

Note

What are the possible features of EAC adaptation communication?

Comparing adaptation communication of EAC member states

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Summary

This note will focus on the adaptation communication of EAC member states. It will analyse the already existing documents and present any gaps, overlaps and good examples noted. In respect to Article 7 of the Paris Agreement, this paper will then conclude with some recommendations to EAC climate negotiators, in order to find an appropriate future outline of EAC adaptation communication.

Introduction

The member states of the East African Community (EAC) are currently been faced with a massive number of climate change challenges and these are hindering their economic and industrial growth. In all of these countries, sectors such as agriculture, tourism, forestry are the central foundation of employment. Despite this, these sectors happen to be the most vulnerable and in need of attention when it comes to climate change adaptation.

UNFCCC members have been asked to communicate on their priorities, their plans and required support, to adapt to climate change.

As a result of this, all members have been submitting and implementing different national documents such as National Communications (NCs) and Intended Nationally Determined Contributions (INDCs). Moreover, National Adaptation Plans of Action (NAPAs) have also been developed by Least Developed Countries (LDCs), and National Adaptation Plans (NAPs) by others.

Existing adaptation communication in EAC member states

What is entailed in existing documents?

Most of the national initiatives are mandatory under the UNFCCC Convention and provide domestic and international actors with information on progress, constraints and envisaged actions.

Intended Nationally Determined Contribution (INDC)

This was agreed upon at the 19th Conference of Parties (COP) of the UNFCCC in 2013 at Warsaw.

At first, this national initiative was non-binding and therefore, countries could pick the level of their commitment and the extent of the information provided. In 2014, at Lima, a successive agreement was reached amongst parties of the INDC. There, they collectively agreed to provide information concerning **emissions**. INDC allows countries to communicate their envisaged actions in addressing greenhouse emissions and this is framed around their national capabilities. In this document, they also get to emphasise their needs and want in achieving their future goals. However, as part of the Paris Agreement in 2015, it became mandatory for signing parties to communicate their updated NDC every five years. Parties also agreed on developing ambitions that are constantly increasing in their aims and goals.

The National Adaptation Programme of Action (NAPA)

This takes into consideration the domestic conditions of LDCs and provides a basis for them to identify their most urgent priorities on adaptation to climate change. NAPA aims to present most urgent adaptation measures and involves local communities as main stakeholders in assessing areas that are vulnerable to climate change. Lastly, in order to facilitate the implementation of urgently needed adaptation measures, the format of NAPAs is kept simple so as to attract maximum awareness amongst policymakers and the public (UNFCCC, 2017).

The National Adaptation Plan (NAP):

This transforms respective adaptation needs to climate change into established development strategies and programmes. The guidelines of the NAP process are based on four pillars namely, the evaluation of existing information on climate

change impacts and adaptation needs, the analysis of current and future climate change scenarios, the enhancement of capacities for implementing a long-term national adaptation strategy and the iterative monitoring and updating of the NAP process (UNFCCC, 2012). In the case of Kenya, the NAP process was based on a vulnerability assessment and consultation between different stakeholders and presents adaptation actions between 2015 and 2030.

National Communications (NCs):

There exists a distinction between Annex I countries, which are members of the OECD in 1992, the Russian Federation, several Central and Eastern European States, as well as countries with economies in transition and non-Annex I countries, which are mostly developing countries. Once entered into the convention of the UNFCCC, non-annex I parties are required to submit their first NC within three years. Afterwards, NCs are due every four years. The overall objective of NCs for non-Annex I parties is to “encourage the presentation of information [on endeavours to implement the Convention] in a consistent, transparent, comparable, as well as flexible manner [whilst] taking into account specific national circumstances” (UNFCCC, 2003). Furthermore, NCs provide information on national greenhouse gas (GHG) inventories as well as measures to mitigate GHG emissions and facilitate adaptation to climate change.

Along these lines, table 1 in the annex compares the different documents dealing with adaptation communication of the EAC member states and their individual take on INDCs, NAPAs, NAP and NCs. The principal objective of this analytical comparison is to examine the content of the countries’ adaptation communication to climate change, in order to detect ensuing overlaps and other aspects, which could be improved. Article 7 on adaptation

communication of the Paris Agreement (2015) asks signing parties to “submit and update periodically an adaptation communication, which may include its priorities, implementation and support needs (...) without creating any additional burden for developing country Parties” (UNFCCC, 2015). The submission of this adaptation communication should be in conjunction with other adaptation communications, i.e. NAPA and NC. Concerning Article 7 stated above, this technical issue note gives recommendations on how to address the shortcomings and overlaps found in the published documents and which features should be incorporated in future adaptation communication.

EAC Climate Adaptation Communication: Gaps, overlaps and good examples

The analysis of the national official documents (NAPAs, NAP, NCs and INDCs) of EAC member states is structured around table 1 (cf. annex). There are three comparative guiding columns with the headings: (sectoral) **priorities**, implementation plans and needs. These three components are important to adaptation communication as they are key features of Article 7. As a principle, the “(sectoral) **priorities**” column states out sectoral adaptation goals or objectives, the “implementation plan” column illustrates the strategies or projects, which are to be taken in order to adapt to climate change in the specified sectors and lastly, the “needs” section simply depicts the support that is needed for a successful adaptation outcome. Carrying out the analysis across the different documents of each country dealing with adaptation communication, one finds both content-related overlaps and clear incoherence across them. Furthermore, most of the examined documents are also very broad on their envisaged implementation actions and the needs to

operationalise them.

