



The EX-Ante
Carbon-
balance Tool



EASYPol
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ISSUE PAPERS

EASYPol Module 103

From Nationally Appropriate Mitigation Actions (NAMAs) to Low- Carbon Development in Agriculture

NAMAs as a Pathway at Country Level

About EX-ACT: The *Ex Ante* Appraisal Carbon-balance Tool aims to provide *ex-ante* estimations of the impact of agriculture and forestry development projects on GHG emissions and carbon sequestration, indicating its effects on the carbon balance.

See EX-ACT website: www.fao.org/tc/exact

Related resources

- EX-ANTE Carbon-Balance Tool (EX-ACT): (i) [Technical Guidelines](#); (ii) [Tool](#); (iii) [Brochure](#)
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From Nationally Appropriate Mitigation Actions (NAMAs) to Low-Carbon Development in Agriculture

NAMAs as a pathway at country level

by

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Acronyms

AFOLU	Agriculture, Forestry and Other Land Uses
BAU	Business as usual
CAADP	Comprehensive Africa Agricultural Development Programme
Carbon	Carbon
CDM	Clean development mechanism
EX-ACT	EX-Ante Carbon-balance Tool
GHG	Green House Gas
IPCC	Intergovernmental Panel on Climate Change
LEDS	Low-emission development strategies
LCDS	Low carbon-emission development strategies
LDC	Least developing countries
MRV	Monitoring, Verifying and Reporting
NAMA	Nationally Appropriate Mitigation Actions
OECD	Organisation for Economic Co-operation and Development
REDD	Reducing Emissions from Deforestation and Forest Degradation
UNFCCC	United Nations Framework Convention on Climate Change

1. SUMMARY

Nationally Appropriate Mitigation Actions (NAMAs) are voluntary country engagement proposals to the United Nations Framework Convention on Climate Change (UNFCCC). They are a set of government prioritized actions aimed at reducing or limiting Green House Gas (GHG) emissions. They are expected to be the main vehicle for mitigation action in developing countries under a future climate agreement. NAMAs combine a set of actions that are necessary to facilitate the transition to low-carbon growth for different sectors of the economy, including agriculture and forestry.

Of the 43 countries that proposed their NAMAs to the UNFCCC, 60 percent considered agriculture as way to reduce their GHG emissions. Most countries proposed mitigation in the forestry sector. The high occurrence of Agriculture Forestry and Other Land Uses (AFOLU) activities in NAMAs of least developing countries (LDC) is linked with both the socio-economic weight of the sector in LDCs and its high mitigation potential. The current gap of support in AFOLU mitigation makes NAMAs the main expected implementation channel for these sectors. Therefore, the nationally appropriate mitigation actions mechanism referred to in the UNFCCC Cancun agreement should be designed in such a way as to take into account the specificities of these sectors.

Currently a country has two options when developing NAMAs. The first is to proceed without waiting for the UNFCCC Guidelines, undertaking actions and negotiating financing directly with donors. The second is to move towards a comprehensive Low-Carbon Development Strategy (LCDS). Within the agriculture sector it translates either to: (i) switching directly from NAMAs to a set of AFOLU actions appraised, compared, prioritized, monitored and integrated in the sector policy and planning framework, seeking donor support through project implementation; or (ii) preparing the AFOLU component of a national LCDS.

NAMAs are a promising instrument for boosting climate change abatement policies and measures in developing countries. Since NAMAs should not be used to offset emissions in developed countries, as that is for credited projects or actions funded by the carbon market, the Monitoring-Reporting-Verification (MRV) of supported NAMAs does not need to be as stringent as the MRV for the carbon market projects.

2. INTRODUCTION

Objectives: This paper identifies and interprets the main concept behind NAMAs and their potential to move to a low-carbon growth and green economy.

Target audience: The document is aimed particularly at professional governmental staff and organizations commissioned with the task of integrating climate change issues into policies.

Required background: To fully understand the content of this module the user must be familiar with:

- concepts of climate change
- concepts of agricultural policies

Readers can download other issue papers developed under EASYPol related to climate change and agriculture development. Links are included in the text to other EASYPol modules or references¹. See also the list of EASYPol links included at the end of this module.

3. NAMAs BACKGROUND WITHIN INTERNATIONAL NEGOTIATIONS ON CLIMATE CHANGE

3.1. NAMAs within the Bali Action Plan and Copenhagen Accord

The concept of NAMAs emerged during the Bali Action Plan as part of the Bali Road Map that was agreed at the United Nations Climate Change Conference in Bali in December 2007. The Bali Action Plan recognized the need for developing countries to fully participate in efforts to reach global emission reduction goals. The NAMAs should recognize mitigation efforts undertaken by developing countries and create a platform to support these actions.

Although the Copenhagen Climate Conference in 2009 did not produce the global agreement envisaged in the Bali Road Map, it was agreed that the concept of NAMAs should be retained, adding that NAMAs would be subject to international measurement, reporting and verification in line with guidelines adopted by the Conference of the Parties.

The NAMAs form was not specified. Currently NAMAs refer mainly to a short letter with non detailed actions or a simple agreement. The ‘Copenhagen Accord’ stipulates that more detailed NAMAs might be included in later country communication²; however, states have not provided further information. The ‘Copenhagen Accord’ targeted global mitigation actions are aimed at keeping the human-made global temperature increase below the manageable 2°C.

NAMAs are an important step through which developing countries could contribute to global mitigation efforts in nationally appropriate ways.

¹ EASYPol hyperlinks are shown in blue, as follows:

- a) Resource packages are shown in **underlined bold font**
- b) other EASYPol modules or complementary EASYPol materials are in ***bold underlined italics***;
- c) links to the glossary are in **bold**; and
- d) external links are in *italics*.

² Van Asselt *et al.*, 2010

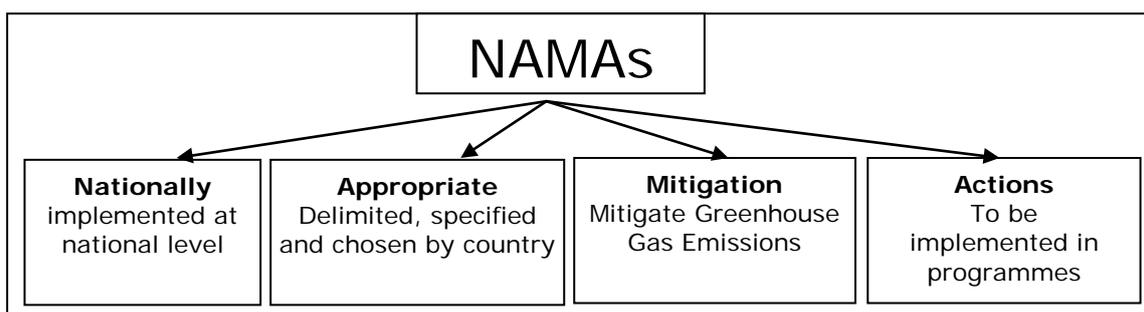
3.2. Intention-based and voluntary engagement in planning NAMAs

NAMAs are voluntary actions that non annex I parties have set up for proposal to the UNFCCC. These actions (cf. Box 1) should include every possible activity aimed at reducing or limiting GHG emissions. They are expected to be the main vehicle for mitigation action in developing countries under a future climate agreement. NAMAs mainly provide guidance for the future mitigation policies in the countries.

As of December 2010, 43 countries have submitted NAMAs to the UNFCCC.

The majority of developing countries agree that mitigation commitments by developed countries are distinct from mitigation actions led by developing countries. While mitigation commitments by all developed countries are legally binding, especially on quantifying emissions reduction, mitigation actions by developing countries are voluntary and nationally appropriate actions, enabled by technology, finance and capacity building support, which reduce or avoid emissions relative to the baseline.

