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Briefing Paper on UNFCCC and Agriculture

Content

Introduction	2
State of UNFCCC-negotiations on agriculture and mitigation	5
1. UNFCCC negotiations on agriculture	5
2. Towards an agricultural work programme? Results from Durban.....	6
Positions on an agricultural work programme.....	7
1. Non-governmental organizations	7
2. Parties.....	9
3. Intergovernmental organizations	11
Agriculture, climate change and gender: an overview of selected literature ..	13
References	16

Introduction

The importance of smallholder farmers for food security and also the role of women in agriculture have received growing attention in recent years.¹ In 2009, the United Nations' International Assessment on Agricultural Knowledge, Science and Technology (IAASTD) already pointed out the changing roles of women farmers worldwide and the obstacles women face when working in the agricultural sector. The FAO dedicated its entire 2011 State of Food and Agriculture-Report to women in agriculture and just recently, the priority theme of the 56th session of the UN Commission on the Status of Women (CSW) was the empowerment of rural women. Moreover, agriculture is receiving increasing attention within the UNFCCC, as parties are negotiating the future role of agriculture in UN climate policies.

Agriculture is important for people and societies worldwide as the agricultural sector is crucial for food security. It also provides livelihoods and jobs and is thus key to several human rights, some of which will be left insecure by the impacts of climate change on agriculture. These include for example the right to a decent standard of living together with the right to food, the right to health or the right to self-determination. Given that all human rights are interrelated and interdependent this is likely to also have implications for other rights.²

Certain patterns can be observed in the division of labor in agriculture. While more women than men work in the agricultural sector, women are more likely to be in informal work.³ Some data suggests that an average of 43% of the labor force in developing countries is made up of women,⁴ but other data shows that when counting both wage labor and self-employment, they make up a greater proportion than men in the agricultural work force in several regions, including Asia, Sub-Saharan Africa, the Middle East and North Africa.⁵ Estimates suggest that rural women produce 80% of the food in Africa.⁶ At the same time, women tend to be responsible for providing food to family members in many regions of the world and "are key to food security for their households"⁷.

Women are more likely than men to be in vulnerable employment in the agricultural sector. More often, they work as contributing family workers, while men often work on their own account.⁸ Men are more likely to migrate in some regions due to poverty, natural disasters or violent conflicts in order to find work in sectors other than agriculture. This can mean that women are left solely responsible for the agricultural production, although they often have no legal protection or property rights. In Latin America, for example, 70 to 90% of farmland is owned by men. The situation is similar in Sub-Saharan Africa. In addition to land, other key productive assets and services including labor, financial services, water, rural infrastructure or technology reveal similar gender inequalities.⁹ According to the World Bank, women usually "operate smaller plots of land and farm less remunerative crops."¹⁰ On average, their farms have lower yields, which can be explained by the differ-

¹ Cf. ActionAid International et al. 2012: p.1.

² Cf. OHCHR 2009: pp. 8-21 &

³ Cf. World Bank, FAO, IFAD 2009: p. 328.

⁴ Cf. FAO 2012c: p. 12,

⁵ Cf. World Bank, FAO, IFAD 2009: p. 317.

⁶ Cf. ILO 2009: p. 15.

⁷ World Bank, FAO, IFAD 2009: p.12.

⁸ Cf. ILO 2009: pp.14-15.

⁹ Cf. World Bank, FAO, IFAD 2009: pp.1-2.

¹⁰ World Bank 2011: p.16.

ent constraints faced by women.¹¹ The division of labor in the household or mobility restrictions also influence women's exposure to risk from natural disasters. Moreover, women's voice and participation are limited. They are less likely than men to receive information in cases of emergency and own limited savings.¹² The effects of globalization and trade liberalization may further increase the vulnerability of poor women, given that their access to services and opportunities is often limited due to cultural, social and political biases. Competitive disadvantages vis-à-vis large agricultural producers may also exclude poor and small producers - often women - from high-value markets.¹³

In addition, climate change puts increasing pressure on agriculture. The Third Assessment Report of the IPCC, for example, projected different climate change impacts on agricultural systems and especially smallholders. These include more frequent extreme events, decreased water supply for irrigation systems, impacts on coastal areas from sea level rise, more frequent tropical storms, or increasing risks of forest fires and remobilization of dunes. Moreover, health impacts are expected to affect the availability of labor for farm work. For the dryland tropics in particular, the Panel projected a higher likelihood of crop failure, as well as an increase in mortality and diseases of livestock, which can lead to indebtedness, out-migration, dependency on food relief and impacts on health and education. These are expected to combine with other non-climate stressors.¹⁴ Global food prices have remained high for a considerable period of time. While the FAO's Food Price Index fell a few points in April 2012, prices stabilized at a still relatively high level.¹⁵ Studies also suggest that climate change will contribute to increasing food prices in the future.¹⁶

Thus, there is a growing pressure to adapt to the effects of climate change. This means ever greater challenges for food security. Due to their role as family food providers in many regions of the world, women are most directly impacted by high food prices. It also means that in places where women's rights are already weak, climate change exacerbates the challenges faced by women working in agriculture. Subsequently, there is a growing need to address gender issues in agriculture as climate change continues.