Setting clear and coherent adaptation priority sectors

Adaptation to the impacts of climate change is perceived to be urgent for all of the countries. However, the analysis finds a lack of consistency and repetitive overlaps across the different national documents of each EAC member state. Sectors such as agriculture, forest, water, land use and tourism have a recurring position in each national document. As a result of this, these sectors are mentioned over and over again. Nevertheless, in some documents, one or more unique priority adaptation sectors are added towards the already popular ones. Exemplary is the position of Rwanda, where its NC adds the sectors of fisheries, animal husbandry and health to the common sectors such as agriculture, water and forestry, which are stated in its INDC. This point specifically demonstrates confusion with regards to the sectors, which are to be considered as being in serious need of adaptation actions to climate change.

Next, a non-standardised terminology can be observed, too. Exemplary, Rwanda's INDC mentions forestry as a sector in need of adaptation while its NC adds landscapes and biodiversity to the priority list. As forestry is part of the landscape, the lack of standardised terminology raises questions on the priority actions.

Kenya's adaptation communication can serve as a role model as continued consistency is witnessed across its list of priority sectors. In all of its national initiatives (NAP, NC, INDC), there are exactly the same sectors mentioned. However, while this approach does put emphasis on the importance of consistency, it raises the question of whether it is necessary to present three different documents if their focus is all on the same sectors.

In spite of this, whilst the main aim of the priorities column is to identify sectors that are in need of adaptation, the NAPAs of Rwanda and Burundi do not link their adaptation priorities to sectors and the latter states 14 general priorities in need of adaptation instead. With this framing, there might be no red thread to follow, which makes it more difficult for some stakeholders to envision which sectors need to be supported in adapting to climate adverse effects.

Develop more detailed implementation of adaptation plans

One can recognise a pattern that is being followed as most of the actions/plans tend to be linked to the sectoral objectives mentioned: all of Uganda and Tanzania's national adaptation communication (INDC, NAPA, NC), as well as Burundi's INDC and NC focus on providing implementation plans that are tailored towards their stated sectoral objectives. However, in this context, implementation plans only give broad adaptation options in each sector of adaptation need, ignoring more specific aspects such as a time frame, a budget and an action menu. For instance, in Tanzania's NC, the implementation plan for the forestry sector states to create an afforestation programme in degraded and non-degraded land using more adaptive species, enhance forest seed banks and the development of new plant varieties etc. On the other hand, both Tanzania and Uganda's NAPA documents add six priority projects and nine projects respectively onto its stated sectoral implementation plans. In spite of this perceived pattern, Burundi's NAPA is an exception as it does not link its implementation plans, labelled "projects", to its adaptation priorities.

Across most of the examined documents, the implementation projects or action plans are very broad in nature. For instance, the INDC of Uganda

states that water efficiency should be improved in the water sector, without explaining how they would reach that goal. There seems to be an issue of vagueness here as there is not a tangible physical plan to be followed. Along these lines, the NC of Uganda takes it one step further and provides additional adaptation practices, which shall substantiate their presented adaptation options in the sectors of agriculture and food security, forestry and health. For instance, it says that the adaptation option of “providing organic farming” to adapt the sector of agriculture and food security to climate change should be achieved by the practice of increasing the proportion of soil vegetation cover amongst others. It can be noted that it nevertheless remains broadly framed. Burundi’s NC presents an action plan of adaptation, which assigns the achievement of nine central adaptation objectives to different ministries, as well as states budgets and time periods for the respective adaptation actions. The Rwandan NC document presents a detailed action plan for the water, agriculture and forestry sector. Whilst the action plan for the water sector gives seven additional areas of interventions, all of the three sector-specific action plans assign the responsibility of implementing the sector-specific adaptation measures to different ministries and present a time frame in which progress should be made. Such level of details can thus serve as a template for other countries tackling vaguely formulated actions.

When it comes to content-related coherence of adaptation priorities and implementation plans, Kenya again can be seen as a good example. Whilst its NC presents two technology options for the agricultural and water sector (e.g. the use of drought resistant sorghum) and proposes an enabling framework to achieve the adaptation priorities, the NAP goes one step further, offering specific short-, medium- and long-term sub-actions for each of the

identified 20 priority sectors. Arguably this type of action plan can be a good model as it takes into consideration limitations and obstacles that exist.

Determine & communicate on specific support needs

Following up from the broad formulation and communication of implementation plans, many of the examined national initiatives are extremely vague on their perceived needs and required support. The documents more or less state needs as continuously been financial, technical, need for cooperation between stakeholders, international organisations’ involvement, building awareness of climate change etc. As a fact, it is only the NCs of Kenya and Uganda that link their identified support needs to their presented implementing adaptation measures.

With regards to the lack of funding being the most popular implementation barrier, some national documents actually state the exact amounts needed to implement envisaged projects. As a slight difference, some initiatives actually just state an inclusive amount needed to adapt to climate change, for example, Uganda’s INDC states 2.4 billion USD will be needed to implement its total sectoral plans for the next 15 years.

Additionally, most of the documents remain very unclear on how to acquire funding for their respective implementation plans. In spite of this, Burundi’s NC is the only initiative that makes a specific proposal to maximise exploitation of the financial mechanisms of the institutional framework of the UN and the Kyoto Protocol, for instance, the Global Environmental Facility and the Clean Development Mechanism (CDM). Additionally, this same NC also calls for the establishment of a national adaptation fund, which bespeaks of Burundi’s diversified strategy in generating the

required funding for its climate change adaptation.