Box 1: What are NAMAs



It reflects the duality of the current context; while developing countries are aware of the direct impact on climate change, they want policies and measures to reduce GHG emissions that do not compromise their economic growth.

Box 2: Extracts of domestic NAMA engagement expressed by China to the UNFCCC (January 2010)

“China will endeavor to lower its carbon dioxide emissions per unit of GDP by 40-45% by 2020 compared to the 2005 level, increase the share of non-fossil fuels in primary energy consumption to around 15% by 2020 and increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from the 2005 levels.

Please note that the above-mentioned autonomous domestic mitigation actions are voluntary in nature and will be implemented in accordance with the principles and provisions of the UNFCCC, in particular Article 4, paragraph 7”.

3.3. Towards a typology of NAMAs

Box 3: Description of the different NAMAs

Unilateral/ Voluntary NAMAs	would likely involve actions that a country intends to pursue for reasons other than reductions in GHG emissions (e.g. watershed management, sustainable agriculture intensification) and those which are cost-effective or relatively low in cost.
Conditional/ Supported NAMAs	would only be agreed by developing countries if developed countries undertook financial or technology support . They could include those with higher costs or requiring specific assistance, such as the development and deployment of low-emissions, advanced technologies or actions that require a major provision of incentives, such as REDD activities, or that address barriers to implementing cost-effective measures. MRV requirements would be more stringent for conditional NAMAs than for unilateral ones.
Credited/ Market- oriented NAMAs	would be eligible to generate credits to be sold on the global carbon market if developing countries set an (ambitious) crediting baseline for their actions and credit only actions taken in addition to this baseline level of activity.

Source: CCAP, 2009.

NAMAs could be implemented differently depending on the kind of support expected by developing countries. Three kinds of NAMAs (cf. Box 3) tend to dominate: (i) autonomous actions by developing countries without outside support; (ii) actions undertaken with support from developed country parties; and (iii) actions that could be partially or fully credited for sale in the global carbon market.

3.4. NAMAs after Cancun

The countries gathered in Cancun made progress on emission reductions, greater transparency, forest preservation and the creation of a green fund to help mobilize much needed investments throughout the world³. The accord included a USD 30 billion package for 2012 to aid nations taking immediate actions against global warming as well as the green fund to finance long-term projects to protect the environment⁴. The green fund would mobilize \$100 billion in international climate financing annually by 2020 for adaptation and mitigation measures in developing countries.

³ Natural Resources Defence Council, 2010. *Cancun Agreements: A Foundation From Which to Build Greater International Action on Global Warming* http://switchboard.nrdc.org/blogs/jschmidt/cancun_agreements_a_foundation.html consulted 01/2011

⁴ United Nations Climate Change Conference: Cancun Mexico website, 2010: *Conference of the Parties approves the Cancun Accords* http://www.cc2010.mx/en/press-center/news/news-interviews_2010121153618.htm, consulted the 14/12/2010

The Cancun Agreement⁵ reinforces the position of NAMAs and recognizes that developing country parties are already contributing and will continue to contribute to global mitigation, taking NAMAs in the context of sustainable development. The text invites developing countries to request the UNFCCC Secretariat to understand the diversity of mitigation actions and to ask for support in implementing those actions.

The UNFCCC Secretariat will be in charge of recording and updating information provided by the developing countries on NAMAs, seeking international support as well as support from developed countries. It is important to note that every four years, developing countries, like developed countries, will have to present communication to the UNFCCC about mitigation actions and their effect on climate change.⁶ In addition, a report on emissions (called National Greenhouse Gases Inventories) and information on mitigation actions, needs and support received should be submitted every two years.

Box 4: Indonesian NAMAs in national planning (Syamsidar, 2010):

Indonesia has high levels of GHG emissions, placing the country among the top ten emitting nations worldwide. It is also highly vulnerable to the negative impacts of climate change. In response to these challenges, Indonesia is in the process of establishing a sound national policy framework to address climate change issues. In broad terms, the Government of Indonesia plans to move to a low carbon society by:

- establishing the Indonesia Climate Change Sectoral Roadmap (ICCSR), including mitigation and adaptation;
- developing a Low Carbon Development Plan, including the preparation of Nationally Appropriate Mitigation Actions (NAMAs); and
- implementing these NAMAs.

The 20-year Indonesia Climate Change Sectoral Roadmap (ICCSR) released in 2010 is meant to provide inputs for the five-year Medium-term Development Plan (RPJM) 2010-2014, and also for the subsequent RPJMN until 2030, placing particular emphasis on the challenges emerging with regard to climate change mitigation and adaptation. Areas and sectors tackled include forestry, energy, industry, agriculture, transportation and coastal areas, as well water, waste and health. The ICCSR will serve as a guideline for future policies addressing climate-related challenges and opportunities through effective development planning and coordination of the work of all line ministries, departments and agencies of the Government of Indonesia.

Low Carbon Development Plan (LCDP). As the next step in preparing the country for low carbon development, a concise national strategy document (the Indonesian LCDP) is going to be developed, which explains to the national and international community how so-called 'Nationally Appropriate Mitigation Actions' (NAMAs), currently under negotiation in the UNFCCC framework, will be developed and implemented.

Nationally Appropriate Mitigation Actions. The President of Indonesia announced a national target for the reduction of GHG emissions at the G-20 Summit in Pittsburgh in September

⁵Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention Draft decision -/CP.16

http://unfccc.int/files/meetings/cop_16/application/pdf/cop16_lca.pdf, consulted 14/12/2010

⁶ Additional flexibility is given for the LDCs (Least Developed Countries) and the SIDS (Small Islands Developing States)

2009. This voluntary target is set as a reduction of -26 percent of emissions until the year 2020, deviating from the business as usual scenario. Provided that Indonesia will receive international support to respond to climate change, these reduction targets for 2020 could be as high as -41 percent. The development of 'Nationally Appropriate Mitigation Actions (NAMAs)', of a 'Measuring, Reporting and Verification' (MRV) system and of appropriate baselines will be important milestones.

Indonesia NAMA...

The reduction targets are aimed primarily at the forestry and peat land sectors, and to a lesser degree to the energy sector, including emissions from energy use in industry and transport, as well as the agriculture and waste management sectors. The following is a set of potential NAMAs as they were sent to the UNFCCC Secretariat on 31 January 2010:

- a. Sustainable Peat Land Management
- b. Reduction in Rate of Deforestation and Land Degradation
- c. Development of Carbon Sequestration Projects in Forestry and Agriculture
- d. Promotion of Energy Efficiency
- e. Development of Alternative and Renewable Energy Sources
- f. Reduction in Solid and Liquid Waste
- g. Shift to Low-Emission Transportation Mode

To conclude, the NAMAs part in the Cancun agreement, the Conference of the Parties, "encourages developing countries to develop low-carbon development strategies or plans in the context of sustainable development". This point underlines both: (i) the limits of NAMAs, mostly expressed through country letters of intent; and (ii) the need to go further in a planning process (location, role of actors, responsibilities, timing, implementation framework...) as in current low-emission development strategies.

An additional issue for countries is ensuring that their NAMA are coherent and complementary with their National Adaptation Programmes of Action (NAPA)⁷. That should help to identify gaps and synergies among mitigation, adaptation and development issues to be brought together in national plans.

4. NAMAs AND AGRICULTURE – FORESTRY SECTOR

4.1. Current proposed NAMAs

Forty-three countries in total (as of December 2010) have proposed NAMAs to the UNFCCC. The proposed activities are either grouped according to sector specific pledges, or simply listed. The following table (cf. Box 5) reports the different sectors that are explicitly and implicitly included in proposed NAMAs.

