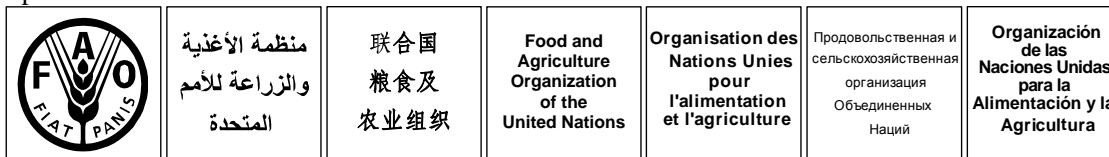


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IMPLEMENTING THE "SAVE AND GROW" MODEL OF SUSTAINABLE CROP PRODUCTION INTENSIFICATION IN AFRICA

Introduction and background

1. In the wake of the spiralling food prices crises of 2007-8 and 2010, the world finds itself with almost a billion hungry people and a population set to expand by almost 40% in the coming four decades. There is a need to increase food production by 60-70% world-wide and by as much as 100% in developing countries. Some 80% of this increase in production will need to come from land that is already under production.
2. In further increasing food production farmers face a complex set of challenges including the decreasing availability and competition for land and water, resource degradation (e.g. poor soil fertility), energy scarcity (resulting in higher costs for inputs, production and transport), urbanization (with an impact on both labour availability and demand for food), as well as climate change and higher and more volatile food prices.
3. There is a need for a change in paradigm to encourage increased adoption of sustainable ecologically-sensitive agriculture and for a shift from current farming practices to more sustainable agricultural systems capable of providing productivity increases while protecting and enhancing natural resources.
4. Recognition of the need to scale up investments in agriculture, championed by the Comprehensive Africa Agricultural Development Programme (CAADP) has gathered momentum as the renewed commitment towards agricultural reform strengthens the case for sustainable agricultural programmes linked to those on hunger and poverty reduction.
5. FAO's publication, "Save and Grow" – A policy makers guide to the sustainable intensification of smallholder crop production (FAO, Rome, June 2011) provides the basis for a comprehensive approach to help smallholder farmers produce more food sustainably while strengthening their resilience to external shocks. It is a compilation of proven management practices and technologies that demonstrate how the ecosystem approach to crop production can be implemented based on three principles i) enhancing productivity and profitability; ii) increased resource use efficiency and iii) ecological sustainability.

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Issues for Sustainable Crop Production Intensification (SCPI) in Africa

6. The context for FAO's work with countries in Africa to implement the Save and Grow approach to sustainable crop production intensification is set by NEPAD's Comprehensive African Agriculture Development Plan, the associated national compacts and the FAO Country Programme Frameworks.
7. FAO has a long tradition of promoting a systems approach to crop production in African countries in cooperation with farmers' organisations, community leaders, extension services, ministries of agriculture, national and international research, extension and international development partners. Problems addressed include soil fertility, water management, pests and diseases, and the development of value chains in areas where traditionally transport and other infrastructure have been lacking. There is heightened awareness of the need to consider multiple factors simultaneously in order to achieve intensification outcomes which are sustainable from environmental, economic and social points of view.
8. Recent actions have tended towards an integrated view both of problems and of the potential solutions, Three examples include:
 - i) Improved production systems based on specific practices to boost soil fertility and to maximise the use of available soil moisture through minimum tillage, and use of cover crops. Crop rotations, as well as integrated weed management practices, pollinator and pest management and integrated pest management, are often important additional elements. Particular examples can be cited from Southern Africa, such as the integrated programme on conservation agriculture underway in Tanzania, where FAO's initial work has been taken up by NGOs and other partners, and is now supported as a policy position by the government.
 - ii) Integrated Pest Management (IPM) has been an entry point for the development of sustainable production systems. Initially focused on reducing pesticide use through a participatory Farmer Field School methodology (FFS) the benefits included reduced environmental contamination and improved water quality. The FFS approach can broaden to provide opportunities to address additional issues concerning soil fertility, seeds, water use, as well as post harvest losses and access to markets in an integrated manner. Particular examples can be cited from seven West African countries where the Integrated Sustainable Production Programme (GIPD) has directly benefited hundreds of thousands of farmers. This programme leads the way, in showing the power of an integrated approach to work on pest management, water quality monitoring, soil fertility management, crop rotations and use of improved varieties, implemented through a large scale FFS programme.
 - iii) The management of trans-boundary plant pests and disease is a challenge. This can be addressed through improved community level observation and surveillance, research into causes of disease transmission, communication on effective control strategies and rapid mobilisation to respond to disease. There is a need to manage intensification while minimising risk, and building community resilience through diversification and better links to local agricultural research systems. Production systems in Eastern and Central Africa have continued to suffer from trans-boundary pests and diseases, affecting key staple crops such as wheat, cassava and banana. Knowledge sharing on disease incidence and on how to control it has been a key element in recent work and is central to continued progress.
9. Further topics and disciplines that contribute to a programme on sustainable intensification of crop production include:
 - i) pollination management
 - ii) weed management
 - iii) water harvesting and improved water management practices