Agriculture, however, also contributes to GHG emissions and thus acts as a driver of climate change. Land use changes such as deforestation or soil degradation contribute to global carbon emissions. CH₄ and N₂O emissions in agriculture have increased globally by about 17% between 1990 and 2005. Differences in emission trends can be observed between world regions. While in Non-Annex I countries, emissions in this sector increased by 32%, they decreased in Annex I countries by 12% in that period.¹⁷ However, in absolute terms, Annex I countries produce much more emissions with their agricultural activities - about two times the amount of agricultural emissions from Africa.¹⁸

As the mitigation potential and adaptation in the agricultural sector receive increasing attention, different solutions and techniques are being discussed. "Climate-smart" agriculture is promoted by some organizations in this context. The term refers to "agriculture that sustainably increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation) while enhancing the achievement of national food security and

¹¹ Cf. *Ibid.*: pp.16-18.

¹² Cf. World Bank, FAO, IFAD 2009: pp.2-3.

¹³ Cf. *Ibid.*: pp.1-2.

¹⁴ Cf. Easterling et al. 2007: pp.293-294.

¹⁵ Cf. FAO: 2012d.

¹⁶ See for example: Nelson et al. 2010.

¹⁷ Cf. Smith et al. 2007: p.499.

¹⁸ Cf. Stabinsky 2011: p.30.

development goals.”¹⁹ Different farming methods are discussed and assessed in this context. Among others, mixed cropping, “no-till”²⁰, “conservation tillage” or “biochar”²¹ are named. However, the proposed techniques are subject to debate. While some hope that they will contribute to the solution of problems in agriculture and food production, studies raise concerns about several climate-smart farming methods including biochar²² or no-till²³. Especially the use of genetically modified organisms, which is sometimes presented as a solution to numerous problems in the context of climate change and food security, is contested due to potential threats to biodiversity and agriculture as well as human and animal health.²⁴ Many organizations and stakeholders therefore reject the use of genetically modified organisms in agriculture. However, it is not within the scope of this paper to assess the value of different techniques.

There is a continued lack of attention to gender aspects in the field of climate change and also of agriculture. However, it has become clear that existing gender-based inequalities are a considerable factor when considering the vulnerability of men and women to the effects of climate change. This is also true of agriculture. Yet policy makers have largely neglected the role of women farmers, in particular their capacities and knowledge.²⁵ This limited approach hampers the implementation of effective policies for food security, adaptation to climate change and mitigation and is unacceptable from a rights-based perspective. This paper seeks to address agriculture in the context of climate change, in particular the negotiations under the UNFCCC and related gender issues. The mitigation potential of agriculture and also the need for better adaptation to climate change receive increasing attention within these negotiations. The first section of this paper therefore sketches the state of the UNFCCC negotiations on an agricultural work programme and especially the results of the last Conference of the Parties in Durban. The challenge mentioned above, of the need to ensure food security and the urgency of mitigation actions, are reflected within these negotiations. The second section outlines and summarizes the positions of different parties, intergovernmental and non-governmental organizations towards an agricultural work programme for the UNFCCC. The third section provides an overview of selected literature that deals with gender issues in this field, looking at how climate change, especially in the agricultural sector, affects men and women differently.

¹⁹ FAO 2011d.

²⁰No-tillage is being promoted as a mitigation as well as adaptation method because of its conservation and carbon sequestration potential. In contrast to conventional tillage, no-till practices cause only negligible disturbance of the soil. It is “a system of planting (seeding) crops into untilled soil by opening a narrow slot trench or band only of sufficient width and depth to obtain proper seed coverage. No other soil tillage is done.” (Derpsch, Friedrich, Kassam, Li, cited from Gattinger et al. 2011: p. 5). The residues of previous crops remain at the surface of the soil as mulch. Apart from the minimal soil disturbance, no-till practices usually also involve the maintenance of a permanent vegetative soil cover, direct sowing as well as crop rotation (Cf. Gattinger et al. 2011: pp. 4-5).

²¹ Adding biochar to the soil is seen as a possibility for reducing CO₂ emissions from soils and increasing soil fertility. It can be produced by exposing biomass to high temperatures with limited access of oxygen. The most common method is pyrolysis, less common are gasification or hydrothermal carbonisation (Cf. Ernsting 2011: pp.4-5).

²² Compare for example Ernsting 2011.

²³ Compare for example Gattinger et al. 2011 and Greenpeace 2008: p.32.

²⁴ Cf. Assouline / Stockelova 2005, pp.4-5.

²⁵ Cf. ActionAid International et al. 2012: p. 2.

State of UNFCCC-negotiations on agriculture and mitigation

1. UNFCCC negotiations on agriculture

The potential role of agriculture for mitigation is recognized in the documents of the United Nations Framework Convention on Climate Change (UNFCCC) in principle. The centrality of food production is recognized in the objective of the Convention, which states the aim of stabilizing greenhouse gases in the atmosphere “within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”²⁶

Article 4, paragraph c of the Convention calls upon all parties to:

“[p]romote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors”.²⁷

Agriculture is explicitly mentioned among these relevant sectors.