⁷ NAPAs provide a process for LDCs to identify priority activities that respond to their urgent and immediate needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage. NAPAs should use existing information; no new research is needed. They must be action-oriented and country-driven and be flexible and based on national circumstances. NAPA documents should be presented in a simple format, easily understood both by policy-level decision-makers and by the public. UNFCCC website

Box 5: Different sectors within NAMAs

	NAMAs by sector						
	Agriculture	Forestry	Transport	Energy efficiency	Waste Mgt	Oil and coal replaced by gas	Renewable energy
Share of all NAMAs ⁸	59% (19)	94% (30)	72% (23)	69% (22)	59% (19)	9% (3)	81% (26)
Share of LDCs NAMAs ⁹	70%	100%	90%	80%	90%	0%	90%

Grouping activities within a sector-based approach could promote environmental effectiveness better than a project-based one. Doing so would increase political acceptability and ensure a wider and more comprehensive approach, which could increase area coverage and resolve scientific challenges posed by project-based approaches.

4.2. The place of the agriculture and forestry sectors

Being part of a NAMA or a low carbon strategy shows that a project is considered a priority by the government. Among all the future NAMAs, the agricultural and forestry sectors are well represented, 59 percent and 91 percent respectively of the countries that had prepared NAMAs. For the least developed countries, the forestry sector is quoted in all the NAMAs, while the agricultural sector is accounted for in 70 percent of the NAMAs.

Annex 1 sums up the main priority actions identified within NAMAs and priority climate change support actions included in FAO country priority frameworks.

This strong focus on the agriculture and forestry sectors is linked to two factors: (i) their high climate-sensitivity; and (ii) their important role in the economies of developing countries, and their considerable technical and economic potential to mitigate emissions.

4.3. NAMAs emission targets and specificities

It is worth noting that countries that did not specify mitigation actions per sector often have specific emissions reduction targets for 2020 in their NAMAs. The proposed reduction targets depend on the country; it ranges from 16 percent in Singapore to carbon neutrality for countries such as Bhutan and the Maldives. However, the baseline year is not well defined. Some countries followed the Kyoto Protocol baseline, choosing 1990 as a base year (Republic of Moldova), while others, such as India, chose 2005. Some countries, like Brazil, didn't specify their baseline. In fact, Brazil has an emissions reduction target of 36 to 39 percent from the business as usual scenario. This

⁸ The figures reflect the position of 32 countries, knowing that 11 countries did not describe their expected activities for achieving GHG reductions through the NAMAs letter of agreement.

⁹ Based on the 13 Least Developed Countries (LDCs) that presented NAMAs⁹, 10 of them detailed their NAMAs.

is based on projections of future emissions if no action were taken, and not on current emission levels or the Kyoto base year¹⁰.

Some countries put forward ambitious measures to mitigate emissions from agriculture. Mongolia proposed to limit the total number of livestock by increasing animal productivity, while other countries such as Madagascar decided to focus their mitigation actions through the implementation of the REDD programme. In some cases, mitigation options are vague, for example “introducing the notion of sustainable development at farm level¹¹”.

NAMAs for the AFOLU sector could also include a substitution for fossil fuel use. In this case, links between sectors, especially the energy and transport sectors, need to be made in order to avoid duplicate accounting.

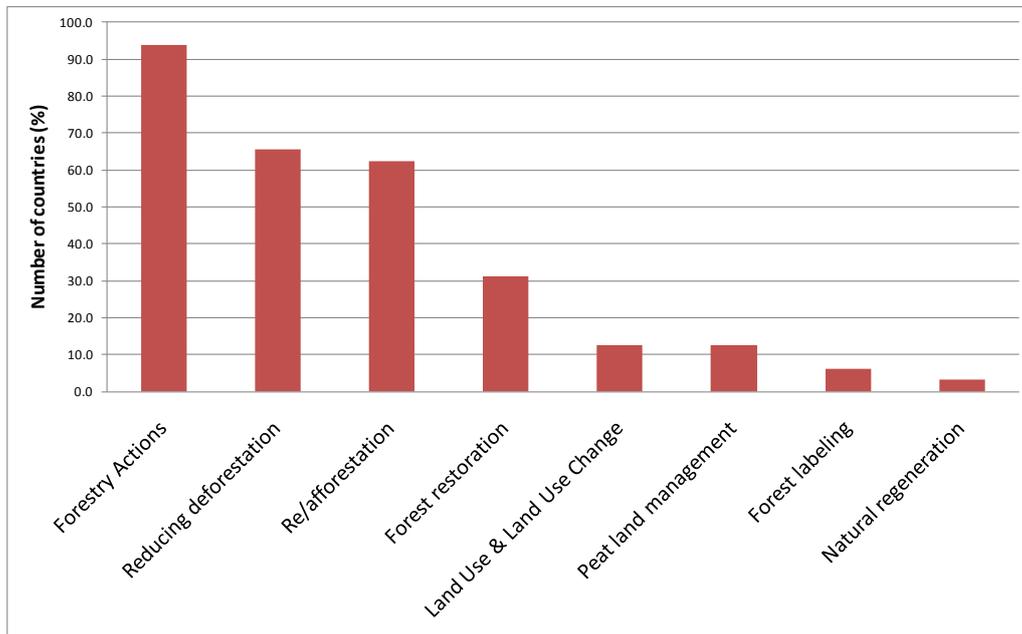
4.4. Proposed forestry and agriculture activities in the NAMAs

Forestry: The main activities dealing with forestry concern the reduction of deforestation, reforestation (cf. Box 6). Some countries target the REDD mechanism, while others just specify forest protection. Reforestation and afforestation activities are quoted by 62.5 percent of 32 countries. Reduced deforestation and land use change could also link with agriculture intensification.

Some countries, such as China, planned very ambitious afforestation programmes, aimed at increasing forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020, from their 2005 levels. The impacts of land use changes are also considered but not detailed.

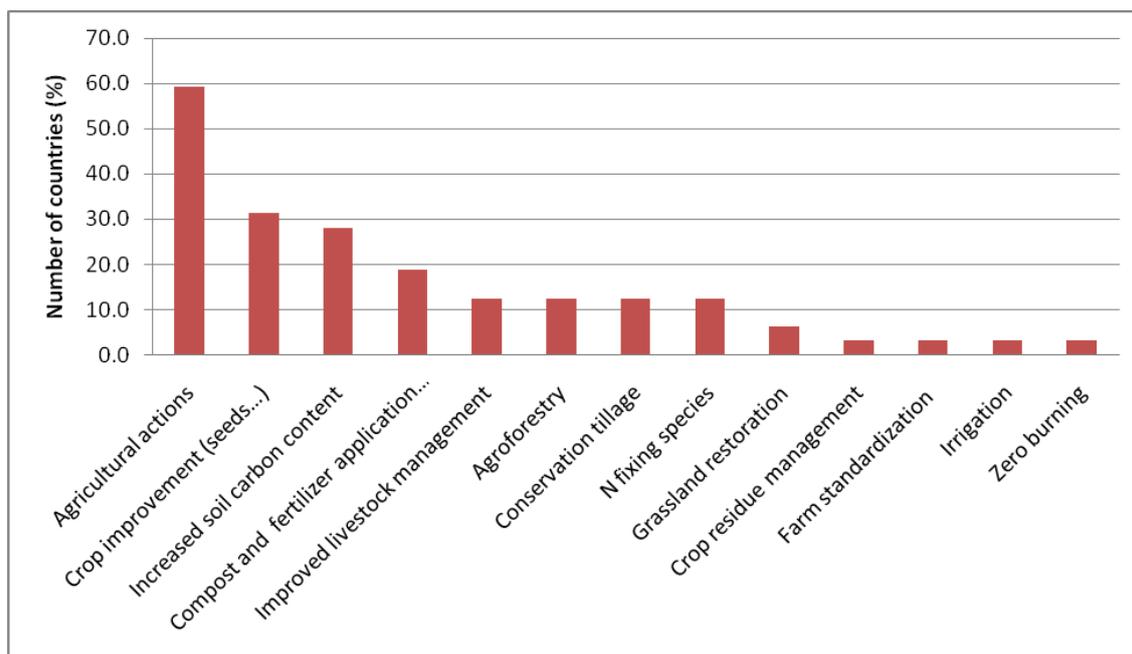
¹⁰ World Resources Institute, 2009. Brazil Pledges Ambitious Emissions Reductions <http://www.wri.org/stories/2009/11/brazil-pledges-ambitious-emissions-reductions>