Nevertheless, it is to be noted that there exist some unique differences as well. In this order, the NC document of Burundi is the only one to recognise the needs of the vulnerable segments of the population and highlight the need for including women in the adaptation process. The INDC of Uganda is the only one to mention the need for mainstreaming gender.

Recommendations with regards to Article 7 have been given below as a guideline towards the preparation of future adaptation communications under the Paris Agreement. These recommendations shall guide the EAC member states in the ongoing negotiations on the Paris Agreement and touch upon the most important features of Article 7, namely how to coordinate the existing adaptation communication documents, how often they are published and which aspects are relevant when formulating the sections on priorities, implementation and support. Most importantly, the recommendations on adaptation communication take into account the key element of Article 7.10, trying not to “[create] any additional burden to developing country Parties” (UNFCCC, 2015).

Recommendations to be taken into account when negotiating climate adaptation communication

Taking into consideration the amount of resources that goes into the preparation of each document, two options could be taken into consideration when negotiating the new adaptation communication document: Firstly, all existing processes and analyses could be merged into one adaptation communication. Secondly, when

preparing the documents, the processes already in place could be coordinated to re-allocate the limited resources available. This would ensure that resources are more coherently and efficiently used, and that each document adds value to the adaptation communication (avoiding overlaps and perpetuating gaps).

The main objective for the negotiators should be to ensure that the operationalisation of the article 7 allows for the preparation of one (or more) adaptation communication document, that would not only save valuable (financial, data preparation and human capacity) resources, but also make adaptation communication more comprehensive and coherent. Hence, it creates no known additional burden for the EAC member states as required by Article 7.10 of the Paris Agreement.

The adaptation communication should be updated every five years as this allows a substantial time period for data gathering, the realisation of implementation plans and (internal and external) donation to support the adaptation efforts. As suggested by Article 7.10 of the Paris Agreement, information on the priorities, implementation and support needs in the adaptation process should be provided. In doing so, the following aspects should be kept in mind towards a new adaptation communication document.

Adaptation priorities

In lieu of this, the new adaptation communication document should have a clear list of sectoral priorities as focus falls accordingly to the most urgent needs first and descends appropriately. Short, medium and long-term plans should also be generated as stating a plan in such a manner allows for clear outcomes to be imagined.

Implementation plan

In order to fully and coherently implement adaptation actions, the adaptation communication should formulate sector specific implementation plans. These should be tailored to sectoral adaptation priorities, provide information on the time and financial frame and assign implementation responsibilities accordingly to different governmental ministries. In this case, it becomes easier for international stakeholders to get involved as they are well-informed on ministries and their different involvement.

Support allocation

To attract the required financial needs to implement specific adaptation options, an expected time period for implementation should always be clearly stated. Stating a time period gives for example, the UN body an idea on how urgent a goal is and what support they can give in that time frame. Also stating a specified amount of money makes it easier to evaluate the manner in which internal or external actors can be asked for assistance. Adaptation communication should also suggest specific sources of internal and external support (technical, capacity building, financial, etc.) that should be exploited.

Appendix

Table 1: Comparison of the adaptation communication documents of EAC member states

Rwanda			
	(Sectoral) Priorities	Implementation Plans	Support Needs
INDC	<ul style="list-style-type: none"> • Agriculture • Forestry • Tourism • Water • Land use • Cross-cutting sector 	<p>Agriculture Sector</p> <ul style="list-style-type: none"> • Add value to agricultural products through processing to meet its own market demand for food stuffs • Mainstreaming sustainable pest management techniques <p>Forestry Sector</p> <ul style="list-style-type: none"> • Promote afforestation/reform station of designated areas through enhanced germplasm and technical practice • Employ Improved Forest Management for degraded forest resources <p>Tourism Sector</p> <ul style="list-style-type: none"> • Promote business conferences in efforts to maximise the distribution and volume of business travellers throughout the year <p>Water Sector</p> <ul style="list-style-type: none"> • Develop water resource models, improved meteorological services, water quality testing, and improved hydro- related information management <p>Land use Sector</p> <ul style="list-style-type: none"> • Improve spatial data by harnessing ICT and GIS (Geographic Information System) technology <p>Cross Cutting Sector</p> <ul style="list-style-type: none"> • Conduct risk assessments and vulnerability mapping <p>There are more sectoral implementation plans that exist and look at pp. 3-13 for a more</p>	<p>For implementation to be successful countries need to be supported in the following areas of:</p> <ul style="list-style-type: none"> • Finance • Capacity building • Technology transfer

