FAO is doing on partnerships and key on organisational aspects of their work which relates to crop production (Table 17).

For all aspects the ratings were spread fairly evenly across the spectrum ‘inadequate/ could do better - doing moderately well - doing well’ and with fairly similar spreads for both survey groups.

Over 30% considered that FAO is doing well - ‘FAO’s support is seen as of high quality’ and ‘[FAO] acts as a convenor and provides a forum for dialogue’ ‘Builds alliances with the CGIAR and other centres of excellence’ was seen as an area of significant weakness by FAO Staff and also – although somewhat less so by the External Stakeholders. Over 50% of staff consider that FAO could do better in terms of ‘Leverages partnerships e.g. with development funding agencies, research institutions, etc.’ A significant proportion of respondents from both groups did not know how FAO ‘Builds alliances with the CGIAR and other centres of excellence’ and thus were unable to give a ranking.

Table 17 FAO in comparison with others on key organisational aspects of support to crop production (%)

	FAO Staff self-assessment (66-67)				External stakeholder assessment (83-86)			
	Inadequate/could do better	doing moderately well	doing well	do not know/ not applicable	Inadequate/could do better	doing moderately well	doing well	do not know/ not applicable
Minimises overlap and seeks synergy with support provided by others	38	35	24	3	34	26	21	19
Leverages partnerships e.g. with development funding agencies, research institutions, etc.	52	26	18	4	27	31	31	11
Builds alliances with the CGIAR and other centres of excellence	46	27	12	15	30	24	22	24
FAO’s support is seen as dependable	30	43	22	5	27	31	30	12
FAO’s support is seen as of high quality	24	42	34	0	22	35	36	7
Acts as a convenor and provides a forum for dialogue	19	39	39	3	27	27	34	12

Figure given in brackets provides the range of number of respondents

Question 14 FAO Staff; Question 12 External stakeholders: *On the following aspects of FAO’s work on crop production, how well does FAO rate in comparison with other players?*

FAO respondents in the free text recorded that “FAO should focus mainly on providing technical leadership rather than in the implementation of projects” and “FAO needs to play a strong role in leadership – especially to set trends”

The impact of FAO assistance in crop production over the past six years

The perceived impact of FAOs work on crops against member’s development goals through the FAO Staff self-assessment and the External Stakeholders survey was explored (Table 18). Only 10% of FAO Staff felt that the impact of FAO’s assistance on eradication of hunger, food insecurity and malnutrition through assistance in crop production during the past six years had been one of ‘high impact’. External Stakeholders rated FAOs impact in this area somewhat higher but overall the scores were not high for these outcome areas which are central to the delivery of FAOs Global Goals.

Further given the perception that agriculture is a driving force in the elimination of poverty, the low ranking by FAO Staff on the perceived impact of their work on crops for the elimination of poverty is a cause of concern (over 50%).

Table 18 The impact of FAO’s assistance in crop production during the past six years (%)

	FAO Staff self-assessment (68-69)				External Stakeholder assessment (86-87)			
	No impact low impact	Moderate impact	High impact	Don't know	No impact low impact	Moderate impact	High impact	Don't know
Eradication of hunger, food insecurity and malnutrition	28	56	10	6	18	45	29	8
Elimination of poverty	52	37	7	4	29	49	14	8
The driving forward of economic and social progress	39	52	3	6	33	39	16	12
Sustainable management and utilization of natural resources including land, water, air, climate and genetic resources	22	60	14	4	20	49	22	9

Figures given in brackets provides the range of number of respondents

Question 15 FAO Staff and Question 13 External Stakeholders: *What do you think has been the impact of FAO’s assistance in crop production during the past six years in the context of the following?*

For both groups of respondents in ‘no impact /low impact’ the rating were mostly in category ‘low impact’

In the free text two External Stakeholder respondents offered their view of FAOs greatest impact through: “.....FAO's funding to strengthening crop production when we get a disaster” and “providing technical experts to assist in mitigating pest outbreaks”. In the FAO Staff free text the view was expressed that “Impact assessment is not FAO's priority” and in the given case of Somalia that “Notwithstanding a huge commitment and effort due to several reasons, impact has been frustratingly low”.

Satisfaction with the technical support and back-stopping provided by FAO Headquarters and by the Regional/Sub-regional Offices

The FAO Staff questionnaire then explored staff perception on the levels of satisfaction in the provision of policy and technical information relating to crops (Table 19). For most categories of provision – around 40% were “somewhat satisfied”.