¹¹ Extract of a NAMA letter of intent

Box 6: Forestry and LULUC actions quoted in the NAMAs submitted to the UNFCCC

Agriculture sector: The main proposed activities (cf. Box 7) focus on crop improvements through the production and use of improved seeds allowing for increases in yields and better adaptation to climate change.

Promoting soil carbon sequestration is often quoted but sometimes without matching activities. Nineteen percent of the countries had proposed using compost on a large scale (Ethiopia) and also improving fertilizer application and the production of organic fertilizer.

Box 7: Agricultural actions quoted in the NAMAs submitted to the UNFCCC

Within the figures, there are varying degrees of accuracy; for instance, increasing soil carbon content is a global target that covers other actions such as conservation tillage, crop residue management, zero burning. Activities proposed by countries reflect the concern for adaptation purposes (drought-resilient varieties, irrigation) that could be implemented together with mitigation targets.

4.5. Limited AFOLU impact appraisal of NAMAs

NAMAs are a first commitment by developing countries (Non-Annex I parties) without an action plan; some of them are letters of intent (for instance China) and others are detailed reports on climate change mitigation by sectors (e.g. the Former Yugoslav Republic of Macedonia). Some of the propositions are very general, while others are precisely quantified (Brazil). Even when quantified, targets may sometimes be too optimistic (e.g. implementation of agro-forestry practices on 75 percent of Ethiopia's agricultural areas).

Few countries appraised their NAMAs and gave emissions reduction targets. The least developed countries gave a list of mitigation options that could be implemented. Several countries (e.g. Chad and Botswana) detailed their need of financial, technological and capacity-building support in their letters of intent.

There is a crucial need for policy support to implement realistic and feasible NAMAs in developing countries and to present NAMAs as a first step of government engagement in the fight against climate change.

To enable low-carbon development, governments, private sector actors and communities need to develop a set of NAMAs. It is not enough for governments to want a sector to transition to a low-carbon growth path; they need to have the means to carry

it through. NAMAs combine a set of actions that are necessary to facilitate the transition to low-carbon growth for different sectors of the economy, including agriculture and forestry.

4.6. A path for promoting easy NAMAs implementation for LDCs in the AFOLU sector

Agricultural mitigation actions could be good candidates for NAMAs in the LDCs, where agriculture is extremely climate sensitive and an important sector of the economy.

The AFOLU sector is particularly relevant because a wide range of AFOLU NAMA actions have good potential to impact upon: (i) mitigation; (ii) adaptation-resilience building; and (iii) agriculture development and food security, if correctly designed. The multiple benefits of AFOLU actions within NAMAs could bode well for moving toward more sustainable development.

Due to their multiple benefits and the need for strong technical and institutional support in the agricultural sector, agriculture inclusive NAMAs may require an integrated approach with agricultural policy and development at the country level. This would fit with the need to ensure that NAMAs from developing countries are supportive to national development processes¹².

The sector approach could be part of the solution for implementing NAMAs related to the AFOLU sector in LDCs. It would allow for a better appraisal of actions, easier co-funding by allocating mitigation funds for LDCs and agriculture development funds, and a more efficient MRV based on both ex-ante carbon balance and monitoring of improved areas.

¹² FAO, 2009

5. HOW TO POSITION NAMAS VERSUS LOW-CARBON DEVELOPMENT STRATEGIES (LCDS)

5.1. Definition and principles around LCDS

Box 8: Low-Emission Development Strategies (LEDS) according to the OECD

Though no formally agreed definition exists, LEDS¹³ are generally used to describe forward-looking national economic development plans or strategies that encompass low-emission and/or climate-resilient economic growth. LEDS can serve multiple purposes but are primarily intended to help advance national climate change and development policy in a more coordinated, coherent and strategic manner. LEDS have been specifically mentioned in negotiating texts from COP 15 and beyond, as well as in the Copenhagen Accord, which recognized that a LEDS is indispensable to sustainable development (OECD¹⁴, 2010).

Preparing a LCDS (or LEDS) is an exercise that could be an investment towards a more comprehensive, integrated, and thus effective national plan. This process could help prioritize NAMAs and facilitate their integration into a longer-term policy framework. Some countries do not have the current capacity to develop a LCDS. They could continue to take action on NAMAs and consider moving towards a LCDS in the future. Preparing a LCDS is an opportunity to consider how NAMAs work together towards a national strategy over a longer time frame.¹⁵

Important elements to include in a LCDS could be:

- ***Vision/goal***: An over-arching vision or goal can help to guide policy decisions across development and climate change priorities over the long run.
- ***Assessment of current situation***: A clear understanding of major GHG emitting sectors and socio-economic indicators is fundamental for determining a path forward.
- ***Emission projections, mitigation potential and costs***: Planned pathways for business as usual emissions can help provide a sense of the national emissions trajectory, while mitigation potential and costs can be a first step towards identifying mitigation actions.
- ***Vulnerability assessment***: Indications of how a country may be impacted by climate change can help engage stakeholders, including the general public, and can help identify adaptation needs and the range of possible adaptation outcomes.
- ***Priority programmes and policies***: An indication of policy priorities for mitigation and adaptation integrated with an economic development strategy.

¹³ These LEDS strategies have also been referred to as “low-carbon growth plans” (LCGP), “low carbon development strategies” (LCDS), and climate-resilient growth strategies.

¹⁴ Clapp C, Briner G, Karousakis K, 2010. *Low-Emission Development Strategies (LEDS): Technical, Institutional and Policy Lessons*, OECD, Paris, France.

¹⁵ OECD, 2010

5.2. NAMAs only or switch towards LCDS

Developing country Parties whose national circumstances reflect greater responsibility or capabilities should formulate and submit NAMAs as low-carbon strategies for long-term net emissions reductions by 2050. More specifically, developing country Parties consistent with their capacities and in the context of their broader sustainable development strategies should elaborate NAMAs in the context of national low-carbon development strategies.

It was initially suggested that major emitting developing countries such as Brazil, India, China, South Africa, Nigeria and Egypt, should develop LCDS to plan and implement a broad range of mitigation activities and emission pathways. Some developing countries have expressed concern that LCDS would require a great deal of additional work and become an unfair burden. However, the level of effort required would depend on specific requirements for these strategies agreed on by the Parties. LCDS could simply combine sustainable development and climate change strategies that already exist in many developing countries and be supplemented by a package of proposed NAMAs¹⁶.

NAMAs could also be seen by the UNFCCC as a way to “decentralize” the climate funding and allow countries to make voluntary decisions about the mitigation actions to carry out in their countries. Negative cost mitigation measures could be taken domestically by the country, while more expensive measures could be supported by the green fund and developed countries. NAMAs could be a programme to differentiate voluntary self-funded actions and donor-funded actions and facilitate access to donor green funds.