The Kyoto Protocol states in article 2 that each party shall implement policies and measures in order to fulfil emission reduction obligations. These include the “[p]romotion of sustainable forms of agriculture in light of climate change considerations”.²⁸ Parties should also formulate national and regional programmes for the mitigation of climate change and facilitation of adaptation measures, also in regards to agriculture.²⁹

Indeed, agriculture has been a cross-cutting issue in the negotiation process. In spite of the specific references to agriculture in the convention and protocol texts, it has only recently begun to play a more prominent role.³⁰ Previous initiatives for a separate work program on agriculture have failed, even though the negotiations on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD) under the Ad-Hoc Working Group on Long-term Cooperative Action (AWG-LCA), and those relating to Land Use, Land-Use Change and Forestry (LULUCF) under the AWG-KP, have clear implications for agriculture. However, in 2009 and 2010, the mitigation contact group made progress on this topic in the discussions on cooperative sectoral approaches and sector-specific actions in agriculture under the AWG-LCA.³¹ During the 15th Conference of the Parties (COP) in Copenhagen, a draft text on agriculture³² was composed but not agreed upon.³³ At COP17 in Durban, the UNFCCC adopted a decision on agriculture. For the first time, the Subsidiary Body for Scientific and Technological Advice’s (SBSTA) agenda now officially includes agriculture.³⁴

There have also been considerations on including agriculture in market-based mechanisms. In the negotiations of the Kyoto Protocol and the following accords, the measurement of soil carbon sequestration was deemed too uncertain to be included in the Clean Develop-

²⁶ UN 1992: article 2.

²⁷ UN 1992: article 4(c).

²⁸ UN 1998 : article 2.1(a).

²⁹ Cf. Ibid.: article 10(b)(i).

³⁰ Cf. Muller, Jawutsch, Gattinger 2011: pp. 42-43.

³¹ Cf. Murphy, McCandless, Drexhage 2010: p.4&7.

³² UNFCCC 2009.

³³ Cf. Muller, Jawutsch, Gattinger 2011: p.43.

ment Mechanism (CDM). Calls for carbon credits for all types of plantations have increased since then, but there has been no decision to increase the scope or the amount of CDM credits for carbon sinks yet. A report by Ernsting claims that biochar production and methods would profit if soil carbon offsets were included in carbon markets.³⁵ No-till practices have to some extent already been integrated into certain carbon markets. Some mitigation protocols cover these techniques. Examples are two protocols of the Chicago Climate Exchange, which, however, stopped operating in 2010, as well as the “Quantification Protocol for Tillage System Management” adopted by the government of Alberta, Canada, and the Verified Carbon Standard (VCS) methodology “Adoption of sustainable agricultural land management (SALM)”. Moreover, no-till is also mentioned in several Nationally Appropriate Mitigation Actions (NAMAs), as for example in those by Ghana or Brazil.³⁶

2. Towards an agricultural work programme? Results from Durban

In Durban, as during previous climate conferences, agricultural organizations and specific countries supported the establishment of a separate work programme on agriculture.³⁷ In the end, however, the AWG-LCA concluded that the 36th session of the SBSTA would consider issues related to agriculture in order to prepare for a decision at COP 18, November 2012, in Qatar.³⁸ So far, these COP-decisions are found under the mitigation section. However, several parties have made clear that they prioritize adaptation in the agricultural sector.

In the AWG-LCA-decision, parties and observer organizations were invited to submit their views on agricultural issues to the UNFCCC secretariat by 5 March 2012. During the SBSTA session in Bonn, parties referred to their submissions and discussed a possible future work programme on agriculture, as well as mitigation, adaptation, issues related to food security and technology transfer.³⁹ According to the draft conclusion by the chair, parties shall continue considering issues related to agriculture at SBSTA’s 37th session.⁴⁰

Beddington et al. attribute the slow progress in agriculture to several issues in the negotiations: as the role of agriculture in different economies varies, the motivation and priorities of countries to include agriculture also vary. Apart from that, countries’ vulnerabilities differ, and so do their GHG emissions from agriculture or their abilities to mitigate emissions. Countries with a lot of forestry may hope for benefits from REDD+ mechanisms and may perceive efforts to include agriculture as competition over climate finance. Negotiating agriculture in the mitigation track has also caused concern, especially among developing countries, which worry that agricultural adaptation could be neglected. Another concern is that a work programme with a focus on mitigation would lead to new emission reduction obligations and that market-based mechanisms would disadvantage smallholder farmers. Some countries also fear potential restrictions when converting land to agricultural use and export-oriented producers want to prevent limitations for trade in products from emission-intensive agriculture. Technical challenges might also prevent an agreement on agricultural issues.⁴¹

³⁴ Cf. Meadu, 2011.

³⁵ Cf. Ernsting 2011: p. 17.

³⁶ Cf. Gattinger, Jawtusich, Muller, Mäder 2011: p. 15.

³⁷ Cf. Meadu, 2011.

³⁸ Cf. UNFCCC 2011, Section D, para. 75.

³⁹ Cf. Appleton et al. 2012: pp. 15-16.

⁴⁰ Cf. UNFCCC 2012: p.1.

⁴¹ Cf. Beddington et al. 2012 : p.289.