In general, staff tended to be “very satisfied” with the provision of ‘*information on technical issues in response to their specific requests*’ as compared with any other types of provision, at 39% for HQ provision and 33% for Regional/Sub-regional provision.

Staff were “least satisfied” with both service providers in the provision of ‘*Regular technical information provided without specific request e.g. updates on international conventions; transboundary pest updates*’ and from FAO HQ with ‘*Regular policy information provided without specific request e.g. on international issues that may affect your country*’

There may overall be a higher level of satisfaction with provision from HQ compared to Regional and Sub-regional offices but this may not be significant.

A not insignificant number of respondents felt that such provision was ‘not applicable’ – the subsequent question which was not asked was the reason why some respondents did not feel these services were applicable.

What might be inferred from this is the opportunity to improve the level and type of policy and technical support and information shared across the institution.

Table 19 FAO Staff: levels of satisfaction with crops related support from Headquarters and Regional/Sub-regional Offices (%)

	Back-stopping provided by FAO Headquarters (45-56)			Back-stopping provided by the Regional/Sub-regional Offices (45-48)		
	not at all satisfied/ not very satisfied	somewhat satisfied	very satisfied	not at all satisfied/ not very satisfied	somewhat satisfied	very satisfied
Regular policy information provided without specific request e.g. on international issues that may affect your country	39	44	17	36	53	11
Information on policy issues provided on specific occasions e.g. food price increases or trade negotiations	24	49	27	43	48	9
Information on policy issues provided in response to your requests	25	50	25	26	53	21
Regular technical information provided without specific request e.g. updates on international conventions; transboundary pest updates	33	43	24	42	46	12
Information on technical issues provided on specific occasions e.g. key publication announcements; lessons from other regions	20	54	26	38	50	12
Information on technical issues provided in response to your requests	13	45	42	23	44	33

Figures given in brackets provides the range of number of respondents

Question 17 FAO Staff: *What is your level of satisfaction with the back-stopping provided by FAO Headquarters in the following areas?* Total response count 62-63 - figures after removal of 'not applicable'

Question 19 FAO Staff: *How satisfied are you with the back-stopping provided by the Regional/Sub-regional Offices in the following areas?* Total response count 63 - figures after removal of 'not applicable'

Looking to the future

Some 35 FAO Staff respondents provided their perspectives in response to the question “*Looking to the future of FAOs work in crop production and in particular the move to the Medium Term Plan 2014-2017, do you have suggestions on what FAO could do differently?*” Some of the key observations given have been clustered into thematic topics and are summarised in the box 1.

Box 1 FAO Staff Questionnaire: suggestions on what FAO could do differently	
Strengthening technical skills	<ul style="list-style-type: none"> - Technical staff need to be updated more frequently in order to provide the necessary multi-disciplinary skills required for the new MTP - Start investment in selective areas of FAO's strength - It is sad to accept that FAO is losing its technical capacity, strength and comparative advantage that negatively impacts to a resource mobilization. During recent years several high qualified crop officers left the technical positions or retired. For many years FAO was a leading agency on organic farming, conservation agriculture, integrated pest management, etc. Today it is hard to find someone at HQ who could deal with these issues at global level - strengthening the technical capacity of the organization as a centre of excellence - Crops work needs to be taken in the context of whole system and livelihood concerns - SO2 is better in this case than SOA was; but there are few in HQ or in DOs capable of delivering such work
Where to locate technical expertise?	<ul style="list-style-type: none"> - Create technical hubs at the country level to make a difference otherwise will have little impact - Increase technical capacity in decentralised offices - Work with technical hubs from HQ instead of single officers all over the place - Greater resources devoted to facilitate country to country learning and south-south cooperation. Create centres of excellence at country level and no longer route everything through RO/HQ. The hierarchical model of backstopping does not work and is outdated. Resources at Regional Office and HQ are out of touch and out of date; few have any conception of what is really happening at country level
New partnerships for skills upgrading and knowledge generation	<ul style="list-style-type: none"> - Sabbatical in the academic world would probably be useful to rejuvenate skills for technical staff - Bring top-flight scientists into FAO, either from CG centres or universities, on their sabbaticals - Collaborative work with CG centres and academic institutions could be better promoted - Develop regional 'centres of excellence' in, for example, a well-established African university Strengthen partnerships and synergies at field level