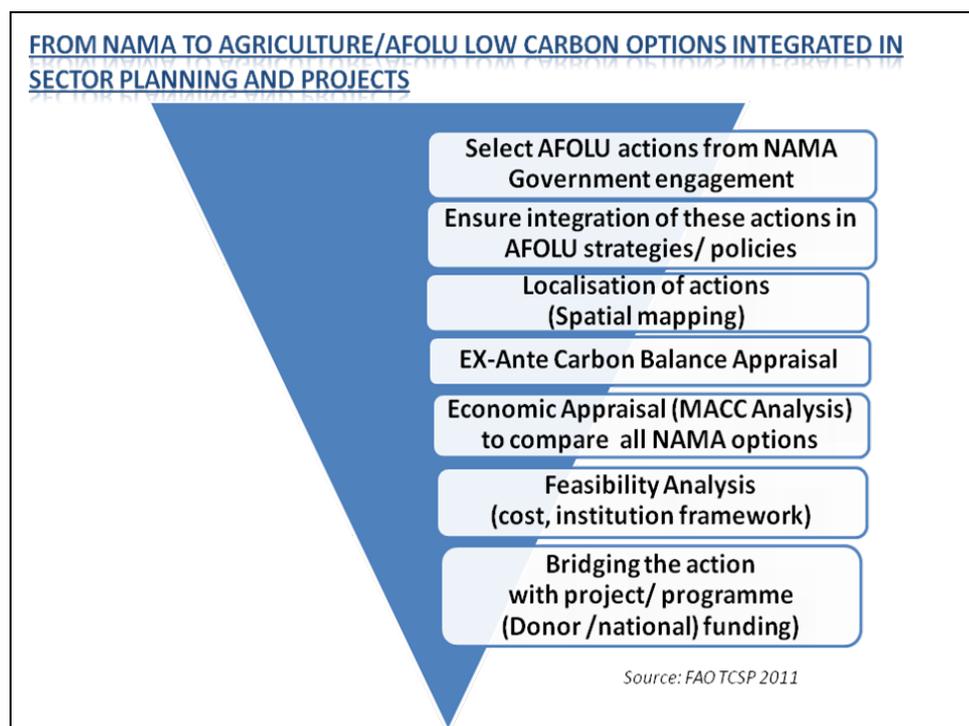
In brief, a country has two choices when developing NAMAs. The first is to proceed as quickly as possible to undertake actions and access financing (see 5.3); and the second is to move towards a comprehensive LCDS (see 5.4).

5.3. A pragmatic approach for integrating NAMAs low-carbon options in agriculture and forestry sector planning?

Most small and LDCs currently do not have the capacity to develop a LEDS. Therefore, they could continue to take action on NAMAs and consider moving towards a LEDS in the future (cf. Box 7). NAMAs are conceivable in terms of activities, whether they are project based, sector based or at a national scale. For the agriculture, but also the forestry sector, sector approaches could be part of the solution for implementing NAMAs. A sector approach would allow for a better allocation of funding to reach LDCs, mostly in Africa.

The following approach could allow countries to switch directly from a NAMAs to a set of AFOLU actions appraised, compared, prioritized and integrated in the sector policy and planning framework with donor support through project implementation. It would mobilize sector ministries and implementing agencies from agriculture and forestry and possibly from the ministry of planning.

¹⁶ (CCAP, 2009)

Box 9: From NAMAs to low-carbon options in sector planning and projects

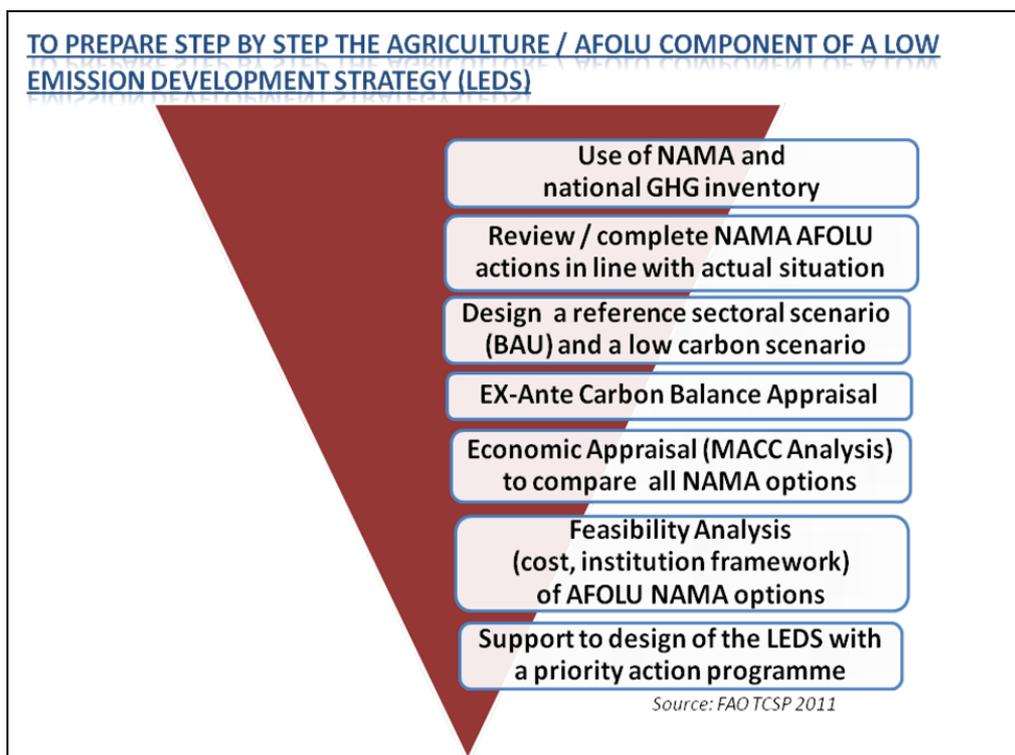
Source: FAO, (2011).

The potential of establishing sectoral approaches for agricultural mitigation is needed as either a phased or stand alone option for financing purposes. There are considerable benefits that could be obtained from the implementation of such approaches: more flexibility in terms of creating options across a range of different instruments and more efficiency by reducing the demanding and expensive MRV procedures. Fixed transaction costs are also a key entry barrier for small-scale agriculture-based C projects. Mitigation and adaptation actions could be directly integrated into development projects without using the offset system of the carbon market, which is currently difficult for LDCs even if ongoing experiences with programmatic CDM in the energy sector or microfinance are demonstrating mechanisms that can reduce transaction costs and potentially enable the 1.4 billion small-scale farmers in developing countries to access the C market.

5.4. A way to prepare the AFOLU Component of a National LCDS

The main purpose of LCDS is to provide a comprehensive outlook on policies, measures, strategies and actions in each country that facilitate a shift to low-carbon development. National GHG inventories will be an important factual information component allowing progress in moving towards low-carbon development to be tracked (cf. Box 10).

Box 10: From NAMAs to low-carbon development strategies



Source: FAO, (2011).

6. NAMAs AS A QUICK WAY TO OPERATIONALIZE MITIGATION IN DEVELOPING COUNTRIES

6.1. A standard in estimation of baseline scenarios for NAMAs

The Cancun Agreement reaffirms that social and economic development and poverty eradication are the first priorities of developing country Parties, and that the share of global emissions originating in developing countries will grow to meet their social and development needs. It also agrees that developing country Parties will take nationally appropriate mitigation actions in the context of sustainable development, supported and enabled by technology, financing and capacity-building, that are aimed at reducing levels of emissions relative to business as usual emissions in 2020.

In producing NAMAs, it is important first to share common principles for estimating baseline scenarios. Assessing future production and business as usual emissions in a baseline shall take into account country and region specific demands to produce more food to achieve and maintain food security, and guarantee the right to food, while also taking into account the impact of climate change.

