1. Background

The ‘Fifth Assessment Report’ of the Intergovernmental Panel on Climate Change (2014) notes that climate change is already having a negative impact on food security, especially through effects on agriculture, affecting major crops, livestock production and fisheries. In particular, the tropical areas of high exposure to climate change are also those characterized by high food insecurity. The largest proportion of food-insecure people in the world is in Sub-Saharan Africa (SSA), where 27% of people were undernourished in 2010-2012.

These combined global food, environmental and climate challenges call for urgently supporting the greening of agriculture all over the world. The "greening of agriculture" is defined by UNEP “Green Economy Report” as “the increasing use of farming practices and technologies that simultaneously: maintain and increase farm productivity and profitability while ensuring the provision of food and ecosystem services on a sustainable basis; reduce negative externalities (e.g. CO2 emissions) and gradually lead to positive ones; and rebuild ecological resources (i.e. soil, water, air and biodiversity natural capital assets) by reducing pollution and using resources more efficiently”.

In order to feed the growing population sustainably, agricultural productivity needs indeed to grow alongside better food systems efficiency and protection of ecosystems. This is particularly important for Africa that has around 60% of the world’s uncultivated arable land suitable for crop production, the highest margins for improving the productivity of already cultivated land, and is therefore attracting increasing attention by local and foreign investors (UN, 2015). African agriculture will thus certainly contribute to improving global food security in coming decades. But it risks also contributing to the worsening of human impact on climate change if its development path will not be environmentally sustainable, given that agriculture and deforestation account for around 30% of global greenhouse gas emissions (more than energy supply, at around 25%).

Only a multi-stakeholder approach to policies and investments and the coordinated use of different methods (climate-smart agriculture, agro-ecology, etc. as described in section 2.2) can make an effective greening of agriculture possible. Governments should create the enabling policy environment, including providing financial incentives, for private sector investment in green agriculture and to build complementarities and synergies across such different methods, as a key contribution to addressing in parallel the global food security and climate challenges.

With a focus on Africa, this Partners in Dialogue Session will discuss which policy and financial incentives can stimulate best practices for sustainability by businesses interested in investing in agriculture in developing countries. Representatives of the private sector will give examples of innovations and current approaches to more sustainable food systems, and government and development partner representatives will outline what policies and instruments are currently in place to help them.

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1 The term “greening of agriculture” is used here as common denominator for a variety of practices aimed at making agriculture environment-friendly and climate-resilient, while this Note (a background document to frame the discussion) does not promote one or the other approach to agriculture.
2. Various approaches for linking food security and climate change

2.1 What is an ‘enabling environment’?

Governments should create a conducive policy environment for linking climate change and food security. The integration and coordination of relevant policy instruments and institutional arrangements are a key means for the implementation of initiatives that make food systems more efficient while protecting ecosystems; as are innovative financing mechanisms that link and blend climate and agricultural finance from public and private sectors. The scaling up of practices for sustainable agriculture will require appropriate institutional and governance mechanisms, in order to disseminate information, ensure broad participation of stakeholders impacting the environment in different ways, and harmonize policies. Reaching sustainable agriculture targets is a continuous process: context-specific priorities need to be determined, and benefits and tradeoffs of various policy reforms should be regularly evaluated.

Well-respected international organisations and multi-stakeholder policy-making processes have clarified what an ‘enabling environment’ for the greening of agriculture should be. The Food and Agriculture Organisation (FAO, 2011) for instance issued a policymaker's guide to the sustainable intensification of smallholder crop production. There, it also suggests that carefully evaluating (financial) incentives and laws is necessary to better integrate the private sector into efforts for developing inputs for the greening of agriculture. Other recommended policies are: ‘market smart’ subsidies, aimed at supporting the development of demand and participation in green input markets using vouchers and grants; stabilisation of agricultural output prices; ensuring farmers’ access to quality seeds of varieties that meet their production, consumption and marketing conditions; adequate public infrastructure and services to ensure low transaction costs for green input acquisition, produce marketing, and access to natural resources; linking research with extension; helping farmers obtain adequate credit; develop productive social safety net programmes which will become more important with weather variability; and, promote diversified production systems. In October 2014, the ‘Principles for Responsible Investment in Agriculture and Food Systems’ (RAI principles) were approved by the Committee on World Food Security (CFS). Principle 6 (“Conserve and sustainably manage natural resources, increase resilience, and reduce disaster risks”) links responsible investment in agriculture to taking measures, as appropriate, to reduce and/or remove greenhouse gas emissions.2 While these principles are voluntary thus non-binding, the RAI principles mark the first international agreement on investment in which no party (including the private sector, who has a representative seat in the CFS) has objected to explicit language on reducing emissions.