		detailed and extensive list.	
NAPA	<p>NAPA provides a priority list instead of sectoral priorities:</p> <p>Priority n°1: Integrated water resources management (IWRM)</p> <p>Priority n°2: Set up information systems for hydro agrometeorological early warning system and rapid intervention</p> <p>Priority n°3: Promotion of non-agricultural income generating activities</p> <p>Priority n°4: Promotion of intense agro-pastoral activities</p> <p>Priority n°5: Introduction of species adapted to environmental conditions</p> <p>Priority n°6: Development of energy alternative sources to firewood</p>	<p>Following up from the priority lists, priority aims have been created:</p> <p>Priority n°1 aim: Reduce the vulnerability of ecosystems, population and sectors.</p> <p>Priority n°2 aim: Improve information systems of hydro agrometeorological early warning system mechanism and rapid intervention, and reduce population and sectors exposure to the risks of extreme events and climate catastrophes.</p> <p>Priority n°3 aim: Increase the adaptation capacity of rural population vulnerable to climate change through the promotion of non-agricultural income generating activities.</p> <p>Priority n°4 aim: Improve the adaptation capacity of farmers and pastoralists vulnerable to climate change through setting up agro-sylvo-pastoral systems adapted to real land vocations.</p> <p>Priority n°5 aim: Improve adaptation capacity to climate change for farmers and foresters through promotion of adapted farming techniques and the introduction of resistant species to environmental conditions.</p> <p>Priority n°6 aim: Reduce forests overexploitation and degradation through promotion of energy sources alternative to wood.</p> <p>Additionally, seven priority projects have been developed as added plans. Look at pp. 58- 77 for a more in-depth understanding of these projects.</p>	<p>Support is needed in:</p> <ul style="list-style-type: none"> • Increasing coordination process and intersectional concertation • Reinforcement of organisational capacities and human resources at national, provincial and district levels • Gaining access to funding these projects <p>Precise amounts for funding projects can be found on pp. 58 -77.</p>
NC	<ul style="list-style-type: none"> • Agriculture • Forest • Water • Food security • Health • Fish farming • Animal husbandry 	<p>Agriculture Sector</p> <ul style="list-style-type: none"> • Development of early varieties (maize, beans etc.) that give high yield and are resistant to drought, diseases and harmful insects • Introduction of technologies and improved methods in agriculture <p>Forestry Sector</p> <ul style="list-style-type: none"> • Harvested Wood Product Management • Reforestation 	<p>Support is required in the following areas of need:</p> <ul style="list-style-type: none"> • Sufficient local and foreign direct investment • Increase technical know-how for the implementation, maintenance and development of new technologies • Raise awareness of population in the field of climate • Establish an efficient M&E system • Establish national and provincial committees on climate change

		<p>Water Sector</p> <ul style="list-style-type: none"> • Strengthening a friendly political, legislative and institutional framework in the management and protection of water resources • Water conservation <p>Food Security (highlights old and presents new strategies)</p> <ul style="list-style-type: none"> • Help farmers to join the circuit of production, processing and marketing • Create non-farming employment in areas vulnerable of climate change • Resume techniques for food storage, procession and preservation <p>Health Sector</p> <ul style="list-style-type: none"> • Strengthen hydro agrometeorological information warning system <p>Fish Farming Sector</p> <ul style="list-style-type: none"> • Protection of the wetlands by prohibiting farmers from growing crops within 50 meters from the lake shores <p>Animal Husbandry Sector</p> <ul style="list-style-type: none"> • Adopt stall feeding and provide a cow per family to produce organic manure <p>n.b. For the water sector, the document presents a detailed action plan for the implementation of adaptation measures (cf. pp. 116-121).</p> <p>For the agricultural, forestry and health sector, specific information on the implementation of the adaptation measures are provided (cf. p. 133; p. 142; pp. 150-152).</p>	<ul style="list-style-type: none"> • Establish a structure for coordination incorporating different stakeholders
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Uganda

	(Sectoral) Priorities	Implementation Plans	Support Needs
INDC	<ul style="list-style-type: none"> • Agriculture • Forestry • Water 	<p>Agriculture Sector</p> <ul style="list-style-type: none"> • Expanding value addition, post-harvest handling, storage and access to markets 	Support is required to meet the following needs:

	<ul style="list-style-type: none"> • Infrastructure (incl. Human settlement, transport, social infrastructure) • Energy • Health • Risk management (esp. in urban areas) 	<p>Forestry Sector</p> <ul style="list-style-type: none"> • Encouraging agro-forestry <p>Water Sector</p> <ul style="list-style-type: none"> • Improving water efficiency <p>Infrastructure (including human settlements, social infrastructure and transport) Sector</p> <ul style="list-style-type: none"> • Investing in making existing and new buildings more resilient <p>Energy Sector</p> <ul style="list-style-type: none"> • Promoting renewable energy and other energy sources <p>Health Sector</p> <ul style="list-style-type: none"> • Strengthening public health systems by building hospitals (including regional referral hospitals) and supplying them with medicine, equipment and well-trained personnel <p>Risk management (particularly in urban areas) Sector:</p> <ul style="list-style-type: none"> • Identifying better drainage plans <p>For the full list of Priority Adaptation Actions, look at pp. 5-7.</p>	<ul style="list-style-type: none"> • Finances: The total adaptation cost in the adaptation priority sectors is estimated at around United States dollars 2.4 billion over the next 15 years • Access to clean technologies • Involvement of the public and private sector • Research into climate smart and sustainable agricultural practices • Improved national policies and legislation • Building of climate information systems • Mainstreaming gender into development policies, plans and strategies • Support of international stakeholders
NAPA	<ul style="list-style-type: none"> • Forestry sector • Weather/climate information • Water resources • Agriculture • Wildlife • Health 	<p>Forestry Sector</p> <ul style="list-style-type: none"> • Promote tree-growing in farmland • Integrate climate change issues into the sectoral planning and implementation <p>Weather/climate information Sector</p> <ul style="list-style-type: none"> • Expansion of weather observing infrastructure (networks) • Promotion of multimedia approach to dissemination of weather and climate information <p>Water Resources Sector</p>	<p>Support is needed for:</p> <ul style="list-style-type: none"> • Adequate understanding of climate change and its impacts • Adequate technical capacity • Adequate financial resources. The estimated cost of implementing the nine NAPA projects is at US\$39.8m. However, it was recognised that financial resources may be limited and therefore the activities may only be implemented in limited but very high-risk areas. The total cost drops down to US\$23.3m, starting with the high priority first (pp. 51- 66 contain specific financial