Positions on an agricultural work programme

In general, there is more support among high-income countries for the establishment of a work programme on agriculture, as well as from farmers' and UN organizations, agricultural agencies and some NGOs. Low and middle income countries are, with exceptions, usually more sceptical. They are especially critical about focussing too much on mitigation and are generally supported by a different group of NGOs.⁴²

This section therefore gives an overview of exemplary positions by parties, governmental and non-governmental organizations on agriculture and mitigation issues under the UNFCCC. It is based mainly on the parties' and organizations' recent submissions to the UNFCCC as well as some secondary literature.

1. Non-governmental organizations

There are several industry organizations engaged in the UNFCCC process. *The Biotechnology Industry Organization (BIO)* and the *International Federation of Agricultural Producers (IFAP)*, for example, lobby for a framework recognizing the sequestration capacity of agricultural activities via the CDM, the implementation of an international voluntary carbon market⁴³ and recognition of no-till in the UNFCCC⁴⁴.

Traditional NGOs, however, are typically more critical of the suggestion of an agricultural work programme. In their submissions and statements to the UNFCCC they point to associated risks and different problems related to the introduction of market mechanisms in agriculture and climate-smart practices, including human rights issues.

La Via Campesina, for example, strongly rejects a work programme for agriculture and the extension of market mechanisms to include agriculture. This worldwide movement of peasants, small-scale farmers, women farmers and agricultural workers demands stronger support for women's land rights, their access to land and policies that respond to the needs of women.⁴⁵

EcoNexus also opposes a work programme on agriculture. They are very critical of the notion of extending carbon markets to agriculture, as they believe this would provide industrial countries with new options for setting off emissions, with the effect of putting off efforts to find less energy-intensive development paths. According to their view, industrial countries, such as the US, Australia or New Zealand, mainly wish to counterbalance their industrial emissions, while developing countries in favour of a market mechanism hope for revenues from selling offsets to high-emitting countries. *EcoNexus* predicts that market mechanisms for agriculture would stimulate land-grabbing and intensify the struggle for land for small-scale farmers. People whose land rights are not secure, particularly women, are expected to be disadvantaged in cases where land and carbon rights collide.⁴⁶

Proposals to introduce market mechanisms are also criticized by the *Institute for Agriculture and Trade Policy (IATP)*. They identify potential leakage, uncertain permanence of

⁴² Cf. Beddington et al. 2012 : p.289.

⁴³ Cf. IFAP 2010: pp.1, 3, 6, 7.

⁴⁴ Cf. Paul, Ersting, Semino, Gura, Lorch 2009: p.17.

⁴⁵ Cf. *La Via Campesina* 2011.

⁴⁶ Cf. *EcoNexus* 2012: pp. 4-6 and 10-11.

storage in the soil and additionality as major issues. Also problems in measuring carbon in soil remain. The institute further sees the danger of human rights violations in places where land rights are not secure, as well as possibilities for social conflict and displacement of food production:⁴⁷ "In many ways, the focus on market mechanisms is a dangerous distraction from the real work of finding agricultural practices that reduce emissions while ensuring food security, environmental integrity and rural livelihoods."⁴⁸

FANRPAN and the *Mary Robinson Foundation - Climate Justice* in contrast, are supportive of a work programme on agriculture. They argue for a climate justice approach to agriculture, food and nutrition security based on human rights. This approach should also be informed by the gender dimensions of food and nutrition security and focus on the role of women in agriculture. In this regard, *FANRPAN* and the Foundation point out not only the important role of women in food production but also their vulnerability to malnutrition. They caution that needs of vulnerable communities must be heard and taken into account. Synergies between mitigation and adaptation should be sought and linkages to other UNFCCC processes be ensured.⁴⁹

The *ACT Alliance* and the *Ecumenical Advocacy Alliance* both welcome the fact that the impacts of climate change on agriculture and mitigation in large scale agriculture are going to be addressed. However, they warn that different adverse effects must be avoided: new policies must not violate the right to food. They must respond to the needs of smallholder farmers and subsistence agriculture. The alliances are concerned that a work programme on climate smart agriculture will provide greater incentives for large-scale industrial food production and that even if smallholder farmers are included, the benefits for them will be insufficient. As these farmers have important knowledge with regard to mitigation and adaptation, they must be actively involved in the design and implementation of decisions in agriculture. Therefore, a focus should be on increased funding for adaptation in developing countries, which should be supported through all relevant UNFCCC mechanisms. The responsibility of the industrial food system needs to be recognized and the burden of mitigation should not be shifted to small-scale farmers in the Global South. Difficulties in measuring carbon sequestration need to be addressed and the International Assessment of Agricultural Knowledge, Science and Technology for Development report⁵⁰ should be taken into account.⁵¹

Moreover, *CAN International* identifies food security, the resilience of small-scale farmers and vulnerable populations, sustainable mitigation and the reduction of emissions from the conversion of land for agriculture as priority issues for policy goals. Their recommendations to the UNFCCC include among others a focus on sustainability, climate resilience and food security for developing countries as well as comprehensive accounting of agricultural activities in developed countries, taking into account the production and use of bioenergy. *CAN* suggests that these negotiations should be coordinated with those regarding adaptation, technology, mitigation, LULUCF, REDD+ and flexible mechanisms.⁵²

At the last climate change conference, the *Eastern Africa Farmers Federation* and the *Pan African Climate Justice Alliance* criticized the developed countries' focus on mitigation

⁴⁷ Cf. IATP 2011: pp.5-6.