Development partners are also increasingly connecting climate change and food security. The EU’s Global Climate Change Alliance, for instance, evolved over time from dialogue and exchange of experience between the EU and developing countries on climate policy, to supporting 51 programmes around the world for the systematic integration of climate change into national development planning (policymaking, budgeting, implementation and monitoring). Also bilateral aid programmes increasingly support national-level initiatives and innovations that raise household income while also strengthening resilience to climate change and developing green markets opportunities, particularly for small-scale farmers (e.g. GIZ’s support to Ethiopia’s ‘Climate Resilient Green Economy’ initiative). However, some of the approaches to the greening of agriculture create confusion and controversy, especially when supported also by development partners. In particular, the concept of ‘climate-smart agriculture’ (CSA) has raised a lot of criticism. Recently, 350 civil society organisations signed a petition defending agroecology and accusing CSA, a “top-down, politically-motivated term”, of promoting “false solutions”. The group claims that CSA lacks social and environmental safeguards and is therefore “used by agribusiness corporations to greenwash their practices” (i.e. large-scale industrial agriculture heavily

using chemical inputs). Moreover, the Global Alliance for Climate-Smart Agriculture (GACSA), launched at the UN Climate Summit in September 2014, is criticized for having an unequal membership: about 60% of its members belong to the fertilizer industry (Aubert et al., 2015).

More recently, and more generally, most development partners are adopting development cooperation frameworks that recognize the importance of the private sector (both local and international) for sustainable development, including in agriculture and with the explicit objective of green growth. The European Commission (EC), for instance, in May 2014 launched its Communication "A Stronger Role of the Private Sector in Achieving Inclusive and Sustainable Growth in Developing Countries", with the objective of "harnessing the potential of the private sector as a financing partner, implementing agent, advisor or intermediary to achieve more effective and efficient delivery of EU support, not only in the field of local private sector development, but also in other areas of EU development cooperation such as sustainable energy, sustainable agriculture and agribusiness, digital and physical infrastructure, and the green and social sectors."

Financial incentives for greener private sector investment are a particularly important component of the ‘enabling environment’. Creative finance and insurance products to improve both risk management and access to capital for climate adaptation actions, especially among small farmers, is key to increase private finance. The public sector is making use of a number of instruments to manage risks: blending mechanisms for loans and grants, public-private-partnerships (PPPs), market-based insurance schemes and feed-in tariffs (Knaepen, 2014). The EC Communication referred to above, for instance, envisages that through new policies and public investments, the EU aims to contribute to foster private sector investment in food systems development. In this context, the EC is designing a specific Agriculture Financing Initiative aimed at mitigating risk using public funds to encourage project promoters and attract private finance to viable investments that would not materialise otherwise. It will do this through the provision of risk capital, guarantees or other risk-sharing mechanisms. Hence, EU support will contribute to “de-risking” investment and closing the financing gap, with a focus on medium, small and micro enterprises.4