		<ul style="list-style-type: none"> • Scaling-up of safe water supply and sanitation using appropriate technologies • Develop and promote drought tolerant and early maturing plant varieties and animal breeds <p>Wildlife Sector</p> <ul style="list-style-type: none"> • Promote use of trees in demarcation of PAs • Enhance water supply to communities adjacent to PAs <p>Health Sector</p> <ul style="list-style-type: none"> • Improvement and expansion of health infrastructure <p>n.b. Nine projects can be found on pp. 51-66.</p>	<p>needs for each project).</p> <ul style="list-style-type: none"> • Strong institutional and coordinating mechanisms
NC	<ul style="list-style-type: none"> • Agriculture/Food security • Forestry • Water • Fisheries • Health • Biodiversity 	<p>Agriculture/Food Security Sector</p> <ul style="list-style-type: none"> • Soil conservation • Organic farm practices <p>Forestry Sector</p> <ul style="list-style-type: none"> • Restauration of forests <p>Water Sector</p> <ul style="list-style-type: none"> • Carry out a nationwide sensitisation, physical wetlands boundary demarcation and restoration/gazettement of all vital wetlands <p>Fisheries Sector</p> <ul style="list-style-type: none"> • Conserve water, particularly during droughts through careful use and good agricultural management practices <p>Health Sector</p> <ul style="list-style-type: none"> • Maintain on-going surveillance in the affected districts and those prone to impacts from adverse weather patterns to ensure early detection of epidemics • Promote improving latrine coverage, access to safe water, provision of insecticide treated mosquito nets 	<p>Support needs for adaptation in agriculture:</p> <ul style="list-style-type: none"> • Increased support to agricultural research • Strengthened linkage between agricultural research, agricultural extension and advisory services and farmers • Provide necessary technical and financial support to the concerned government department and agencies • Mandatory enforcement of ordinances • Capacity building of technical staff in local communities • Build awareness about climate change among population • Promote village credit services and savings to enable farmers easy access to loans to acquire adaptation technologies <p>Specific needs in the health, water and biodiversity sector can be found on pp. 133-135.</p>

Biodiversity Sector

- Conserve the habitat, particularly during droughts through careful use and good management practices

n.b. To achieve adaptation in the agricultural/food security and forestry sector, the NC provides additional sector-specific adaptation options that shall guide the implementation of the broad adaptation options (cf. p. 88). For the health sector, the document presents three projects which have been instrumental in the implementation of the adaptation measures (cf. p.103).

Burundi

	(Sectoral) Priorities	Implementation Plans	Support Needs
INDC	<ul style="list-style-type: none"> • Water • Energy • Forestry • Agriculture and livestock <p>In addition to the sectors in need of adaptation, the INDC identifies the following two national priority adaptation programmes as part of the national strategy and action plan of adaptation to climate change:</p> <ul style="list-style-type: none"> • Climate risk adaptation and management • Capacity-building, knowledge management and communication 	<p>Water Sector</p> <ul style="list-style-type: none"> • Water control with a view to increasing agricultural and livestock production <p>Energy Sector</p> <ul style="list-style-type: none"> • Hydroelectrical production through developments adjusted to align with the successive growth phases of the Burundian economy <p>Forestry Sector</p> <ul style="list-style-type: none"> • Development and rational management of forest resources: raising the forest cover rate to 20% by 2025 • Human and institutional capacity building <p>Agriculture and Livestock Sector</p> <ul style="list-style-type: none"> • Management and sustainability capacity-building in the agricultural sector in order to transform subsistence farming into profitable market agriculture managed by professionals • Introduction of smart agriculture <p>Climate Risk Adaptation and Management Programme</p>	<p>The following needs require support:</p> <ul style="list-style-type: none"> • Finances • Human and institutional capacity-building • Technical and technology transfer

		<ul style="list-style-type: none"> • Protection of aquatic and land-based ecosystems • Coaching of the population to develop their resilience to climate change <p>Capacity-building, Knowledge Management and Communication Programme</p> <ul style="list-style-type: none"> • Reinforcement of climate change impact tracking systems by means of observations and investigations • Strengthening of the information and data communication and exchange system 	
NAPA	<p>Does not specify objectives based on sectors, but gives 14 prioritised options. For example:</p> <ul style="list-style-type: none"> • Improve the seasonal early warning climate forecasts • Preserve existing woodlots and reforest the stripped zones • Reinforce the management of the existing protected areas and protect the threatened and vulnerable natural ecosystems • Popularise rainwater harvesting techniques for agricultural or domestic use • Establish and protect strategic buffer zones in the floodplain of Lake Tanganyika and around the lakes of Bugesera <p>Full list of options can be found on p. 23.</p>	<p>The provided information on implementation actions are not linked to the identified priority options, but are instead presented in project format:</p> <p>PROJECT 1: Support Climate Forecasts for Early Warning</p> <p>PROJECT 2: Rehabilitation of Degraded Areas</p> <p>PROJECT 3: Safeguarding the most Vulnerable Natural Environments</p> <p>PROJECT 4: Rainwater Valorisation</p> <p>PROJECT 5: Erosion Control in the Area of Mumirwa</p> <p>PROJECT 6: Protection of the Buffer Zones in Lake Tanganyika Floodplain and around the Lakes of Bugesera</p> <p>PROJECT 7: Popularisation of Short Cycle and/or Dryness Resistant Food Crops</p> <p>PROJECT 8: Zero-Grazing Cattle Breeding</p> <p>PROJECT 9: Capacity Building to Promote Energy-Wood Saving Techniques</p> <p>PROJECT 10: Stabilisation of River Dynamics of River Courses in Mumirwa and Imbo</p> <p>PROJECT 11: Education to Climate Change Adaptation</p>	<p>Support is required to meet the needs in the following areas:</p> <ul style="list-style-type: none"> • Finances • Weak institutional framework of implementation.

