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UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

Ad Hoc Working Group on Long-term Cooperative Action under the Convention
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Item 3(b)(ii) of the provisional agenda
Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner

Submission of more information by developing country Parties, subject to availability, relating to nationally appropriate mitigation actions, including underlying assumptions and methodologies, sectors and gases covered, global warming potential values used, support needs for implementation of nationally appropriate mitigation actions and estimated mitigation outcomes

Submissions from Parties

1. The Conference of the Parties, invited developing country Parties to submit to the secretariat, by 5 March 2012, subject to availability, more information relating to nationally appropriate mitigation actions, including underlying assumptions and methodologies, sectors and gases covered, global warming potential values used, support needs for the implementation of nationally appropriate mitigation actions and estimated mitigation outcomes (decision 2/CP.17, paras. 34–35).

2. This information is expected to provide input to the process referred to in paragraph 33 of decision 2/CP.17.

3. The secretariat has received four such submissions, three from Parties and one from a group of Parties. In accordance with the procedure for miscellaneous documents, these

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submissions are attached and reproduced* in the language in which they were received and without formal editing.

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Paper no. 1: Group of African States

A SUBMISSION ON AGRICULTURAL NAMA

This submission is made pursuant to paragraphs 33, 34 and 35 of COP17 LCA Outcome.

Preamble

Africa emphasizes that agriculture is central to the economic and social development of its people. The priority for Africa and its communities in the agriculture sector is to ensure food security, eradicate poverty, enhance socio-economic development, environment and livelihood sustainability with special attention to smallholder and marginal farmers and fishers through adapting to the effects of climate change in the sector of agriculture and identification of the potential co-benefits of mitigation. This must be implemented through actions in the immediate, short, medium and long-term.

The Scope

In this submission, agriculture encompasses, but is not limited to farming, harvesting, processing and related products and activities from crops, livestock, fisheries and aquaculture.

The Goal

Recognizing that agriculture accounts significantly to the emissions in Africa, this NAMA is prepared with a view to reducing GHGs taking into account national circumstances of countries and the overriding need to ensure food security and sustainable livelihoods.

1.0 Elements of a Comprehensive Agricultural NAMA

1.1 Investment areas

1.1.1 Change in agricultural systems

- Agroforestry
- Protected cultivation
- Hydroponics
- Aquaponics
- Mixed Farming
- Integrated Farming
- Precision Agriculture
- Organic Farming

1.1.2 Change in agricultural practices

- Changing planting dates
- Changing varieties/breeds and diversification
- Adopting sustainable land management techniques and approaches
- Supplementary livestock feeds
- Integrated pest management
- Crop Rotation
- Production of healthy seeds and planting material
- Postharvest handling and storage
- Soil health and fertility management

1.1.3 Change in agricultural water management

- Water harvesting, reuse and recycling
- On-farm irrigation, where appropriate
- Soil and water conservation
- Watershed management

1.1.4 Agricultural diversification

- Promoting improved crop varieties, livestock breeds and fish fingerlings.
- Increasing the value of sustainable agricultural practices through the valuation of carbon
- Broaden agricultural production base, e.g. promote small livestock

1.1.5 Risk management and Insurance

- Livestock and crop insurance
- Weather-based index insurance

1.1.6 Agricultural research and technology development

- Participatory crop and livestock breeding
- Pest, disease, and drought and/or heat tolerant crops
- Fish fingerlings
- Research for Aquaculture and other new farming systems
- Research in crop, livestock, soil, water, pest/disease/weed control issues
- Research as applied to area- specific varieties and practices

1.1.7 Agricultural advisory service and information systems

- Strong extension service
- Participatory extension approach (including farmer to farmer training, farmer field schools, etc)

- Dissemination of climate resilient varieties, technologies and practices
- Dissemination of seasonal climate forecasts
- Market and climate information system
- Information and communications technologies