A central issue when discussing the financial incentives for sustainable businesses practices in agriculture is the relation between available resources and financing mechanisms for agricultural development and for climate change adaptation and mitigation. There are no doubts about the increasing availability of public and private climate financing: between 2008 and 2013 $1 billion per year was spent by multilateral climate funds, and the Green Climate Fund (GCF) will channel very large amounts in the future through both public and private sector windows. There are concerns, on the other hand, that public agriculture financing may be decreasing, and according to some observers this is due to some extent to a shift of the same resources from agriculture to climate. However, it is hard to generalize, given the limited information available on how exactly certain funds are used on the ground and the difficulty of assessing sometimes whether a specific initiative is about only the agriculture or the climate sector, or both.5 A number of stakeholders (e.g. the Consultative Group for International Agricultural Research) indeed lobby for a strengthened position of ‘agriculture’ on the agenda of the United Nations Framework Convention on Climate Change (UNFCCC) so that agriculture projects could then also benefit more clearly from climate financing. In some cases, such cross-sectorial synergies are already made, for instance through the so called “Fast Start Financing

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3 http://www.climatesmartagconcems.info/enfull1.html
4 http://ecdpm.org/great-insights/engaging-business-agricultural-growth-opportunities-risks/
5 The GCF is the largest and fastest-growing fund, with $9.7 billion pledged ahead of the Lima Conference in December 2014. See ‘Climate Funds Update’ for more information on public and private climate financing: http://www.climatefundsupdate.org/
6 OECD-DAC Statistics show a slow upward trend (www.oecd.org/development/stats/agriculture.html) while others have noted that "trends in indicators of government spending on ODA to, and FDI in, agriculture are discouraging for Sub-Saharan Africa" (http://www.fao.org/3/a-an108e.pdf).
7 Despite more is known about REDD+ funds which cover agriculture as a driver for deforestation, very little analysis has been undertaken on climate-finance spending and agriculture and land use (Campbell et al, 2014)
8 According to Campbell et al. (2014), as the GCF will soon be fully operational, one area for immediate attention will be to ensure the GCF can help to deliver adaptation strategies and low emissions strategies for agriculture.
Mechanism and IFAD’s ‘Adaptation for Smallholder Agriculture Programme’ (ASAP) channeling climate finance to smallholder farmers so that they are able to access the information tools and technologies that help build their resilience to climate change.

Linking climate change and food security is also a priority of the policy agenda of developing countries. In recent years, the African Union (AU), the Regional Economic Communities (RECs) as well as African governments have given special attention to the greening of agriculture. The 2014 AU Malabo Declaration and the Comprehensive Africa Agriculture Development Programme (CAADP, i.e. Africa’s agricultural transformation strategy) target 25 million farming households to be using climate smart agricultural practices by 2025. Moreover, in light of this target, the New Partnership for Africa’s Development (NEPAD) launched an ‘African Climate-smart Agriculture Alliance’ in 2014, involving several representatives from African governments, civil society, farmers organisations as well as private sector. Furthermore, African RECs are also actively promoting sustainable agricultural policies and practices (e.g. through the COMESA-SADC-EAC Tripartite Programme on Climate-smart Agriculture). Finally, National Agricultural Investment Plans (NAIPs) are increasingly taking up climate-smart practices, including through public-private partnerships and the sustainable use and management of agricultural resources (e.g. Uganda’s National Agriculture Policy of 2013).

Concerning these national efforts, when debating the present and future of sustainable agriculture and the related policy and financial incentives, it is crucial to note that the domestic policy environment will always be a key factor in determining food security, ecosystem and climate-resilience conditions in individual countries. Nonetheless, as seen in this section, the actual policy environment that companies and citizens face will also be affected by external drivers. International and regional policy and investment regimes such as those promoted by the UNFCCC, GACSA or initiatives by the RECs can lead to positive or negative effects on food security, ecosystems and climate-resilience on the ground, depending on the choices and practices that their implementation actually facilitates at the national level.

2.2 What approaches to achieve the greening of agriculture?

The “greening of agriculture” refers to the increasing use of farming practices and technologies that maintain and increase farm productivity while ensuring the provision of food and ecosystem services on a sustainable basis with a focus on mitigation as well as adaptation (UNEP, 2011). There are a wide variety of agricultural approaches that link climate change to food security through promoting the greening of agriculture. These include, climate-smart agriculture, ecosystem-based adaptation for food security, agro-ecology and the landscape approach.