		PROJECT 12: Promotion of Hydropower Micro Stations.	
NC	<ul style="list-style-type: none"> • Agriculture • Livestock • Health • Integrated water management • Wet/land ecosystems and biodiversity • Protect landscapes and soils 	<p>Agriculture Sector</p> <ul style="list-style-type: none"> • Retaining rain water to use it for irrigation in dry season • Developing and vulgarising appropriate techniques to conserve agricultural products and promote stable livestock to increase productivity and food security <p>Livestock Sector</p> <ul style="list-style-type: none"> • Introduction of agro-industrial products when feeding the livestock • Adopting livestock in zero grazing accompanied by growing fodder on contour lines, keeping short-cycle animals such as rabbits, pigs etc. <p>Health Sector</p> <ul style="list-style-type: none"> • Vulgarise mosquito nets • Improve warning systems of disasters <p>Integrated Water Management</p> <ul style="list-style-type: none"> • Use of rain water • Establish integral system of basins to conserve water and soil <p>Wet/land Ecosystems and Biodiversity Sector</p> <ul style="list-style-type: none"> • Rehabilitate the degraded areas • Preserve areas of nature <p>Protect Landscapes and Soils</p> <ul style="list-style-type: none"> • Assure establishment and integrated management of the coast of lake Tanganyika <p>n.b. The NC presents an action plan of adaptation which assigns the responsibility for the achievement of the implementation for nine priority adaptation objectives to different ministries, as well as gives a concrete time and financial frame for the</p>	<p>Support is required to meet the following conditions on implementation:</p> <ul style="list-style-type: none"> • Financial support by international community • Exploiting financial mechanisms of the institutional framework of the UN and the Kyoto Protocol, for instance the Global Environment Facility (GEF) and the Clean Development Mechanism (CDM) • Coordination of implementation plans within responsible ministries • Collaboration between governmental and society organisms in the implementation process • Strengthen the role of women in the implementation process • Strengthening the technical ministers in charge of vulnerability assessments, adaptation projects and their implementation • Establish a national adaptation fund

achievement of the objectives for each sector (cf. pp. 148-149).

Kenya

(Sectoral) Priorities

Implementation Plans

Support Needs

INDC

- Public sector reforms
- Human Resource Development, Labour and Employment sector
- Infrastructure sector
- Land Reforms sector
- Education and training sector
- Health sector
- Environment sector
- Water and irrigation sector
- Population, urbanisation and housing sector
- Gender, Vulnerable Groups and Youth sector
- Tourism sector
- Agriculture, livestock development and fisheries sector
- Private Sector/ Trade; Manufacturing; Business Process Outsourcing, Financial services sector
- Oil and mineral resources sector
- Devolution

- Public Sector Reforms**
- Integrate climate change adaptation into the public-sector reforms
- Human Resource Development, Labour and Employment Sector**
- Enhance adaptive capacity and resilience of the informal private sector.
- Infrastructure Sector**
- Climate proofing of infrastructure (energy, transport, buildings, ICT)
- Land Reforms Sector**
- Mainstream climate change adaptation in land reforms
- Education and Training Sector**
- Enhance education, training, public awareness, public participation, public access to information on climate change adaptation across public and private sectors
- Health Sector**
- Strengthen integration of climate change adaptation into the health sector
- Environment Sector**
- Enhance climate information services. Enhance the resilience of ecosystems to climate variability and change
- Water and Irrigation Sector**
- Mainstream of climate change adaptation in the water sector by implementing the National Water Master Plan (2014)

- Support is required by:
- Domestic and international stakeholders
 - Finance: It is estimated that over USD 40 billion is required for mitigation and adaptation actions across sectors up to 2030
 - Technology development and transfer
 - Capacity-building