Prioritise and focus	<ul style="list-style-type: none"> - Focus on major initiatives - Prioritize better the work area or add resources - the new SO framework does not seem to provide the focus necessarily - Develop and implement more regional initiatives in order to generate success stories that would be scaled up and out. - FAO could promote crop production and protection through regular programs rather than project based interventions. - FAO should focus in providing technical backstopping and resource mobilisation rather than implementing projects at field level. - Focus more on implementing technical programmes at the country level work to strengthening the institutional and human capacities
Specific crops related	<ul style="list-style-type: none"> - Have stronger normative role for setting trends and following up (e.g. sustainable intensified production should have kept moving but seems to be standing still) - Normative products work on conventions, commissions, PGR, etc., seems out of touch with country priorities and irrelevant. Country experience is desperately needed to be injected into the processes of definition of those instruments, to make the instruments relevant once again. - Stronger technical capacity at Headquarters and the regional offices with clearer guidelines aligned to objectives for example Save and Grow in response to the sustainable intensification is presently without the "interpretation" of how to implement

50 **External Stakeholders** provided comments in response to the question “*Given the above, what do you think FAO should do differently and the resulting challenges that FAO would face?*” These have been clustered into thematic topics and the key points presented in the box 2.

Box 2 External Stakeholder Questionnaire: suggestions on what FAO could do differently	
Strengthen partnerships with others	<ul style="list-style-type: none"> - Be willing to coordinate and cooperate with other actors (this point was raised a number of times) - More partnership with other partners instead of trying to work on its own in addressing food insecurity and poverty - Work more with key partners (e.g. ECOWAS) on institutional issues (harmonization etc...), and better coordinate in implementing field with the Bank, IFAD etc. focusing on methods, policies, good practices, rather than on investments in field projects - Strengthening of institutional capacity especially NGOs, improve partnerships between FAO and NGOs - Locally, be more engaged with the donor community, such as being transparent about what they are doing, keep others informed in a timely manner, and coordinate efforts to avoid duplication or conflicting support - Work more closely with the Ministry of Agriculture and farmer organizations - Establish partnerships with local farmers and their governments via participation
Sharpen the policy focus and improve targeting	<p>Greater focus on shaping national policy to create a better environment for the eradication of food insecurity, environmental sustainability and poverty alleviation.</p> <p>Combine FAO experiences or best practices with national policies</p> <ul style="list-style-type: none"> - Facilitating dialogue on policies at the regional and international levels - FAO should be more active and shows support to the formulation of policies, laws and national regulations - Poverty should be articulated with the productive subjects and marketing
Improve operational processes	<ul style="list-style-type: none"> - Improve the identification of project beneficiaries for increasing success - Focus attention on clearly specified goals with targeted stakeholder groups/beneficiaries - Assess specific needs of member countries and regions. Integrate approaches and strategies to maximise and synergize use of limited resources - Ensure management and assistance to countries is timely and punctual - Improve efficiency of national structures without debilitating i.e. take a positioning of accompaniment of national policies. - Continue efforts in strengthening capacities of national institutions in developing and promoting technologies and services; - Internally the flurry of FAO activity should be better coordinated. Too often, the large number of activities gives the impression of a lack of overall vision/strategy
Strengthening technical skills	<ul style="list-style-type: none"> - FAO should ensure that their technical staff is of the highest calibre. There is too much variation in the quality of its staff. The best service that FAO has provided me with over the past years is through the Bank-FAO collaborative program - Mobilize resources and improve of staff and non-staff package - Improve the quality of its consultants

Enhance communication	<ul style="list-style-type: none"> - Improve communication system - it is very difficult to access materials produced - disseminate more effectively - Strengthen access to database and other information useful for planning and implementation of R&D projects
Specific crops related	<ul style="list-style-type: none"> - Supporting research for genetic improvement - Encourage the production of quality seed - More work on cereal crops for higher productivity and introduction more new varieties - Encourage production systems which safeguarding indigenous agriculture and safeguard biological diversity. - Support to agriculture specially focus on soil fertility (Indonesia) - Implement rural initiatives like "Plantwise" developed by CABI - Strengthen understanding of environmental impacts of agricultural technologies - Increase gender mainstreaming and promote rural youth - More work on the legislation and the implementation of legislation - Strengthen early warning systems in light of global climate change - Greater involvement in prevention and climate change risks - More research on and support to family agriculture

ANNEX 5: International Treaties, Conventions and Agreements

International Plant Protection Convention (180 members)

The International Plant Protection Convention (IPPC) sets knowledge based standards for the safe movement of plants and plant products to prevent the spread of plant pests and diseases internationally. These standards are called the International Standards on Phytosanitary Measures (ISPMs). Compliance with IPPC obligations and ISPMs are a vital element in countries' ability to trade internationally and food security. These standards are important as they allow for the protection of domestic consumers, producers and the environment from the risks of introduced pests, and help exporters demonstrate that their products are safe. The [International Phytosanitary Portal](#) contains all documentation relevant to the IPPC work programme, including adopted and proposed standards, and monitors national implementation of the convention. The FAO, including the IPPC secretariat, assists developing countries improve the capacity of their phytosanitary services so that they can implement the agreed standards and IPPC procedures. The IPPC has developed a Strategic Framework for the period 2012-19, with four strategic objectives, on food security, environment, trade and development.