1.1.8 Agricultural market development

- Cooperatives for farm inputs and outputs
- Cooperative storage
- Infrastructure and market development
- Support for market information systems including use of ICT (mobile phones and digital pen technology)
- Promote agro-processing, value-addition, and post harvest technologies

1.1.9 Social protection and disaster risk management

- Strengthen local and farmers' institutions and organizations
- Promote Microfinance schemes, including ensuring functioning financial markets and institutions
- Increase focus on risk sharing and risk reducing across the entire value chain
- Develop/ enhance climate information systems and early warning mechanisms
- Develop/enhance disaster risk management

1.1.10 Governance

- Review existing detrimental policies and regulations that exacerbate climate change impacts
- Mainstream win-win adaptation and mitigation strategies and actions through appropriate incentives through existing national and regional frameworks (at whatever stage of implementation), and national agriculture development plans.
- Develop policies to ameliorate the adverse impacts of livestock production and pastoralism.
- Investigate financial risk management
- Strengthen existing agricultural institutions and development of new ones.
- Invest in good governance of farmer organizations.

1.2 Performance and Benefit Measurement

- Establish a specialized national institution responsible for MRV.
- Develop a national MRV system
  - Documentation of GHGs in agriculture (CO2, CH4,N2O, CFC, HFC, NOx) (make reference to national communications)
  - Quantification of GHGs emission levels under different management practices
  - Methodologies for quantification of emissions, harmonization, quality assurance and standardization
- Develop tools to monitor impacts of adaptation interventions

2.0 International Support needed

2.1 Technology development and transfer

- Support the identification and review of technological needs of the country.
- Support the implementation of these technologies.
- Provide opportunities for technology deployment and enhancement of technology research and development in key areas in the agriculture sector.

2.2 Capacity building

- Build capacity to develop, implement and monitor agricultural NAMA.
- Build capacity and tools to enable accurate and full GHG accounting.
- Provide capacity to farmers and other agricultural stakeholders on the optimum use of available resources and technologies.

- Enhance capacity for agricultural research and development in the country.

2.3 Finance

- Provide the resources needed as identified by the country.
- Development partners, multilateral organizations, Annex II parties and other organizations must provide financial support, including for capacity building, research and technology development/transfer to Africa to help them undertake and implement adaptation and mitigation actions in agriculture, in line with articles 4.1(c), 4.4 and 4.5 of the convention

3.0 Early Action Readiness

3.1. Up-scaling best practices that have the following ingredients:

- National / sectoral strategy and action plans that enhance agricultural adaptation and the potential for mitigation;
- Increased adaptation of crops, livestock and aquacultured organisms to climate stress;
- Enhanced access and utilization of technology that enhance efficiency and productivity;
- Increased use of a menu of resource-conserving technologies in the following areas:
    - Agronomic practices,
    - Nutrient management.
    - Water management,
    - Conservation agriculture and residue management,
    - Agroforestry,
    - Restoration and rehabilitation,
    - Livestock management,
    - Fisheries and Aquaculture, and
    - Efficient energy management.
- Increased income;
- Access to credit and microfinance;
- Improved risk sharing, including crop and livestock insurance and weather-based index insurance;
- Agricultural advisory services and information systems, including use of mobile telephony and digital pen; and
- Developing a national carbon accounting system (MRV).

4.0 Budgeting

- Capital expenditure
- Running costs
- Other costs

5.0 Timelines and Milestones

- Timelines and milestones for actions specified
- Timelines for budget disbursement
- Deadline for NAMA implementation : 2020

6.0 Assumptions and Risks

- International support will be made available in the form of capacity building, technologies and finance, to implement the NAMA.

Paper no. 2: Egypt

EGYPT's SUBMISSION
ON ISSUES RELATED TO MITIGATION of DEVELOPING COUNTRIES

This submission is made pursuant to COP17 Dec., outcomes of AWG-LCA Para 34-35.