⁴⁸ Ibid.: p.7.

⁴⁹ Cf. *FANRPAN*, MRFCJ 2012: pp. 1-5.

⁵⁰ IAASTD 2008.

⁵¹ Cf. EEAD, ACT-Alliance 2012: pp. 1-4.

⁵² Cf. *CAN International* 2012: pp.1-3.

and agricultural carbon in developing countries. In general, they are very critical of attempts to create an agriculture agenda under the UNFCCC subsidiary bodies.⁵³

2. Parties

Among the supporters of a work programme on agriculture are countries like New Zealand and Brazil⁵⁴, Argentina, Chile and Uruguay⁵⁵, the EU⁵⁶, Malawi⁵⁷, South Africa, Japan, the US and the Environmental Integrity Group, consisting of Liechtenstein, Mexico, Monaco, the Republic of Korea and Switzerland.

The USA, home to some major agribusiness companies, supported significant funding for agriculture in a post-2012 agreement.⁵⁸ In preparation for a COP decision in Qatar, the US proposed several broad topics for negotiation within SBSTA. These include synergies between adaptation and mitigation activities, the improvement of efficiency, productivity and resilience, the safeguarding of food security and livelihoods, capacity building, research needs and technology transfer.⁵⁹

Japan proposed that the SBSTA should work on a mechanism for the exchange of knowledge, technologies and activities for emission reduction and carbon sequestration in agriculture as well as for adaptation.⁶⁰

Within the European Union, France has supported an expansion of the CDM to include agricultural soil carbon sequestration projects.⁶¹ The African Group and in particular Senegal, Ethiopia and Malawi support the expansion of the CDM to wetlands and soil carbon projects.⁶² South Africa has also been supportive of agriculture credits from developing countries.⁶³

The UNCCD has proposed to include soil carbon sequestration in carbon trading and mentioned biochar in this context. The Gambia, Ghana, Lesotho, Mozambique, Niger, Senegal, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe⁶⁴, Belize, Costa Rica, Micronesia and to some extent Australia have supported this proposal.⁶⁵

Among the supporters of *no-till* practices are the US and Argentina. Argentina widely practices no-till-agriculture and has been lobbying for the introduction of no-till into the carbon market since 1998.⁶⁶ For mitigation activities in agriculture, the US also promote precision nutrient management, wind power and anaerobic digesters as well as the development of new farming methods and energy conversion technologies.⁶⁷

For most developing countries socio-economic development and poverty eradication are key issues. They stress the central role agriculture plays for food security and call for a stronger focus on adaptation measures in discussions and possible work programmes. Sev-

⁵³ Cf. Third World Network 2011.

⁵⁴ Cf. Murphy, McCandless, Drexhage 2010: p.11.

⁵⁵ Cf. Ibid.: pp.12-13.

⁵⁶ Cf. Denmark 2012 : p.3.

⁵⁷ Cf. Malawi 2012: p.2.

⁵⁸ Cf. Paul, Ersting, Semino, Gura, Lorch 2009: p.14

⁵⁹ Cf. USA 2012: pp.1-3.

⁶⁰ Cf. Japan 2012: p.1.

⁶¹ Cf. Murphy, McCandless, Drexhage 2010: p.10.

⁶² Cf. Ibid.: p.13.

⁶³ Cf. Ibid.: p.12.

⁶⁴ Cf. African Governments 2009.

⁶⁵ Cf. Paul, Ersting, Semino, Gura, Lorch 2009: p.8.

⁶⁶ Cf. Ibid.: p.21.

eral countries have warned against the creation of trade barriers through mitigation measures and emission reduction obligations for developing countries. In some cases they are sceptical of a work programme on agriculture, yet often they mainly wish to shift the focus of such a work programme to adaptation.

Among the countries that support a greater focus on adaptation are China, Iran⁶⁸, the Philippines, the Gambia, Tanzania, Sudan, Uruguay, South Africa and Zambia.

China, for example, argues that discussions in the agricultural sector should focus on the support that developed country parties can provide to developing countries in regards to adaptation measures. They propose to discuss the establishment of a work programme on enhanced adaptation actions in agriculture. The discussion of mitigation in the agricultural sector should honor the principle of common but differentiated responsibilities and not entail any mitigation obligations for developing countries.⁶⁹ In general, China has been reluctant to include agriculture.⁷⁰

The Gambia, on behalf of the group of least developed countries, also speaks out against any new mitigation obligations for developing countries. They hope that delegating the discussions to SBSTA will broaden the negotiations to include not only mitigation but also adaptation issues. They are particularly concerned that Annex I countries might want to adopt mitigation measures that could lead to protection and trade barriers for agricultural products.⁷¹

The Sudan, Uganda, Tanzania and Zambia all identify food security, the eradication of poverty, socio-economic development, sustainable environment and livelihoods as well as a focus on smallholders, marginal farmers and fishers as priority issues for Africa in the agricultural sector. These need to be safeguarded by adaptation measures, while co-benefits of mitigation should be identified.⁷²

Uruguay was involved in the drafting of the agriculture negotiating text and supported research and information exchange on reducing emissions from livestock and nitrogen from agricultural soils.⁷³ Referring to SBSTA's mandate formulated in Article 4 of the Convention, Uruguay argues that its work needs to focus on climate change *effects* on agriculture and adaptation to these effects. Maintaining agricultural productivity as well as food security necessitates adaptation and the "recognition that the agricultural sector may not be able to reduce its overall emissions as it works to feed a growing world population."⁷⁴ Therefore, Uruguay proposes to aim at food security, adaptation and the reduction of emission intensity in agriculture.⁷⁵

South Africa also stresses that adaptation has priority. It proposes three work programmes on agriculture, which should reflect the diverse commitments of different parties: firstly, work on adaptation in agriculture, which should provide a scientific basis for work under

⁶⁷ Cf. USA 2012: pp.1-3.