		<p>Population, Urbanisation and Housing Sector</p> <ul style="list-style-type: none"> Enhance the adaptive capacity of the population, urbanisation and housing sector <p>Gender, Vulnerable Groups and Youth Sector</p> <ul style="list-style-type: none"> Strengthen the adaptive capacity of the most vulnerable groups and communities through social safety nets and insurance schemes <p>Tourism Sector</p> <ul style="list-style-type: none"> Enhance the resilience of the tourism value chain <p>Agriculture, Livestock Development and Fisheries Sector</p> <ul style="list-style-type: none"> Enhance the resilience of the agriculture, livestock and fisheries value chains by promoting climate smart agriculture and livestock development <p>Private Sector/ Trade; Manufacturing; Business Process Outsourcing, Financial Services Sector</p> <ul style="list-style-type: none"> Create enabling environment for the resilience of private sector investment, demonstrate an operational business case <p>Oil and Mineral Resources Sector</p> <ul style="list-style-type: none"> Integrate climate change adaptation into the extractive sector <p>Devolution</p> <ul style="list-style-type: none"> Mainstream climate change adaptation into county integrated development plans and implement the Ending Drought Emergencies Strategy 	
NC	Identical to INDC	<p>Identical to INDC</p> <p>n.b. For the agricultural and water sector, the NC presents two technology options and their implementation framework which should be implemented to achieve the adaptation priorities (cf. pp. 228-229):</p> <ul style="list-style-type: none"> Promote drought resistant sorghum Promote drip irrigation Promote roof rain water harvesting 	<p>Support needs to implementation of new technologies:</p> <ul style="list-style-type: none"> High cost of purchase, installation and maintenance Weak policies and lack of standards Limited information and awareness Lack of information on the implementation costs of adaptation options <p>For specific areas of need for domestic and external funding, look</p>

		<ul style="list-style-type: none"> Promote surface runoff water harvesting (community level) 	<p>at p. 224.</p> <p>To successfully implement the proposed framework in the agricultural and water sector, specific needs which must be overcome are presented (cf. pp. 228-229).</p>
<p>NAP</p>	<p>Adaptation priorities are organised under the national transformation, economic, social and political pillars:</p> <ul style="list-style-type: none"> Devolution Energy Science, Technology and innovations Public sector reforms Human Resource Development, labour and employment Infrastructure Land reforms Education and Training Health Environment Water and Sanitation Population, Urbanisation and Housing Gender, Vulnerable Groups and Youth sector: Tourism Agriculture Livestock Development Fisheries Private sector/trade; manufacturing, business process outsourcing, financial services Oil and mineral resources Cross cutting MTP (medium term plan) sector 	<p>To implement the priority adaptation actions stated below, the NAP offers sector specific short-, medium and long-term sub-actions (cf. pp. 22-42).</p> <p>Devolution</p> <ul style="list-style-type: none"> Mainstream climate change adaptation into County integrated development plans and other county plans <p>Energy Sector</p> <ul style="list-style-type: none"> Enhance implementation of an energy generation mix plan that increases the resilience of the current and future energy systems to the impacts of future climate variability and change <p>Science, Technology and Innovations Sector</p> <ul style="list-style-type: none"> Support innovation and development of appropriate technologies and capacity that promote climate resilient development <p>Human Resource Development, Labour and Employment Sector</p> <ul style="list-style-type: none"> Enhance adaptive capacity and resilience of the informal sector <p>Infrastructure Sector</p> <ul style="list-style-type: none"> Enhance climate proofing of infrastructure <p>Land Reforms Sector</p> <ul style="list-style-type: none"> Mainstreaming climate change adaptation in land reforms <p>Education and Training Sector</p> <ul style="list-style-type: none"> Mainstream climate change adaptation in education and training 	<p>For the implementation of each priority action, the NAP states specific support needs which must be overcome (cf. pp. 22-42). These needs include:</p> <ul style="list-style-type: none"> Rising awareness Building capacity Financing Research

Health Sector

- Strengthen integration of climate change adaptation into the health sector

Environment Sector

- Mainstream climate change adaptation in the environment sector

Water and Sanitation Sector

- Mainstreaming of climate change adaptation in the water sector

Population, Urbanisation and Housing Sector

- Enhance the adaptive capacity of the population, urbanisation and housing sector

Gender and Youth Sector

- Strengthen the adaptive capacity of vulnerable groups

Tourism Sector

- Enhance the resilience of the tourism value chain

Agriculture Sector

- Enhance the resilience of the agricultural value chain

Livestock Development Sector

- Enhance the resilience of the livestock value chain

Fisheries Sector

- Enhance the resilience of the fisheries value chain

Private sector/trade; Manufacturing, Business Process Outsourcing, Financial Services

- Create enabling environment for the resilience of private sector investment

Oil and Mineral Resources Sector

- Integrate climate change adaptation into the oil and mineral resource sector

Cross Cutting MTP (medium term plan) Sector

- Fast track the implementation of the ending drought emergencies (EDE) common programme framework

Tanzania

	(Sectoral) Priorities	Implementation Plans	Support Needs
INDC	<ul style="list-style-type: none"> • Agriculture • Livestock • Forestry • Energy • Coastal, Marine Environment and Fisheries • Water Resources • Tourism • Human settlements • Health 	<p>Agriculture Sector</p> <ul style="list-style-type: none"> • Strengthening the capacity of Agricultural research institutions to conduct basic and applied research <p>Livestock Sector</p> <ul style="list-style-type: none"> • Promoting livelihood diversification of livestock keepers <p>Forestry Sector</p> <ul style="list-style-type: none"> • Enhancing efficiency in wood fuel utilisation <p>Energy Sector</p> <ul style="list-style-type: none"> • Enhancing the use of renewable energy potential across the country (hydro, solar, wind, biomass and geothermal) <p>Coastal, Marine Environment and Fisheries Sector</p> <ul style="list-style-type: none"> • Strengthening key fisheries management services for sound development and management of the fishery sector for resilience creation <p>Water Resources Sector</p> <ul style="list-style-type: none"> • Promoting waste water reuse and recycling technologies <p>Tourism Sector</p> <ul style="list-style-type: none"> • Promoting diversified tourist attractions (e.g., eco-tourism and cultural tourism) 	<p>Support is required in:</p> <ul style="list-style-type: none"> • Timely access to adequate and predictable financial resources • Access to appropriate technologies • Access to appropriate knowledge and skills • Institutional capacity building. • Enhanced capacity in early- warning systems across sectors • Improved research and systematic observations • Improved climate change institutional capacity and coordination