In order to improve food security and to satisfy a growing population's needs in terms of quantity, diversity and quality, the production of the agricultural sectors in developing countries needs to increase. Within a business as usual development, an

increase in production will translate to a corresponding increase of emissions in the same proportion.

NAMAs will be assessed as a deviation from the baseline. Such deviations can be achieved by efficiency gains in food production and food chains. They can also be achieved by the reduced mobilization of new land area for agriculture or by the restoration of degraded land (increased carbon stock, improved vegetation coverage)

6.2. NAMAs as an approach requiring fewer MRV constraints

Concerning MRV, the Cancun agreement states that internationally supported mitigation actions will be measured, reported and verified (MRV) with international measurements while domestic (unilateral) mitigation actions will be monitored domestically, and both “in accordance with guidelines to be developed under the convention”. According to the agreement, the country biennial report will be analyzed by international consultations, which will have to provide “information on mitigation actions including: (i) description; (ii) analysis of the impacts and associated methodologies and assumptions; (iii) progress in implementation; and (iv) information on domestic MRV and support received. This report should respect national sovereignty. The discussion on the choice of such policies and measures is not part of the process. This enables a certain degree of flexibility in the MRV design.

Since NAMAs are not supposed to be used to offset emissions in developed countries, as that is for the credited projects or actions funded by carbon market, the MRV of supported NAMAs does not need to be as stringent as the MRV for carbon market projects.

The MRV of NAMAs with direct effects can be based on existing methods, namely: (i) ex-ante modelling using tools such as the EX-Ante Carbon Balance Tool (EX-ACT); (ii) ex-post measurements with similar tools; (iii) indirect proxy variables of outcomes (areas with improved techniques, areas reforested...) or activities.

In the absence of internationally agreed MRV standards, definitions and sophisticated criteria, NAMAs are a promising instrument for boosting climate change abatement policies and measures, and for launching projects and carrying out actions without delay by using funds that are already available to developing countries.

6.3. A capacity to appraise mitigation potential impact of actions / projects

FAO has developed EX-ACT in order to appraise mitigation impacts of agricultural and forestry policies. EX-ACT is a tool aimed at providing ex-ante estimations of the impact of agriculture and forestry development projects on GHG emissions and C sequestration, thus quantifying its effects on carbon-balance. The tool provides guidance on project design and decision making thus complementing the standard ex-ante economic analysis of investments projects. It computes data from the IPCC specific to world climatic regions. It could be a useful tool to estimate the impact of NAMA policies.

In facilitating NAMA implementation in LDCs, the proposal to have an ex-ante carbon balance appraisal emerges as a real precondition for assessing the potential impact of NAMAs. It provides the main information within the overall NAMA monitoring. It is still a process that can be implemented with reasonable transaction costs. It links with the possibility of future ex-post evaluations as it is done in the current project appraisal mechanism of investment projects implemented in LDCs with donor support.

6.4. A capacity to monitor mitigation impacts in the agriculture sector, policy recommendations

National ownership in the design and implementation of NAMAs is critical for their success. Mitigation actions that have synergies with the national development processes (cf. Box 11) will be more likely to succeed. However, for LDCs, a project-based approach could be necessary to support a programme or sectoral approach because of governance and funding gaps.

Box 11: Perspectives of policy recommendations at the National Level

Policy Recommendations at the National Level, Potential Next Steps

1. Reaching Smallholders
 - a. Legal Framework: Define ownership of rights to receive payments for environmental services (e.g. carbon sequestration), define who has rights to purchase which services, determine management and allocation of the risk of non-performance or incomplete performance, and devise dispute resolution mechanisms.
 - b. Institutional Framework: Devise policies to reduce transactions costs of smallholder participation, e.g. networks and mechanisms to aggregate smallholders.
- c. Market Regulations: Ensure that such regulations do not distort incentives for smallholders to invest in sustainable land management practices.
2. Integrating Agricultural Mitigation and Adaptation Actions into Rural Development Plans
 - a. Ensure policy coherence across ministries and in support of development plans.
 - b. Ensure that research, training and capacity building reflects the synergies between food security, mitigation and adaptation.
3. Prioritizing Actions, to ensure that external funding is country-led.

Source: FAO, (2010). Food security and agricultural Mitigation in developing Countries: Options for capturing Synergies.

Establishing transparent regional baselines covering delineated landscapes and production systems would help in implementing NAMAs in the agricultural sector. Another option for integrating mitigation into agriculture could be to link the potential “C value chains” to existing crop value chains¹⁷ (e.g. linking MRV systems that are already in place for quality, organic or fair trade certification of agricultural products).

Concerning agriculture, FAO could support: (i) the capacity development of governments to formulate climate change policies with the intention of developing NAMAs in a MRV manner; (ii) the development and implementation of agricultural

¹⁷ FAO, 2009

NAMAs; (iii) the integration of climate change mitigation and adaptation into development planning.

6.5. Donors' positioning and strategies in financing NAMAs

The emerging role of NAMAs as a key entry point in the country implementation framework is becoming the main element for scaling up mitigation support in developing countries. It has generated multiple fast track and mitigation initiatives by donors, as well as other mechanisms. This shows a strong willingness by partners to move forward without waiting.

Main donor initiatives identified include: (i) the Carbon Partnership Facility (CPF) by the World Bank; (ii) the Partnership for Market Readiness by the World Bank; (iii) the Forest Carbon Partnership Facility by the World Bank; (iv) the Climate Investment Funds (CIF) by the World Bank; (v) the Climate and Development Knowledge Network (CDKN); (vi) the World Resources Institute (WRI); (vii) the Global Green Growth Institute (GGGI); (viii) E3G; (ix) the ICI 'International Climate initiative', by the German Environment Ministry; (x) the Europe Aid-sponsored work on emissions trading and greenhouse gas mitigation; (xi) the DFID-sponsored work on standardized baselines; and (xii) the NOAK NEFCO Initiative (Nordic Perspectives on Carbon Market Mechanisms).

According to the Cancun agreement, the green climate fund should be used "to support projects, programmes, policies and other activities in developing country Parties using thematic funding windows". NAMAs will obviously be a channel for proposed actions for this financing mechanism.

At the same time, within the context of the development of NAMAs, there may be opportunities to explore innovative financing mechanisms with broader, more flexible approaches, multiple funding streams and innovative payment/incentive/delivery schemes to reach rural producers, including smallholders. Some forms of mitigation from agriculture, with high upfront investment and transaction costs or risks, may not initially be financially attractive.

A low-carbon economy could be a key driver of economic and employment growth in the near future. Many big countries are moving towards green growth.

It has already been seen that project-based approaches are insufficient and inefficient in achieving global mitigation targets in the AFOLU sector. Policies and measures outside the carbon market may be the key to reducing emissions in the AFOLU sector, by, for example, envisaging public financing by levying taxes that could reduce financial speculation and help to move toward a low-carbon society.

7. CONCLUSIONS

"While only a limited number of Non Annex I parties have made submissions in response to the Copenhagen Accord, the proportion of these that included agriculture may be an indicator that agriculture is likely to become important component of

NAMAs in developing countries¹⁸". Indeed, of the 43 countries that have submitted NAMAs proposal to the UNFCCC, 60 percent proposed agriculture as way to reduce their GHG emissions. Most countries proposed mitigation in the forestry sector.

A country has two choices when developing NAMAs. It can either proceed directly from NAMAs to formulate and undertake actions or move towards a comprehensive LEDS. Within the agriculture sector, this translates either to: (i) switching directly from a NAMAs to a set of AFOLU actions appraised compared, prioritized and integrated in the sector policy and planning framework, seeking donor support through project implementation; or (ii) preparing the AFOLU component of a National Low Emission Development Strategy.