⁶⁸ Cf. Iran 2012: p.2.

⁶⁹ Cf. China 2012: pp. 7-8.

⁷⁰ Cf. Murphy, McCandless, Drexhage 2010: p.12.

⁷¹ Cf. The Gambia 2012: pp. 1-3.

⁷² Cf. Sudan 2012:pp.1-4 & Cf.Zambia 2012:pp.1-3 & Cf.Uganda 2012:pp.1-4 & Cf.Tanzania 2012:pp.1-2.

⁷³ Cf. Paul, Ersting, Semino, Gura, Lorch 2009: p.21

⁷⁴ Uruguay 2012: p.1.

⁷⁵ Cf. Ibid.: pp. 1-3.

the adaptation framework, secondly, mitigation actions by developed countries under the LCA and thirdly, SBSTA-work on mitigation within REDD+. ⁷⁶

During inter-sessional meetings in Bonn in 2011, Brazil, India, Bolivia and Saudi Arabia (with the support of other developing countries) warned against the imposition of technical regulations, sanitary and phytosanitary measures and market-based mechanisms, which might have negative effects for developing countries' trade in agricultural products. They wanted to stress that sector-specific action in agriculture should not limit economic and poverty-eradication goals of developing countries. ⁷⁷

Saudi Arabia has also repeatedly stressed that sector-specific actions in agriculture should not lead to discrimination or restrictions in international agricultural trade and should not stand in the way of developing countries' development and poverty eradication efforts. ⁷⁸

Along the same line, the Philippines has pointed to the historical responsibility of developed countries and declare that mitigation activities must not undermine the rights and livelihoods of smallholder farmers and fishers or endanger their access to land, water and other essential resources. ⁷⁹

3. Intergovernmental organizations

There is a considerable amount of support for an agriculture work programme and related issues among intergovernmental organizations.

The *United Nations Convention to Combat Desertification (UNCCD)* proposed to include soil carbon sequestration in carbon trading together with several governments. Biochar is explicitly mentioned in this context. ⁸⁰ Other organizations that support soil carbon offsets are the *Food and Agricultural Organisation (FAO)* as well as the *World Bank*. ⁸¹

The *FAO* has promoted significant increases in funding for agriculture for the Copenhagen agreement. ⁸² In a policy brief for the UNFCCC parties ⁸³, the *FAO* proposed the expansion of the scope of the CDM to include carbon sequestration and aboveground carbon, along with the establishment of new financing mechanisms to reach producers and smallholders as two important steps in ensuring financing for agricultural mitigation. Together with the inclusion of agriculture in the NAMAs of developing countries and the transition to a comprehensive approach to all land uses, this increased financing should "help anchor agriculture in an eventual climate change regime" ⁸⁴. Therefore, the *FAO* supports a separate work programme on agriculture. ⁸⁵ In a submission to the AWG-LCA in 2010, the *FAO* described possible elements of such a future work program and points to the importance of the REDD-discussions in this context. ⁸⁶

With regard to adaptation, the *FAO* recognizes that this will be a priority issue for developing and least developed countries. As food security and development are central goals,

⁷⁶ Cf. South Africa 2012: p.1.

⁷⁷ Cf. Cosby 2011: p.2, For the text proposal compare: UNFCCC 2011: p.2 & Saudi Arabia 2012: p.2.

⁷⁸ Cf. Saudi Arabia 2012: p.2.

⁷⁹ Cf. Philippines 2012: p.1.

⁸⁰ Cf. Paul, Ersting, Semino, Gura, Lorch 2009: p.4.

⁸¹ Cf. Ersting 2011: p. 17.

⁸² Cf. Cf. Paul, Ersting, Semino, Gura, Lorch 2009: p.6.

⁸³ Cf. *FAO* 2010a: pp.3-4.

⁸⁴ *Ibid.*: p.3.

⁸⁵ Cf. *FAO* 2010b.