The Rotterdam Convention

The [Rotterdam Convention](#), jointly hosted by FAO/AGP and the UN Environment Programme (UNEP) Chemicals division, covers international trade in certain hazardous chemicals with the aim of protecting human health and the environment. Pesticides represent one major category of traded hazardous chemicals. The Convention also contributes to the environmentally sound use of these chemicals, with exchange of information about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.

The Joint Meeting on Pesticide Residues

FAO/AGP collaborates closely with the World Health Organisation (WHO) to reduce risks from the use of pesticides, and particularly in the main advisory body of the international Codex Alimentarius Commission - the [Joint Meeting on Pesticide Residues \(JMPR\)](#) to recommend maximum residue levels in food and feed commodities and to provide guidance on the setting of Maximum Residue Limits; and the [Joint Meeting on Pesticide Specifications \(JMPS\)](#) to develop pesticide product quality parameters for regulatory and trade purposes. AGP's interest in JMPR is in reviewing pesticide use patterns (GAPs), data on the chemistry and composition of pesticides, environmental fate, metabolism in farm animals and crops, methods of analysis for pesticide residues and processing studies. WHO experts are mainly involved in assessing associated toxicology data.

The FAO Commissions for Locust Control

The FAO Regional Commissions for Locust Control are a major international collaboration for the exchange of data regarding actual and potential locust upsurges between neighbouring countries. It is facilitated by FAO/AGP, specifically through the [Emergency Prevention System \(EMPRES\)](#) programme on transboundary plant pests and diseases.

The International Rice Commission

The [International Rice Commission](#), dating back to 1949, and currently with 62 members, aims to promote national and international action in matters relating to the production, conservation, distribution and consumption of rice.

The Commission on Genetic Resources for Food and Agriculture

The [Commission on Genetic Resources for Food and Agriculture \(CGRFA\)](#) with its [Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture \(ITWG-PGR\)](#), and the [Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture \(IT - PGRFA\)](#), are important bodies promoting the conservation and sustainable use of genetic resources. AGP's role is to provide technical expertise on aspects of plant production, and support international processes such as monitoring national implementation of the [Global Plan of Action on PGRFA](#).

The International Treaty on Plant Genetic Resources for Food and Agriculture

The International Treaty on Plant Genetic Resources for Food and Agriculture ([ITPGRFA](#)) is an international agreement with the overall goal of supporting sustainable agriculture and global food security. The Treaty, which entered into force in 2004, allows governments, farmers, research institutes and agro-industries to work together by pooling their genetic resources and sharing the benefits derived from their use. The fair sharing of benefits arising from the use of these resources has for the first time been practically implemented at the international level through its Multilateral System and its Standard Material Transfer Agreement.

This Treaty provides in its Article 15 that the Contracting Parties: (i) recognize the importance of the *ex situ* collections of plant genetic resources for food and agriculture held by the International Agricultural Research Centres of the Consultative Group on International Agricultural Research, and other International Institutions; and (ii) call upon the International Agricultural Research Centres to sign agreements with the Governing Body of the Treaty with regard to such *ex situ* collections.

At present, 15 agreements have been signed, as listed below:

Agreements concluded under Article 15 of the International Treaty on Plant Genetic Resources for Food and Agriculture:

[Tropical Agricultural Research and Higher Education Center](#)

[Africa Rice Center](#)

[Bioversity International](#) *

[International Centre for Tropical Agriculture](#)

[International Maize and Wheat Improvement Center](#)

[International Crops Research Institute for the Semi-Arid Tropics](#)

[International Institute of Tropical Agriculture](#)

[International Livestock Research Institute](#)

[International Potato Center](#)

[International Rice Research Institute](#)

[World Agroforestry Centre](#)

[International Coconut Genetic Resources Network](#)

[International Coconut Genebank for the South Pacific](#)

[Joint Division between FAO/AIEA on plant genetic resources](#)