Preamble

Recalling the principles and provisions of the UNFCCC Convention that acknowledges that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, and notes that the largest share of historical and current global emissions of green house gases has originated in developed countries, and that the share of global emissions originating in developing countries will grow to meet their social and development needs, and reaffirms the principle of sovereignty of states in international cooperation to address climate change.

Reaffirming the principles of the UNFCCC, that guide the actions and international cooperation to address, as stated in article 3 of the Convention, and in particular the principles of equity, common but differentiated responsibilities and respective capabilities, and that the specific needs and special circumstances of developing country parties should be given full consideration.

Recalling article 4 of the UNFCCC that identifies the commitments of developed and developing country parties of the Convention, and in particular article 4.7 that states that the extent to which developing country parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country parties.

Egypt emphasizes that developing countries NAMAs are contributing and can further enhance their contribution to the global effort to deal with climate change, and notes that there could be considerable potential to reduce emissions in many developing country parties, and further reaffirms that such potential can be effectively exploited through the provision of adequate, predictable, new and additional and sustainable means of support in particular on finance, technology and capacity building that are in line with the needs of developing countries as identified by them.

Egypt stresses the importance to support an open international economic system that would lead to sustainable economic growth and development in particular for developing countries thus enabling them better to address the problems of climate change, in this regard, Egypt calls for an open and transparent global carbon market under the UNFCCC, stressing that measures taken to combat climate change including unilateral ones should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade, including on the Carbon Credits.

Domestic actions

A. Institutional arrangements

1- Egypt established a national team of experts 'NTE' responsible of the follow up of the negotiations, assessment and survey of mitigation potential in relevant sectors, to undertake forward step by formulating a NAMAs list of projects.
2- The NTE is composed of representatives of relevant ministers and departments and other stakeholders, including ministries of: Environment, Energy, Industry, Petroleum, Transport, Agriculture, Foreign Affairs, International cooperation, Housing and planning.

B- National plan of work

- Based on NTE meetings of NAMAs team and relevant stakeholders, it was agreed to work on mitigation actions taking into consideration the following guidelines:

1- National need for developing a framework of Low Emission Development Strategy to be taken when developed and as appropriate as guide for all relevant stakeholder in mitigation actions.
2- Envisaged domestic mitigation actions under NAMAs will be voluntary and its implementation would essentially in accordance with the principles and provisions of the Convention, particularly Article 4, paragraphs 1 and 7, Article 10, paragraph 2(a), and Article 12, paragraphs l(b) and 4
3- National activities of the clean development mechanism (CDM) established under the Kyoto Protocol would not be excluded

- In line with the initial recommendations of the NTE the following actions were initiated:

1- Call all relevant sectors through communicating relevant ministries, to prepare its assessment for mitigation potential and conduct a vision of implementing NAMAs projects, bearing in mind the necessity of identifying the provision of financial and technical support for those projects to be implemented.
2- Initiate and establish contacts with relevant and potential partners to provide support for the development of Low Emission Strategy, and to assist in the process of preparation of NAMAs.

C- NAMAs

i) Assumptions and methodologies

1. All NAMAs project will be undertaken on the base of voluntary and its implementation is conditioned by the provision of financial and technical support.
2. The contribution of NAMAs project in achievements national sustainable development criteria should be considered.
3. Available CDM approved methodologies and/or any other approved methodologies may considered later

ii) Sectors and gases covered

1. Sectors covered include Agriculture Waste, plantation, transport, fuel switching and energy efficiency.
2. Gases covered are CO2 and CH4

iii) Global warming potential values

1. Global Warming Potentials (100-Year Time Horizon) of IPCC 1996

iv) Support needs

1- Financial and technical support as identified for each NAMAs

v) Preliminary list of NAMAs projects

1- Greater Cairo Ring Road Afforestation Project

2- Scrapping and Replacement Program of Two-Stroke Motor Cycle in Egypt

3- Line 3 Greater Cairo Metro Network Phase 1 &2 Project

4- Fuel Switching for Industrial Processes in Delta Steel Co

5- Fuel Switching from Light Oil and Cook-oven Gas to Natural Gas in El-Nasr Forging Industry Co.