		<p>Human Settlements</p> <ul style="list-style-type: none"> • Construction and rehabilitation of drainage systems in respond to frequent and high intensity floods <p>Health Sector</p> <ul style="list-style-type: none"> • Integrating climate change adaptation action into health sector policies, plans and programmes <p>Full list of intended plans can be found on pp. 4-5.</p>	
<p>NAPA</p>	<ul style="list-style-type: none"> • Agriculture Sector • Livestock Sector • Forestry Sector • Water Sector • Coastal and marine resources Sector • Health Sector • Wildlife Sector • Industry Sector • Energy Sector • Wetlands Sector • Human Settlement Sector • Land use Sector • Tourism Sector 	<p>Agriculture Sector</p> <ul style="list-style-type: none"> • Change crop rotation • Strengthen early warning system <p>Livestock Sector</p> <ul style="list-style-type: none"> • Integrate pest and disease control • Advocate zero grazing <p>Forestry Sector</p> <ul style="list-style-type: none"> • Establish multiple fast-growing tree species in community woodlots • Develop community forest fire prevention plans and programmes <p>Water Sector</p> <ul style="list-style-type: none"> • Strengthen integrated water resources management • Promote of community based catchments conservation and management programmes <p>Coastal and Marine Resources Sector</p> <ul style="list-style-type: none"> • Restoration of degraded habitats e.g., beach nourishment, mangrove replanting, stimulation of coral reefs growth • Construction of artificial structures, e.g. sea wall and coastal drain beach management system <p>Health Sector</p> <ul style="list-style-type: none"> • Strengthen malaria control programme 	<p>Support is required to obtain:</p> <ul style="list-style-type: none"> • Finances: Full (project finances on pp. 38- 49) • Technical assistance from national and International community • Desired local personnel who can effectively analyse the threats and potential impacts of climate change

		<ul style="list-style-type: none"> • Ensure availability of sufficiently trained staff <p>Wildlife Sector</p> <ul style="list-style-type: none"> • Combating illegal hunting and forest fires • Enhance capacity building on wildlife management for sustainable development <p>Industry Sector</p> <ul style="list-style-type: none"> • Promote industrial self-energy production and use • Promote cleaner production technologies <p>Energy Sector</p> <ul style="list-style-type: none"> • Enhance natural gas utilisation • Develop community based mini-hydropower <p>Wetlands Sector</p> <ul style="list-style-type: none"> • None <p>Human Settlement Sector</p> <ul style="list-style-type: none"> • Establish a disaster planning framework • Relocation of vulnerable communities to other areas <p>Land Use sector</p> <ul style="list-style-type: none"> • Encourage terracing, contour farming • Use of organic manure <p>Tourism Sector</p> <ul style="list-style-type: none"> • Implement sustainable tourism activities • Relocation of people living in wildlife corridors <p>Six priority projects can be found on pp. 38-49.</p>	
NC	<ul style="list-style-type: none"> • Agriculture • Forestry • Wildlife • Tourism 	<p>Agriculture Sector</p> <ul style="list-style-type: none"> • Improve irrigation technologies and promote use of appropriate fertilisers • Strengthen weather forecast information 	<p>Support needs to be addressed to implement adaptation options:</p> <ul style="list-style-type: none"> • Shortage of technological information

	<ul style="list-style-type: none"> • Water • Health 	<ul style="list-style-type: none"> • Development of crop insurance strategy <p>Forestry Sector</p> <ul style="list-style-type: none"> • Afforestation programmes in degraded and non-degraded lands using more adaptive species • Enhancement of forest seed banks and the development of new plant varieties <p>Water Sector</p> <ul style="list-style-type: none"> • Exploration of appropriate and affordable water recycling technologies • Protection and restoration of ecosystems that provide critical land and water resources and services <p>Wildlife Sector</p> <ul style="list-style-type: none"> • Fire Control to minimise degradation and disturbances of the natural vegetation cover • Removal of impediments to migrations (road systems) and colonisation <p>Tourism Sector</p> <ul style="list-style-type: none"> • Robust interconnected habitats • Diversification of tourist attractions <p>Health Sector</p> <ul style="list-style-type: none"> • Initiate integrated disease vector adaptation technologies • Establish early warning systems 	<ul style="list-style-type: none"> • Lack access to information • No awareness which technologies are appropriate • Limited technical and institutional capacity • Shortage of capital ⇔ dependence on financial support from the international community • Decline of research funds • Absence of protection for intellectual property rights (IPR) <p>n.b. For the health sector, specific barriers to the implementation of the adaptation measures are presented (cf. p.85)</p>
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PROMOTING AGRICULTURE, CLIMATE AND TRADE LINKAGES IN THE EAST AFRICAN COMMUNITY – PHASE 2

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The PACT EAC2 project is undertaken with funding support from the Swedish International Development Cooperation Agency (Sida).