Climate-smart agriculture

Climate-smart agriculture has emerged as an important practice as well as policy for tackling climate change within the agricultural sector. The concept of CSA, defined and presented for the first time by FAO in 2010, is a way to achieve short and long-term agricultural development priorities in the face of climate change and serve as an integrator to other development priorities. CSA seeks to support countries and other actors in securing the necessary policy, technical and financial conditions to enable them to: 1) sustainably increase agricultural production; 2) build resilience and adapt to climate change; 3) reduce and remove greenhouse gas emissions while meeting food security and development goals (see the figure below).

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9 Spending on adaptation of agriculture through the Fast Start Fund Mechanism (which included bilateral aid) increased from $155 million to $613 million between 2010-2012 (Hoogzaad et al. 2014)
10 http://caadp.net/sites/default/files/malabo_synthesis_english_0.pdf
11 http://africacsa.org/
The role of CSA in changing agricultural systems. Climate change and variability is one of the drivers of change that affect the vulnerability of systems, which requires adaptation and mitigation to ensure adequate food production.12

**Ecosystem-based adaptation (EbA) for food security**

EbA refers to the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people and communities adapt to the negative effects of climate change at local, national, regional and global levels. It takes a holistic, interdisciplinary approach that recognises the interconnectivity between ecological, social-cultural, economic and institutional structures. For it to be fully effective, it should be integrated into decision making processes, through a three-step approach: 1) assessing impact and vulnerability, 2) support for technological development and pilot projects, 3) integration of EbA into national adaptation plans. UNEP, FAO and AU have been promoting this approach, including through two recent ‘Africa Food Security and Adaptation Conferences’ (in 2013 and 2015). EbA has been applied for instance in Togo, in a programme aimed at both the rehabilitation of water reservoirs in the savannah region for the benefit of women and youth as well as boosting the cereal and vegetable production of the entire community.13

**Agro-ecology**

Agro-ecology is seen as a science, a practice and a movement. As a science, it involves the holistic study of agro-ecosystems; as a practice, agro-ecology enhances the resilience and ecological, socioeconomic and cultural sustainability of farming systems; and as a movement, it seeks a new way to link agriculture with society. The International Institute for Environment and Development defines it as “the application of ecological concepts and principles to the design and management of sustainable agro-ecosystems”.14 According to many observers, agro-ecological approaches, being

12 [http://edepot.wur.nl/298572](http://edepot.wur.nl/298572)
implemented since the 1970s, have proven to improve the yields, livelihoods and environment for
small-scale farmers in the face of climate change.\(^\text{15}\)

**The landscape approach**

Landscape approaches seek to offer tools for allocating and managing land to achieve economic,
social, and environmental objectives in areas where agriculture and other productive land uses
compete with environmental and biodiversity goals. Evidence shows that farmer-managed natural
regeneration contributes to food security by improving the fodder available to animals, reducing loss
of fertile topsoil and raising incomes. Adaptation to climatic variability is enabled by the diversification
of local livelihoods. Originating from biodiversity protection and conservation NGO circles, the
landscape approach is increasingly recognized as promising also by governments and the scientific
community, including for the simplicity of these practices, considered an important success factor.\(^\text{16}\) In
Africa, for instance, development partners support Niger’s farmers in their long-established practices
of woodland management that promotes regrowth from living tree rootstock (the so-called “Farmer-
Managed Natural Regeneration”).