6- Fuel Switching from Mazout to Natural Gas in General Co. for Paper Industry (RAKTA)

7- Fuel Switching from Heavy oil to Natural Gas in El-Nasr Wool & Selected Textiles Co. – STIA

8- Fuel Switching from Solar to Natural Gas at the Egyptian Plastic and Electrical Industries (E.P.E.I) Co. Project

9- Egypt Household CFL Project

10- Energy Efficiency in Water Pumping Systems Project at Greater Cairo Drinking Water Company

11- Natural Gas Leaks Reduction on Gas Distribution Networks of the Ministry of Petroleum of the Arab Republic of Egypt submitted by Oneliria Trading LTD. Co.

12- Street Lighting Project – North Cairo Electricity Distribution Company

Paper no. 3: Malawi

MALAWI SUBMISSION ON NATIONALLY APROPRIATE MITIGATION ACTIONS (NAMAs)

This submission is made pursuant to paragraphs 33, 34 and 35 of COP17 Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) Outcome.

Preamble

Through the Initial and Second National Communications to the UNFCCC and national stakeholder forums, Malawi identified several mitigation options in various sectors including agriculture, energy, waste management, land use, land use change and forestry, and industrial processes.

Malawi makes this submission pursuant to Decision [-/CP.17], Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, paragraphs 34-35.

In order to contribute to the reduction of greenhouse gases so as to contribute to a global mitigation effort, in accordance with the principles and provisions of the Convention, Malawi intends to, depending on provision of finance, technology and capacity-building support by developed countries Parties, bilateral means, and other international and multilateral institutions, invest in the following areas:

Agriculture

The nationally appropriate mitigation options in agriculture will constitute actions that will contribute to emission reductions while promoting economic development. Recognizing that agriculture accounts significantly to the emissions, this NAMA is prepared with a view to contribute to reduction of GHGs taking into account the overriding need to ensure food security and sustainable livelihoods.

- Documentation of GHGs in agriculture (CO2, CH4, N2O, CFC, HFC, NOx) Quantification of GHGs emission levels under different farming management practices with a view to enhance development of national carbon accounting.
- Changes in agricultural practices and systems that include integrated pest management, crop rotation, conservation agriculture, post harvest handling and storage, water harvesting, watershed management, soil and water conservation, Irrigation
- Enhance participatory research and technology development in crop, livestock, and fisheries production and management; land and water management.
- Agricultural advisory service and information systems focusing on participatory extension approaches.
- Strengthen local and farmers' institutions and organizations
- Promote Microfinance schemes, including ensuring functioning financial markets and institutions
- Increase focus on risk sharing and risk reducing across the entire value chain
- Develop/ enhance climate information systems and early warning mechanisms
- Review and harmonize existing policies and regulations that are dealing with climate change related impacts
- Mainstream win-win adaptation and mitigation strategies and actions through appropriate incentives
- Build capacity to develop, implement and monitor agricultural NAMA.
- Up-scaling best practices that enhance climate change adaptation and mitigation

Waste Management

- Construction of controlled landfills and capacity-building for the operation of the landfills
- Processing of solid and liquid municipal and agricultural waste into energy and organic fertilizer
- Reduction in the generation of waste
- Composting
- Mechanical-biological treatment
- Disposal of waste in sanitary landfills

Energy

- Promotion of renewable energy technologies
- Construction of biogas digesters
- ***Efficient lighting technologies***

- ***Efficient firewood cooking stoves***
- ***Increasing the efficiency in Electricity Supply Corporation of Malawi's capacity and energy balances***
- ***Increasing the ethanol to petrol blending ratio***
- ***Switching from paraffin (kerosene) lamps to photo-voltaic (PV) lamps***

Land Use and Land Use Change and Forestry

- Expanding the stand of trees and the pool of carbon in wood products
- Maintaining the existing stands of the trees and the proportion of forest products currently in use.