The emerging role of NAMAs as a key entry point in the country implementation framework is becoming the main element for scaling up mitigation support in developing countries. It has generated multiple fast track and mitigation initiatives by donors as well as other mechanisms. This shows a strong willingness from partners to move forward.

Since NAMAs are not supposed to be used to offset emissions in developed countries, as that is for credited projects or actions funded by the carbon market, the MRV of supported NAMAs does not need to be as stringent as the MRV for carbon market projects.

To use NAMAs as an implementation channel in developing countries, it is important to map out an official and appropriate method to work out business as usual scenarios, as well as a pragmatic way to ensure MRV functions and to appraise the mitigation impacts of the NAMAs (ex-ante, ex-post).

NAMAs are a promising instrument for boosting climate change abatement policies and measures in developing countries, particularly in the coming years when funds will become available.

8. LINKS TO OTHER EASYPOL MATERIALS

- Mainstreaming Carbon Balance Appraisal in Agriculture. EX-ACT: A Tool to Measure the Carbon-Balance, [EASYPol Module 099], FAO, Rome, Italy.
http://www.fao.org/docs/up/easypol/869/mainstream-crbn-blnce-apprsl-agric-prj-plics_099EN.pdf
- Carbon Finance for Agriculture, Forestry and Other Land-Use Sectors [EASYPol Module 076], FAO, Rome, Italy. See: http://www.fao.org/docs/up/easypol/782/carbon_finance_076en.pdf
- EX-ACT Software for Ex-ante Carbon-Balance Appraisal of Investment Projects: An Application to the Santa Catarina Rural Competitiveness Project in Brazil [EASYPol Module 110], FAO, Rome, Italy. See: http://www.fao.org/docs/up/easypol/809/ex-act_brazil-santa_catarinacase_study_rural_proj_110en.pdf

¹⁸ (FAO, 2010)

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ANNEXE: Matrix of Climate change actions identified in FAO Country priority frameworks, AFOLU actions in NAMAs, and presence of NAPAs, January 2011

Reg	Country	NMTPF priorities in Adaptation – Mitigation – CC Policy support - Training / Appraisal	Agriculture-forestry priority actions in NAMA	NAPA
Af	Benin		Gestion durable des forêts naturelles et développement des plantations pour renforcer les puits de carbone (NAMA 2010)	X
Af	Burkina Faso	Appui-conseil sur des questions émergentes, notamment la problématique des bioénergies et du changement climatique et leur impact sur la sécurité alimentaire des ménages. Renforcement des capacités d'analyse d'impact des politiques de développement agricole et rural sur la sécurité alimentaire et la pauvreté (clientèle cible : MAHRA, SP/CPSA, MRA, MECV, Chambres d'Agriculture, Confédération Paysanne du Faso). Promotion de l'agriculture de conservation et les bonnes pratiques agricoles (Initiative PRODS/PAIA).		X
Af	Cameroun		REDD+, reboisement, observatoire national Clim Change (2010)	
Af	Congo Brazzaville		Elaboration d'un plan national d'affectation des terres, développement des activités REDD (sylviculture développement en foret dégradée, certification et aménagement durable des forets), sensibilisation des pop sur la conservation des forets, promotion de l'emploi des jeunes dans la régénération des écosystèmes forestiers, Promotion des techniques de fixation de l'azote dans les sols ...	
Af	Cote d'Ivoire	Contribuer à la mise en œuvre d'un plan d'adaptation national et sous régional aux changements climatiques. Renforcer les capacités de tous les acteurs au développement en matière de changements climatiques.	Reconstituer, aménager et gérer de façon durable les forêts du domaine rural et du domaine permanent de l'Etat. Elaborer et mettre en œuvre un plan national de lutte contre la dégradation des sols, assurer la gestion intégrée et durable des ressources en eau. Développer de façon durable les exploitations agricoles.	
Af	DRC	Mise en place et expérimentation d'outils pilotes de gestion des risques naturels et consolidation du réseau d'alerte.		X
Af	Eritrea		Develop and elaborate appropriate and integrated plans which are supportive of both adaptation and mitigation actions for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas in Eritrea affected by drought and desertification, as well as floods	X

Reg	Country	NMTPF priorities in Adaptation – Mitigation – CC Policy support - Training / Appraisal	Agriculture-forestry priority actions in NAMA	NAPA
Af	Ethiopia		Enhanced district level reforestation and watershed actions for the increment of vegetation cover of 214440 km ² . Sustainable management (against deforestation and forest degradation) of 28736 km ² of natural high forest, 4390 km ² of deciduous forest land, 60360 km ² of national parks, 198175 km ² of extended forests as buffer area for desertification, 52695 km ² of forest in exhaustion or production forests established, 51496 km ² of wetlands. Application of compost on 80000 square kilometers of agricultural land of rural local communities implementation of agroforestry practices and systems on 261840 km ² of agricultural land.	X
Af	Gabon		<u>Engagement volontaire</u> pour certifier 60000 km ² addition de forêt, mettre sous aménagement durable 30000 km ² de forêt addit, mettre en agro foresterie 100 000 d'ha et régénérer-réhabiliter 10000 ha de savanes et zones dégradées	
Af	Gabon	none		
Af	Ghana		Ghana's NAMA is very comprehensive with forest restoration, re/afforestation, forest labelling, reduction of deforestation (REDD, sustainable management, protected area, law... Peat land management, increase soil carbon content (soil carbon sequestration), crop residue management, N fixing species, compost and organic fertilizer (and also improved fertilizer application), crop improvement (seeds...), zero burning and conservation tillage	
Af	Kenya	National and community level capacity for sustainable management of natural resources enhanced. Drought mitigation through irrigation and drainage systems and watershed management . Support to biofuels in ASAL as sources of alternative energy and mitigation of Green House Gas Emissions. Climate change adaptation and mitigation policies and strategies developed and integrated in National Food Security Programmes		

Reg	Country	NMTPF priorities in Adaptation – Mitigation – CC Policy support - Training / Appraisal	Agriculture-forestry priority actions in NAMA	NAPA
Af	Madagascar	Contribuer à la mise en œuvre d'un projet de micro-assurance récolte sur indice météo , et de macro-assurance cyclones. Renforcer les capacités de maîtrise de l'eau chez les populations affectées par la sécheresse.	Développement de la politique et de la stratégie REDD+ (design, renf des capacités techniques, du cadre institutionnel et juridique, communication sensibilisation). Mettre en place un reboisement à grande échelle dans les 22 régions. Restaurer le Bassin versant de Torotorototsy (9000 ha). Fabriquer du compost et des engrais organiques de qualité dans les ZIA et améliorer l' approvisionnement en semences améliorées et semences fourragères.	X
Af	Maroc		50000 ha de reboisement par an sur base Plan directeur de reboisement jusque 2013 (1 000 000 ha d'ici 2030). Mise en œuvre du plan directeur de prévention et de lutte contre les incendies.	
Af	Mauritania		Porter la couverture forestière de 3.5% actuellement à 9% en 2050	X
Af	Mauritius	None		
Af	Nigeria	FAO National Programme for Food Security on "Climate change adaptation and carbon sequestration" (No ref in NMTPF)		
Af	RCA	Réduire les risques d'insécurité alimentaire dus aux variations climatiques. Améliorer le contrôle de l'exploitation forestière.	Passer de 11% à 25% de surface forestière d'ici 2050 par reboisement et aménagement forestier. Promotion de la certification des forêts, développement des activités du REDD, promotion des plantations villageoises communautaires.	X
Af	Rwanda	Appui aux programmes d'aménagement et de gestion intégrée des agro-écosystèmes. Mise sur pied d'un programme bois-énergie. Poursuite des activités du mécanisme forestier : préparation et implantation des plans d'aménagement forestiers, publicité informative concernant la gestion-conservation des forêts et l'environnement. Appui à la gestion des risques de catastrophes naturelles et d'aléas économiques.	Augmenter la couverture forestière et agro- forestière de 20% à 23% et de réduire de 30% la consommation de bois entre 2002 et 2012. Mettre un accent sur la protection des sols pour faire passer la proportion des terres protégées contre l'érosion de 40% en 2006 à 64% en 2012 (Economic Development and Poverty Reduction Strategy 2007).	X