⁸⁶ Cf. *FAO* 2010c: p.5.

mitigation in the agricultural sector is not expected to lead to absolute reductions of emissions, however it should lead to reductions relative to previously projected emission scenarios in agriculture - representing a deviation from the projected baseline. These should be accomplished, for example, by increased efficiency. The organization further suggests the development of financing mechanisms for climate-smart agriculture and related mitigation activities, including new approaches for measuring, reporting and verifying different activities.⁸⁷ While the FAO supports market-based mechanisms for mitigation in agriculture, it acknowledges that there is also need for public sector investments as well as incentives to overcome transaction costs and enable smallholders to access these markets.⁸⁸

The *World Bank* is supportive of the FAO agenda. The Bank also wants to see food security, mitigation and adaptation addressed in an integrated manner. At the same time it recognizes the need for enhanced food productivity. For this, the Bank supports climate-smart agricultural practices that use improved agricultural technologies like mulching, integrated nutrient management, conservation agriculture, agroforestry or improved pasture management, as well as innovative practices that include better climate information, early warning systems and the insurance of climate-related risks. For the SBSTA agenda, the World Bank proposes an assessment of synergies and trade-offs between adaptation and mitigation, the recognition of technologies that promote GHG removals by sinks, such as agronomic practices, nutrient use, tillage and residue management, the recognition of practices and technologies that lower emissions or the promotion of methods for measuring GHG emissions from agriculture, in order to achieve further integration of agriculture in UNFCCC mechanisms.⁸⁹

The *Global Donor Platform for Rural Development*, which consists of members from different European countries, the US and several intergovernmental organizations, co-organized the Agriculture and Rural Development Day in Durban. The platform strongly supports an agriculture programme.⁹⁰

The Common Market for Eastern and Southern Africa (COMESA) endorses the proposals made by other African countries such as Sudan and Zambia. Their priorities for the agricultural sector include food security, poverty eradication, enhanced socio-economic development, environment and livelihood sustainability. COMESA calls for special attention to be paid to smallholder and marginal farmers or fishers. They prioritize adaptation and the identification of co-benefits for mitigation. COMESA identifies the knowledge base, national research and development, a 3-year work programme of cooperation in research and development as well as capacity development as priority issues for SBSTA.⁹¹

⁸⁷ Cf. FAO 2012a: pp.1-3.

⁸⁸ Cf. FAO 2011b: pp.1-2 & FAO 2012b.

⁸⁹ Cf. World Bank 2012: pp.1-2.

⁹⁰ Cf. Agriculture and Rural Development Day 2011.

⁹¹ Cf. COMESA 2012: pp. 1-4.

Agriculture, climate change and gender: an overview of selected literature

As agriculture is currently being negotiated by parties to the UNFCCC, and since gender relations are very important for these discussions, this section considers recent reports, articles and other literature addressing the gender aspects of agriculture and climate change.

False assumptions about the roles of women and men in agriculture have misled development policies for a long time, in that they have mainly addressed men.⁹² A report by *Oxfam International* on climate change adaptation and rural development policies confirms this finding for the case of Burkina Faso.⁹³ Based on the 2008 World Development Report "Agriculture for Development", the Agriculture Sourcebook of the *World Bank*, the *FAO* and *IFAD* sets out to respond to this problem by giving practical advice, providing guidelines, principles as well as descriptions and illustrations of successful approaches to gender mainstreaming in agriculture operations of development agencies. The Sourcebook acknowledges the central role that agriculture plays for food security, poverty reduction and providing rural livelihoods. It adopts the Sustainable Livelihoods approach and gives an extensive overview of gender-issues in different agricultural fields.⁹⁴

The Bank's argument for gender equality in development policies and thus in the agricultural sector is based on an economic and efficiency rationale, distributional outcomes, food security and household welfare, as well as human rights.⁹⁵ In newer publications, the World Bank corrects its previous stance, which assumed that economic development and growth automatically lead to gender equality. In its latest publication, the World Development Report, the Bank also points to the intrinsic value of gender approaches. The idea that gender equality is "smart economics" is, however, still central for the Bank's arguments.⁹⁶

"The State of Food and Agriculture" report by the *FAO* (2010-2011) focuses entirely on women in agriculture. It begins by analysing the gender gap as well as women's roles and status in agriculture. It then documents the constraints women face in relation to different assets, including land, livestock, farm labour, education, extension and financial services as well as technology. Finally, the report evaluates the gains that can be expected from closing the gap in access and use of productive resources and services and identifies different measures needed for that. The emphasis is placed on interventions that increase agricultural productivity and rural development.⁹⁷

In contrast to the *FAO's* and the *World Bank's* publications, a noteworthy report by Christa Wichterich is based on the observation that gender issues are barely acknowledged in literature on the Green Economy. It examines energy, climate, food, agriculture and the green economy-concept from a feminist perspective. In the section on agriculture, the report describes the gender-specific division of labor in agriculture and the changes which

⁹² Cf. World Bank, *FAO*, *IFAD* 2009: p.1.

⁹³ Cf. Saulière et al. 2011.

⁹⁴ Cf. World Bank, *FAO*, *IFAD* 2009: pp.3-4.

⁹⁵ Cf. *Ibid.*: p.2.

⁹⁶ World Bank 2011: p. 3.