3. The role of the private sector

International organisations, the scientific community and several companies have embraced for quite
some time now the importance to shift to agricultural approaches that link climate change to food
security through promoting the greening of agriculture. And many governments are beginning to put in
place more systematically policy and financial incentives to stimulate best practices for sustainability
by businesses interested in investing in agriculture in developing countries. However, the ‘private
sector’ is composed of very different types of companies, with different size, business models and
roles in agricultural value chains, from large and vertically integrated multinationals operating “from
farm to fork”, to banks specializing in value chain financing, to informal food traders, to family farmers.
Their objectives, profitability and modus operandi also vary dramatically, and so their preparedness to
change their business model to contribute to the greening of agriculture. Despite the current ‘green
rhetoric’ therefore, the challenge to move to more sustainable agriculture and food systems is still a
tough one, with recent greenhouse gas data showing that emissions from agriculture, forestry and
fisheries have nearly doubled over the past fifty years and will increase an additional 30% by 2050,
without much stronger efforts to reduce them. The challenge can only be won through the private
sector, responsible ultimately for producing and trading agricultural and food products. This requires
deeper insights on what exactly the companies of different kind, size, and location can and should do,
and more effective as well as differentiated approaches to support them in the greening of agriculture.

3.1 Multinationals’ investments in sustainably linking climate change and food security

Since the food prices crisis of 2007-2008, there is a general renewed interest of international investors
and large companies to invest in agriculture and food systems. Multinationals are also increasingly
taking up environment and climate change sustainability targets. There are several examples of
large businesses that are combining these efforts and apparently contributing effectively to the
 greening of agriculture, including some of the largest players in the global food value chains.

**Unilever** for instance, the world’s third-largest consumer goods company, is widely considered to be at
the forefront of sustainability discussions and changing business practices. Through the ‘Unilever
Sustainable Living Plan’ (launched in 2010), the company has committed to enhance the livelihoods
of millions working in value chains in which Unilever is active and to align business action with public
policy, through partnership and collaborations. The Tropical Forest Alliance, for example, created by

\(^\text{15}\) [http://www.actionaid.org/publications/clever-name-losing-game-how-climate-smart-agriculture-sowing-confusion-food-
movement](http://www.actionaid.org/publications/clever-name-losing-game-how-climate-smart-agriculture-sowing-confusion-food-
movement) ; [http://agriprofocus.com/upload/What_is_AE_IIED_LauraSilici1417775613.pdf](http://agriprofocus.com/upload/What_is_AE_IIED_LauraSilici1417775613.pdf)

\(^\text{16}\) [http://edepot.wur.nl/298572](http://edepot.wur.nl/298572).
Unilever with the governments of Norway, Netherlands, UK, USA, Indonesia and dozens of NGOs works towards eliminating deforestation from the supply chains of consumer goods companies, with initial focus on palm oil, soy, and beef products. This initiative is now being adopted also in Africa to prevent deforestation becoming an issue as the continent increases its production of palm oil; and lessons should be learnt from its positive experiences in South East Asia (where palm oil is increasingly covered by ‘no deforestation’ commitments, but implementation remains a challenge, particularly in the engagement of smallholder farmers).

Other interesting examples come from the biggest food company in the world, Nestlé who has committed itself to environmental and social sustainability in order to “be part of the long-term solution”. Nestlé joined for instance the Consumer Goods Forum commitment to global zero-net deforestation by 2020, works with industry platforms, government and civil society stakeholders on the broader global effort to tackle deforestation, and use its influence to support funding mechanisms and other practical schemes that will assist countries and local communities to conserve their natural assets. Like other food multinationals sourcing from developing countries, and increasingly from Africa, Nestlé is trying to create a more efficient way to buy from small producers, to enable them to improve incomes and livelihoods, by leveraging market-based approaches to poverty alleviation and supporting privately-held enterprises which can assist smallholder farmers and link them to its global supply chains and distribution networks.

The challenge ahead is whether these and other important initiatives by multinationals will have the expected positive impact on the sustainability of agriculture in the medium and long-term, beyond ‘corporate social responsibility’ and the short-term income generation opportunities for the farmers involved. In September 2015, the CEO of Unilever won the ‘Champions of the Earth Award’ at the UN Sustainable Development Goals Summit for “challenging business norms to show that sustainable, equitable and environmentally conscious business is smart business”. But will large international companies from developed and developing countries alike follow the example and shift to greener business models that can serve at scale the (‘base-of-the-pyramid’) consumers in a profitable and sustainable way for the environment (e.g. reducing their CO2 emissions)?