Industrial processes

- Provision of regulation: permits to firms to operate depending on meeting environmental standards, so that failure to do so, results in financial or criminal penalties
- Voluntary engagement of programme regulators with firms so as to share and disseminate information and expertise interactively;
- Use of market-based instruments, such as the administration of taxes, tariffs and subsidies so as to shift the financial calculations of firms toward environmentally beneficial decisions
- Transparency: in public awareness campaigns on the dangers of pollutants and the reporting by firms of the pollutant discharged from their firms
- Information, education and public awareness campaigns on the risks of pollutants on human health and the environment.
- Industries that use carbon capture and storage
- Technologies that blend cement with rice husks
- Industries that use carbon dioxide ($CO_{2)}$ as a raw material,
- Industries that add value to lime via the Solvay process

Assumptions and Risks

- International support will be made available in the form of capacity building, technologies and finance, to implement the NAMA.

Paper no. 4: Swaziland

THE KINGDOM OF SWAZILAND

MINISTRY OF AGRICULTURE

NATIONALLY APPROPRIATE MITIGATION ACTIONS (NAMA) FOR AGRICULTURE

February 2012

A SUBMISSION ON AGRICULTURE NAMA

This submission is made pursuant to paragraphs 33, 34 and 35 of COP17 LCA Outcome.

Preamble

The Kingdom of Swaziland realizes that agriculture plays a pivotal role to the economic and social development of its people. The emphasis for the Kingdom Swaziland and its communities in the agriculture sector is to ensure that food and nutrition security at household and national level, alleviate poverty, and enhance socio-economic development. Furthermore the Kingdom of Swaziland endeavours to promote environment and livelihood sustainability with special attention to smallholder and marginal farmers through adapting to the effects of climate change in the sector of agriculture and the identification of the potential co-benefits of mitigation. This must be implemented through actions in the immediate, short, medium and long-term through the participation and involvement of all stakeholders such as households, Non-Governmental Organizations, the private sector as well as other development cooperating partners.

The Scope

In this submission, agriculture encompasses, but is not limited to farming, harvesting, processing and related products and activities from crops, livestock and fisheries in all the farming sectors.

The Goal

Recognising that agriculture accounts significantly to the emissions in the Kingdom of Swaziland, this NAMA is prepared with a view to reducing Green House Gases (GHGs) taking into account the national circumstances of the country and the overriding need to ensure food and nutrition security and sustainable livelihoods.

1.0 Elements of a Comprehensive Agricultural NAMA

1.1 Investment areas

Budget: **US$ 2, 9 million**

Implementation: **2014 - 2020**

1.1.1 Change in agricultural systems

- Agro-forestry and afforestation
- Protected cultivation
- Mixed Farming
- Integrated Farming
- Precision Agriculture
- Organic Farming
- Conservation agriculture

1.1.2 Change in agricultural practices

- Changing planting dates
- Introducing adaptable varieties/breeds and diversification
- Adopting sustainable land management techniques and approaches
- Supplementary livestock feeds
- Integrated pest management
- Production of healthy seeds and planting material
- Postharvest handling and storage
- Soil health and fertility management
- correct plant populations
- Crop rotations

1.1.3 Change in agricultural water management

- Water harvesting, reuse and recycling
- On-farm irrigation, where appropriate
- Soil and water conservation
- Watershed management

1.1.4 Agricultural diversification

- Promoting improved crop varieties, livestock breeds and fish fingerlings.
- Increasing the value of sustainable agricultural practices through the valuation of carbon
- Broaden agricultural production base, e.g. promote small livestock and horticulture

1.1.5 Risk management and Insurance

- Livestock and crop insurance
- Weather-based index insurance

1.1.6 Agricultural research and technology development

- Participatory crop and livestock breeding
- Pest, disease, and drought and/or heat tolerant crops
- Fish fingerlings
- Research for new farming systems
- Research in crop, livestock, soil, water, pest/disease/weed control issues
- Research as applied to area- specific varieties and practices