⁹⁷ Cf. *FAO* 2011c.

have led to a “feminization of agriculture”⁹⁸. Wichterich critically discusses a market-based view of land, agriculture and gender, as held by the FAO and World Bank, which ignores the distributive aspects of world hunger. Instead, she supports a livelihood rights approach and the concept of food sovereignty. By way of example, she discusses biodiversity and women’s efforts to resist the introduction of market-based mechanisms, land-grabbing and urban agriculture.⁹⁹

A report by *Oxfam International* on different business models of sesame farmers in the Metekel and Asoosa regions of Ethiopia suggests that commercialization in the sesame sector marginalizes women. Increasing the participation of women in boards of cooperatives and unions is identified as the best way to achieve women’s empowerment. Without cooperative structures, smallholders are generally less resilient to climate change. In comparison to organized farmers, they are less likely to accumulate assets that they can rely on in the event of weather hazards or use for adaptation.¹⁰⁰

A policy briefing produced by nine *international development organizations* formulates policy recommendations for national governments as well as for multilateral and bilateral donors based on their experiences in working with rural women. They find that collective action is the key to the economic and social empowerment of women. Access to productive resources, challenging gender inequalities as well as gender-sensitive disaster and risk management are further lessons drawn from their work for the empowerment of women smallholders.¹⁰¹

The synthesis report written by the *International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)*, “Agriculture at a Crossroads”, focuses on eight topics from the global report: bioenergy, biotechnology, climate change, human health, natural resource management, traditional knowledge and community based innovation, women in agriculture, trade and markets. The chapter on women analyzes the situation of rural women, finding that due to a growing demand for flexible and cheap labor, pressure on and conflicts over natural resources, dwindling governmental support for small farms and the rise of agro-enterprises as well as environmental change, “the largest proportion of rural women worldwide continues to face deteriorating health and work conditions, limited access to education and control over natural resources, insecure employment and low income.”¹⁰² In spite of progress at the policy level, the report still sees the need for action on implementing gender and social equity in AKST policies and provides advice on what these should be. In order to support women in agriculture they recommend strengthening of public services, investments in rural areas, targeting rural and farm women’s needs in policies, assessing the health-effects of farming practices and ensuring a gender balance in decision making.¹⁰³

In the *Oxfam Focus on Gender series*, Oxfam dedicated an entire book to women, land and agriculture. It features nine articles, which discuss different aspects of the topic, addressing gender relations, land rights, rural development, economic change, genetically modified foods by drawing on cases from sub-Saharan Africa, India, Brazil, Ghana, Zambia, Ne-

⁹⁸ Wichterich 2012: p.17.

⁹⁹ Cf. Ibid.

¹⁰⁰ Cf. Kostka, Scharrer 2011.

¹⁰¹ Cf. ActionAid International et al. 2012.

¹⁰² IAASTD 2009: p.75.

¹⁰³ Cf. Ibid.: p.11.

pal and Cameroon. The authors find that women's contribution to global agricultural production is undervalued and that women's access to important resources is restricted.¹⁰⁴

The *International Land Coalition* analyses the global "land rush", global commercial pressures on land and land grabbing. It examines drivers, impacts and factors shaping the land rush. In regards to women, the report finds that they tend to suffer disproportionately from land acquisitions as gender often indicates power differentials within communities.¹⁰⁵ In a case study on women's land rights in the Bugesera District of Rwanda, the Coalition, together with the Rwanda Women's network, finds that legal advancements for women's lands rights are undermined by de facto discrimination, customary inheritance practices and negative attitudes towards these rights, where land is scarce. According to the report, women are more aware of their rights, but face numerous challenges when they try to enforce them.¹⁰⁶ The Coalition therefore seeks ways to point out the gender aspect of the land grab debate.¹⁰⁷

In a policy brief for the *Global Donor Platform for Rural Development*, Cathy Farnworth finds that there has been an under-investment in the agricultural sector as a whole and especially in women in agriculture. While women make up the majority of farmers and farm labourers in many countries, and produce most of the locally consumed food and despite the fact that women's income has stronger effects on poverty alleviation, women continue to face many constraints in access to inputs, services, productive resources. They have weaker property rights, lack influence on policies and assets as well as incentives to invest. The policy recommendations deduced from these observations include addressing the needs of men and women in the agricultural sector, by way of women-centred strategies, the strengthening of women's voices and collective action, improving agricultural extension, conducting research and development relevant to women farmers and making sure that institutions deliver for women and men.¹⁰⁸

The *FAO* together with the *Climate Change, Agriculture and Food Security Research Programme* of the Consultative Group on International Agricultural Research have identified a gap in the effective implementation of the notion "that climate change and gender issues are integral parts of agricultural development"¹⁰⁹. In response, the organizations have developed a training guide. This guide sets out to improve food production, livelihood security and gender equality in the face of climate change by promoting the analysis of the gender dimensions of addressing climate change in agriculture and ensuring food security. It addresses mainly agricultural development professionals that work with households or communities, who have little experience addressing gender within their work on climate change. The guide is divided into different modules that address the conceptual framework of gender issues and gender analysis approaches, the concepts of climate change and gender issues in agriculture and food security, different field research tools, the preparation of field work, a work plan, reporting and data analysis.¹¹⁰

¹⁰⁴ Cf. Sweetman 1999.

¹⁰⁵ Cf. Anseeuw et al. 2012: p.44.

¹⁰⁶ Cf. Rwanda Women's Network, International Land Coalition 2011.

¹⁰⁷ Cf. International Land Coalition 2011.

¹⁰⁸ Cf. Farnworth 2010.

¹⁰⁹ FAO, CGIAR 2012: p.1.

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¹¹⁰ Cf. Ibid.: pp. 1-2.

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