3.2 Micro, small and medium enterprises linking climate change and food security

Large scale investment in agriculture and food systems in developing countries is indeed growing, but there are different perspectives on how to combine sustainable agricultural growth objectives with productivity enhancements for smallholders and other micro, small and medium enterprises (MSMEs), still dominating agricultural production and trade in many countries (especially in Africa). Many observers believe that large companies and multinationals may find it easier to move to a greener business model while MSMEs face serious and basic supply side constraints, shorter term profitability objectives and could find greener investments too costly. Others believe that MSMEs, and especially family farmers, already practice ‘green agriculture’ thanks to their reliance on organic inputs and multi-cropping techniques, and that rather if they were to follow the ‘productivity enhancement’ paradigm that would bring them to a less environment-friendly development path. Others think that it is possible to move towards the greening of agriculture by indeed better connecting MSMEs (and their traditionally sustainable farming practices) with large companies and their global supply chains.

Europe-based MSMEs are starting to launch business-to-business (B2B) initiatives to invest in MSMEs in developing countries. For example, Durabilis is a young Belgian company focusing on managing value chains in developing countries and building inclusive relationships with supply chain partners, from harvest to processing and selling, always promoting a fair distribution of profit and risks.

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and sustainable resource use. One of their business units, FairFruit, is an integrated producer-exporter-importer of fresh fruit and vegetables, active in a number of African countries (e.g. Ethiopia and Zimbabwe) and providing technical assistance and fair trading conditions to smallholder farmers in order to unlock their potential for sustainable rural economic development.¹⁹

This is only one of a growing number of examples, but the private sector led, B2B, initiatives to support the supply and sustainability capacities of small producers and rural MSMEs, especially in Africa, remain largely insufficient. This is due to a variety of reasons, including: inherent risks in agricultural production (e.g. weather and environmental conditions); higher risks associated with smallholder production; higher costs of doing business in small rural markets. The challenge ahead is to understand exactly how to scale up existing B2B best practices and increase investment in both European and African MSMEs that can simultaneously improve production and food security while addressing climate change. Different approaches will have to be used, depending on the local context and the feature of the small companies involved, since also within the category of MSMEs itself there are very different competitiveness conditions and business development needs. One guiding principle should always be to maintain transparency and fairness in B2B joint ventures between European and African countries, since recent experiences often could not improve the imbalanced relationships between African smallholders and foreign buyers (Fair Trade Foundation, 2013).

4. Key questions for the way forward

In an effort to move these complex debates forward, four sets of questions deserve further attention.

1) What can the private sector do more to synergise climate change and food security action?
Will initiatives by multinationals from developed and developing countries alike follow the example of existing best practices, and will this have the expected positive impact on the sustainability of agriculture in the medium and long-term, beyond ‘corporate social responsibility’? Is connecting MSMEs with large international companies the best way to strengthen the contribution of smaller companies to the greening of agriculture?

2) What can public policies do to stimulate more effectively the greening of agriculture?
What are the best policies and financial incentives for private sector investment in green agriculture? Do broadly defined international standards like the RAI principles actually help improving investors’ practices? Are PPP approaches effective mechanisms to combine large-scale investments and the sustainable development needs of smallholders and local communities?

3) Can development partners do more for sustainable agriculture as part of their ‘private sector for development’ (PSD) approaches?
How can PSD effectively differentiate and support companies of different kind, size, and location in the greening of agriculture? What can donors do to address the concerns about the fact that their initiatives to involve investors from their own countries in African agriculture is used as self-interested ‘economic diplomacy’ at the expense of sustainable development objectives? Can this debated be depolarised through better evidence-based public-private dialogue?

4) What is the role of global public goods in relation to privately financed agricultural research outcomes and private climate-financing initiatives?
How can strategic public funding be maintained in a complementary manner to the increasing investments of the private sector, for both agricultural research and climate change adaptation and mitigation? What is the role of the public and the private sector?

¹⁹ http://durabilis.eu/home.
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