- iv) biodiversity and the conservation and sustainable use of plant genetic resources
 - v) pesticide lifecycle management, linked to finding more environmentally-friendly means of pest control
 - vi) providing support to plant breeding, participatory varietal selection and development of seed systems, including regulation of the sector
 - vii) phytosanitary capacity building, to reduce the impact of trade-related pests (and secure market access for produce)
10. In each case, they can serve as “entry points”, based on national needs and priorities, to engage with stakeholders and broaden discussion on an integrated approach to sustainable crop production. Different disciplines present different opportunities for policy support and/or scaling up. The challenge is to work with national partners to blend and integrate all such approaches to bring a focus on local priorities, based on local agro-ecosystem and other constraints.
11. At the heart of such integrated work is an understanding of the impact on, and contribution of the local agro-ecosystem to crop production intensification. One recurring theme is the need to maximise the efficiency of resource use – overuse is likely to damage the environment (whether seen in poor water quality, reduced soil fertility or infiltration properties, or reduced biodiversity). In some cases, it is possible to find “win-win” situations – where reducing overuse saves money for farmers at the same time as reducing environmental impact, while maintaining levels of productivity.
12. Clearly, partnerships are essential. In the best cases FAO has succeeded in creating effective coalitions including NGOs, Civil Society, local government and others around a consensus on approaches to tackling problems. FAO does not control implementation, but seeks to ensure there is a full consideration of all options and trade-offs , and can plays a key role in quality assurance, monitoring & evaluation and strategic programme review.
13. FAO will engage in a lesson-learning and measurement programme over the period 2012-2015 with support from the European Union, and in collaboration with IFAD and the other Rome-based agencies. The objective is to identify factors in sustainable intensification based on existing projects and programmes, and develop guidance, methods and training materials to support countries design better intensification programmes. Partner countries from the African region wishing to work on developing their own sustainable production intensification programmes are encouraged to take part in a range of pilot activities.
14. Where countries are interested in implementing the Save and Grow approach, discussion needs to move beyond these tactical interventions and take a more strategic overview. There is a need to identify tradeoffs and options, and make strategic choices. Longer term sustainable intensification programmes can then be developed, which integrate farmer, research and institutional perspectives, and which ensure that environmental, social and economic factors are balanced in programme design.

Implementation of the Save and Grow approach

15. For the implementation of the Save and Grow approach to sustainable crop production intensification (SCPI) to become a reality in countries in the region, coordinated actions by partners among different sectors are required, including farmers and farmer organizations, science and technology, economics and marketing bodies and national and regional policy and legislative bodies. FAO is connected to all of these sectors and can facilitate the required actions within and among them.
16. FAO’s main contribution to implementation of the Save and Grow approach to SCPI is to:
- i) Promote the adoption of proven crop production systems that are based on ecosystem approaches. The practices offered to farmers should be adaptable, appropriate and sustainable under local conditions.

- ii) Focus on enhancement and protection of soils to conserve resources such as water and nutrients and prevent erosion and degradation to ensure sustainability of crop production.
 - iii) Support the protection and improvement of plant genetic resources for agriculture in countries and ensure that the best varieties are delivered to farmers in a timely manner.
 - iv) Assist member countries to develop and implement policies and strategies aimed at efficient use, collection and conservation of water in agriculture including the development and promotion of drought resistant crop varieties where relevant.
 - v) Provide guidance on crop protection that favours prevention of pests and diseases through integrated pest management approaches disseminated through farmer field schools. Effective regulation, management, and capacity building for judicious use of pesticides is supported to ensure timely and appropriate availability and use of the right products for farmers.
 - vi) Help countries to put in place institutional mechanisms and policies that support smallholders and allow them to grow more in a sustainable manner and market their produce at better prices.
17. FAO can also contribute by further encouraging dialogue between the agriculture and environment sectors, and between the public, private and civil society sectors, and by harmonizing and further improving adaptation of existing international instruments, conventions, and treaties relevant to production intensification. FAO does not work alone, but operates as a neutral broker and facilitator of partners and stakeholders. Such initiatives require partnership with regional institutions, as well as the various centres of Consultative Group on International Agricultural Research (CGIAR), national agriculture research institutions, Civil Society Organizations (CSOs) and farmer associations.

The Way Forward

18. In support of FAO's Results Based Strategy for Africa there are significant opportunities to identify partners within the African region who are actively considering crop production intensification programmes. These partners are best placed to use the Save and Grow approach on a large scale (production-system wide, or even nationally).
19. In developing comprehensive intensification programmes that embody the Save and Grow approach the following steps need to be taken into consideration.
- i) *In-country situation analysis* – The first thing needed is a situation analysis. This means conducting a review with government, of existing projects, programmes and initiatives to identify any which might contribute to a sustainable intensification programme, and identifying strategic priorities (and key constraints) for sustainable crop production, including drawing on other planning processes;
 - ii) *Needs assessment* – Once strategic priorities have been defined, a more detailed process of needs assessment is needed, involving relevant national and regional stakeholders to identify, within the context of achievable programme design (including governance considerations), the further needs of the country to support significant progress towards sustainable intensification of crop production in synergy with existing initiatives;
 - iii) *Programme design* – with the priority needs identified, the next step is to assist the country to design intensification programmes which are more sustainable. FAO can draw both technical and policy-relevant lessons from the broad base of its work in Africa over recent decades.

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- iv) *Monitoring and evaluation* - There is a need to establish (or draw on existing) baseline measures of production, including yield gap analyses. These should be combined with environmental, economic and social impact, at programme inception, in order to ensure that objectives and targets are well understood by all stakeholders and are achievable and measurable within the timeframe of the programme.
 - v) *Financial sustainability* – Appropriate financing need to be included in the programme design to ensure the continuity and sustainability of the programme objectives, particularly where links can be built to markets.