1.1.7 Agricultural advisory service and information systems

- Strong extension service
- Participatory extension approach (including farmer to farmer training, farmer field schools, etc)
- Dissemination of climate resilient varieties, technologies and practices
- Dissemination of seasonal climate forecasts
- Market and climate information system
- Information and communications technologies

1.1.8 Agricultural market development

- Cooperatives and groups for farm inputs and outputs
- Cooperative storage for farmer level storage
- Infrastructure and market development
- Support for market information systems including use of ICT (mobile phones and digital
- Promote agro-processing, value-addition, and post harvest technologies

1.1.9 Social protection and disaster risk management

- Strengthen local and farmers' institutions and organizations
- Promote Microfinance schemes, including ensuring functioning financial markets and institutions
- Increase focus on risk sharing and risk reducing across the entire value chain
- Develop/ enhance climate information systems and early warning mechanisms
- Develop/enhance disaster risk management

1.1.10 Governance

- Review existing detrimental policies and regulations that worsen climate change impacts
- Mainstream win-win adaptation and mitigation strategies and actions through appropriate incentives through existing national and regional frameworks (at whatever stage of implementation), and regional agriculture development plans.
- Develop policies to ameliorate the adverse impacts of livestock production and rearing
- Investigate financial risk management
- Strengthen existing agricultural institutions and development of new ones.
- Invest in good governance of farmer organizations.

1.2 Performance and Benefit Measurement

- Establish a specialized national institution responsible for MRV.
- Develop a national MRV system
- Documentation of GHGs in agriculture (CO2, CH4,N2O, CFC, HFC, NOx) (make reference to national communications)
- Quantification of GHGs emission levels under different management practices
- Methodologies for quantification of emissions, harmonization, quality assurance and standardization
- Develop tools to monitor impacts of adaptation interventions

2.0 International Support needed

Budget: **US$ 1.5 million**
Implementation period: **2014- 2020**

2.1 Technology development and transfer

- Support the identification and review of technological needs of the country.
- Support the implementation of these technologies.
- Provide opportunities for technology deployment and enhancement of technology
- Research and development in key areas in the agriculture sector.

2.2 Capacity building

- Build capacity to develop, implement and monitor agricultural NAMA.
- Build capacity and tools to enable accurate and full GHG accounting.
- Provide capacity to farmers, farmer organisations and other agricultural stakeholders on the optimum use of available resources and technologies.
- Enhance capacity for agricultural extension, research and development in the country.

2.3 Finance

- Provide the resources needed as identified by the country.
- Development partners, multilateral organizations, Annex II parties and other organizations must provide financial support, including for capacity building, research and technology development/transfer to the Kingdom of Swaziland to help them undertake and implement adaptation and mitigation actions in agriculture, in line with articles 4.1(c) , 4.4 and .5 of the convention

3.0 Early Action Readiness

3.1. Up-scaling best practices that have the following ingredients:

- National / sectoral strategy and action plans that enhance agricultural adaptation and the potential for mitigation;
- Increased adaptation of crops, livestock and aqua-cultured organisms to climate stress;
- Enhanced access and utilization of technology that enhance efficiency and productivity;
- Increased use of a menu of resource-conserving technologies in the following areas:
    - Agronomic practices,
    - Nutrient management.
    - Water management,
    - Conservation agriculture and residue management,
    - Agroforestry,
    - Restoration and rehabilitation,
    - Livestock management,
    - Fisheries and Aquaculture, and
    - Efficient energy management.
- Increased income;
- Access to credit and microfinance;
- Improved risk sharing, including crop and livestock insurance and weather-based index insurance;
- Agricultural advisory services and information systems, including use of mobile telephone
- Developing a national carbon accounting system (MRV).

4.0 Budgeting

The total budget of the whole programme is US$ 4.4 million. This cost includes the capita expenditure, recurrent costs and any other costs.

5.0 Assumptions and Risks

- International support will be made available in the form of capacity building, technologies and finance, to implement the NAMA.