Reg	Country	NMTPF priorities in Adaptation – Mitigation – CC Policy support - Training / Appraisal	Agriculture-forestry priority actions in NAMA	NAPA
Af	Sénégal	Contribuer à la mise en œuvre d'un plan d'adaptation national et sous régional aux changements climatiques. Intégrer la problématique des changements climatiques, de la biosecurité et du développement durable dans les interventions au niveau national. Réhabilitation et restauration des terres dégradées : renforcement de la gestion des aires protégées et des réserves naturelles .		X
Af	Seychelles	Insurance schemes in the event of losses through natural disasters Adapt to climate change through disaster risk management		
Af	Sierra Leone		Sustainable management and protection of forest reserves and catchment areas in Sierra Leone including mangroves, coastal and inland wetlands. Introduce conservation farming and sustainable agricultural practices, eg. agroforestry etc. Development of an integrated natural resources and sustainable land management programme for Sierra Leone. Improve forest governance to maintain the proportion of land area covered by forests to at least 3.4 million ha by 2015, (legislation, regulations and bye-laws for environmental protection, control of deforestation, firewood collection and capacity building).	X
Af	South Africa		NAMA as letter of intention	
Af	Sudan	Early Warning System and other meteorological systems for better, forecast of the climate. Mitigation of disasters through the enhancement of the national capacity in areas of early warning system against drought and floods.		X
Af	Tanzania	Develop and strengthen monitoring, assessment and valuation of forestry resources and implementation of integrated resource management (2007). Strengthen capacity of agricultural sector line Ministries to use analytical tools.		X

Reg	Country	NMTPF priorities in Adaptation – Mitigation – CC Policy support - Training / Appraisal	Agriculture-forestry priority actions in NAMA	NAPA
Af	Tchad		Renforcement de la politique de reboisement (protection, gestion aires protégées, ceintures vertes peri-urbaines, grande muraille verte). Appui et Développement de la stratégie REDD+ (renforcement des capacités des responsables, cadre institutionnel, actions de sensibilisation et communication...).	
Af	Togo		Améliorer la couverture forestière nationale (passer de 7% X actuellement à 30% d'ici 2050.	X
Af	Tunisie		Passage de 13 à 16% de taux de couverture forestière d'ici 2020 (250000 ha de reboisement, créer 20 nouvelles zones protégées). Montée à 500 000 ha d'agriculture biologique d'ici 2014. Méthode améliorée d'irrigation sur 200 000 ha.	
Af	Uganda	Enhancement of the national capacity in natural disaster risk management and mitigation		X
Af	Zambia	Water management and irrigation. Promotion of wide use of conservation farming. Promotion of crop diversification.		X
As	Bhutan	none		
As	China		Increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from the 2005 levels (2010)	
As	India	Greatest area of demand relates to strategic planning and policy analysis. Support to assess risk generated by climate change on agriculture and identify appropriate adaptation strategies. Promote innovative mechanisms for risk transfer and for adoption of environmentally safe technologies institutionalizing. Promote community based adaptation methods (water management).		

Reg	Country	NMTPF priorities in Adaptation – Mitigation – CC Policy support - Training / Appraisal	Agriculture-forestry priority actions in NAMA	NAPA
As	Indonesia	Improve Capacity in policy and strategy formulation cum-adaptation/mitigation in climate change and disaster preparedness in disaster prone areas. Developing Sustainable Agriculture in Climate-Changing Environment Using “Green” Technologies & Best Practices” community-based resource mobilization and local institutional involvement in promoting, supporting and monitoring the application of such environmentally practices, in order to mitigate and/or adapt to climate change. Promoting the Strategic-Role of Forest Resources on Climate Change Adaptation and/or Mitigation	Reduction of 26% by 2020 achieved following NAMAs (for agriculture- forestry) : sustainable peat land management, reduction of rate of deforestation and land degradation, development of carbon sequestration projects in forestry and agriculture	
As	Lao	Technical support for climate change information gathering for National Adaptation Programme of Action (NAPA)		
As	Mongolia		Limit the increase of the total number of livestock by increasing the productivity of each type of animal, especially cattle. Developing livestock husbandry adapted to various changes of climate, nature and ecology and improving the abilities of bearing risks. Improve forest management (Natural regeneration, plantation; agro-forestry; shelter belts)	
As	Nepal	None		X
As	Pakistan	Training and Disaster management plans and mitigation strategies developed for disaster prone areas (flood, drought, cyclone). Improve watershed and land slide management stabilization in earth quake prone areas		
As	Philippines	Support for capacity in policy formulation cum-mitigation and disaster preparedness adaptation arising out of climate change. Capacity in policy and strategy formulation cum-adaptation/mitigation improved in climate change and disaster preparedness in disaster prone areas. Strengthening the Philippines institutional capacity to adapt to climate change. Strengthening and mainstreaming climate risk management and disaster preparedness in local development planning.		

From NAMAs to Low-carbon development in agriculture

NAMAs as a pathway at country level

Reg	Country	NMTPF priorities in Adaptation – Mitigation – CC Policy support - Training / Appraisal	Agriculture-forestry priority actions in NAMA	NAPA
As	Thailand	Promotion of participatory approaches in natural resource management and sustainable technologies. Assessment of the effects of climate change on natural resources. Support for long-term rehabilitation of mangroves and other tsunami-affected coastal forest. Sustainable water and soil conservation and management enhanced through irrigation performance assessment		
As	Vietnam	Enhance coordinated and integrated DRR actions and adaptation to global climate change. Development of policies and capacities for environmental protection and natural resource management		
Eu	Armenia		Reduction of degraded forests, afforestation , reducing volume of deforestation and sustaining soil CO2 content	
Eu	Macedonia		Enabling favourable conditions for GHG emission reduction (laws, bylaws, institutional measures) Introduction and development of GHG mitigation technologies in agriculture (experts training, education of farmers, financial measures for motivating farmers to use mitigation technologies...)	
LA	Brazil		Reduction in Amazon deforestation (reduction of 564 Million TCO2 by 2020), reduction in Cerrado deforestation (-104 M.T), Restoration of grazing lands (84-104 MT), Integrated crop-livestock system (18-22 MT), No tillage farming (16-20 MT), increased use of biofuel (48-60 MT)	
LA	Costa Rica		Long term Economy wide transformational effort to enable carbon neutrality (2010)	
ME	Jordan		Rehabilitation and Protection of the green cover and the grazing areas in the Badia. Growing Perennial Forages in the Badia Region. Best management practices in Irrigated farming fertilization applications. Use of methane emitted from livestock and chicken farming Production and slaughter houses control /stop deforestation, expand forest areas /trees covered areas.	
ME	Yemen	Assist in developing an irrigation and watershed management policy to increase irrigation efficiency and switch to wide scale water harvesting;		X
P	Marshall Islands	Case study to assess potential impacts of climate change and develop strategic recommendations. Strengthen local institutions to minimize adverse impact of CC. Support for CC mitigation/ adaptation through FSSLP	40% of reduction of CO2 emissions below 2009 levels by 2020	