



REPUBLIC OF KENYA
MINISTRY OF ENVIRONMENT AND FORESTRY
Climate Change Directorate

National Climate Change Action Plan (2018-2022)

County Consultation:
Mount Kenya and Aberdares Counties Trade and Investment Bloc



17th April 2018
Isaak Walton Hotel, Embu

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Meeting Report

1. Summary of Climate Change Issues and Priority Actions

Issue	Priority Actions
Industrialization	<ul style="list-style-type: none"> ▪ Water recycling ▪ Subsidies for drip irrigation ▪ Zoning of industrial areas (undertaken by County Governments)
Infrastructure	<ul style="list-style-type: none"> ▪ Green building technologies and regulations ▪ Climate proofing of infrastructure – such as concrete poles for powerlines ▪ Water harvesting / Capture of road run-off – Isiolo-Moyale road ▪ Regulations for water harvesting - roof tops ▪ Invest in riverbank conservation and on-farm soil and water conservation to prevent silt runoff from poor farming methods that impact effectiveness of dams (e.g., Seven Falls Dam in Thika) ▪ Discourage open canals for irrigation ▪ Enforce existing regulations – such as EIA
Information, Communication and Technology (ICT)	<ul style="list-style-type: none"> ▪ Early warning systems, information centres for farmers, introduction of digital data programs, packaging of CIS information for farmers (such as Digi-farm in Kirinyaga County) ▪ Explore tax and fiscal incentives for use of ICT to reduce GHG emissions ▪ Invest in electronic waste management through partnerships
Gender	<ul style="list-style-type: none"> ▪ Promote gender-friendly water conservation measures ▪ Promote gender-friendly agroforestry – fruit and fodder trees ▪ Provide livelihood options/diversification for women and men, both on- and off-farm and options that extend across seasons ▪ Address land ownership issues ▪ Invest in high-value crops ▪ Consider how to involve both genders in climate change action ▪ Empower women through information; improve women's access to training; improve women's input to decision making ▪ Consider gender-based budgeting
Agribusiness	<ul style="list-style-type: none"> ▪ Use of KMD climate data and information – increase coverage of meteorological stations and awareness creation/training ▪ Conservation of water catchment areas ▪ Technology innovations such as climate-smart agriculture, hydroponics, dairy goats, pest and disease resistant crops ▪ Promote urban agriculture
Tourism	<ul style="list-style-type: none"> ▪ Promote REDD+ and purchase of credit credits ▪ Develop clear boundaries between human habitats and wildlife ▪ Broaden tour packages and products ▪ Promote ecotourism
Health	<ul style="list-style-type: none"> ▪ Promote family planning methods ▪ Promote forestry and afforestation ▪ Disaster management and preparation ▪ Research the link between health and climate change
Forestry	<ul style="list-style-type: none"> ▪ Counties have surpassed or working toward 10% tree cover ▪ Ensure trees are growing in secure places that can be protected/ enclosed to ensure accountability such as schools and public areas ▪ Tree planning – support for seedlings, consider partnerships, e.g., Findlays.

	<ul style="list-style-type: none"> ▪ School greening programmes; twin program officers with ECDs so that children work alongside environmental officers to plant trees, form environmental clubs in primary schools, provide County awards for best survival percentage of tree seedlings, provide water so that schools can maintain trees, hold an environment day. ▪ On-farm forestry by issuing farmers with seedlings; recruit farmers to plant trees, work with Association of Small-scale Farmers (¼ hectare); provide incentives to farmers for tree planting, monitor and track progress; work in partnerships, such as tea factories ▪ Provision of seedlings from KEFRI and KFS, ▪ Promote youth-based planting of certified seedlings. ▪ Ensure contractors for tree planting maintain trees for at least 6 months and report on survival rate. ▪ Provide water tanks. ▪ Partner with CBOs to promote tree planting. ▪ Rehabilitate rivers and conservation of riparian areas
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County Consultations supported by:

Supported by:



2. Introduction

Dr. Harun Warui, Low Emission Climate Resilient Development (LECRD) Project, Ministry of Environment and Forests (MEF) opened the meeting and welcomed participants from CoG, and the County Governments of Embu, Meru, Muranga, Nyeri, Tharaka Nithi, Kirinyaga, Nyandarua and Nakuru.

He welcomed participants on behalf of the Principal Secretary, Mr. Charles Sunkuli. HE noted the importance of consultation and participatory processes in developing the second National Climate Change Action Plan (NCCAP) for the 2018-2022 time period. He noted the Climate Change Act mandates the development of an action plan, which is the responsibility of the Climate Change Directorate (CCD) that is housed in the MEF. He noted that the objectives of the meeting were to:

- Sensitize the County Governments on the NCCAP 2018-2022 process; and
- Get actions and feedback from the Counties; and identify priority actions.

Mr. Michael Okumu, Climate Change Directorate (CCD), MEF, provided opening remarks. He discussed the impacts of climate change, that droughts and floods are occurring more frequently and with greater intensity. At the grassroots, livelihoods are impacted. Kenya has a robust policy framework for climate change, including the Climate Change Act (No. 11 of 2016). The Act establishes a National Climate Change Council that is chaired by the President of the Republic of Kenya. The Chair of the Council of Governors is a member of the Council, along with representatives from the private sector, civil society, marginalised groups and academia. The Act establishes the CCD that coordinates climate change actions, provides technical support to the counties, and is the Secretariat to the Council. The Act also establishes the Climate Change Fund. The NCCAP is the tool for climate change action in Kenya and is the implementation tool for the Nationally Determined Contribution (NDC) under the United Nations Framework on Climate Change (UNFCCC).

Mr. Nicholas Kunga, Chief of Staff of Environment and Natural Resource, Embu County, representing the CEC who was to speak on behalf of the Governor. Effective mainstreaming at the county level requires consultations in line with the requirements of the Kenya's Constitution. The impacts of climate change are known – unpredictable and irregular rainfall, more frequent drought, heavy rains during the short rainy season. ASALS are particularly hard hit impacting households and livelihoods.

Embu County is impacted, particularly the two sub-counties in the ASAL areas that are suffering from water shortage. Embu has a range of climates, and thus suffers from floods, dry spells and erratic rains, and rivers are drying up. Embu relies on agriculture as the backbone of the economy, and 50% of people derive their livelihoods from crops. Despite this, an estimated 20% of households in Embu County are considered food insecure, mainly between April and June. Only 5% of the county is under irrigation – there is great potential to increase irrigation and for water storage. Lack of early warning systems is a stumbling block, and there is a need for additional weather stations.

Embu County is working with partners to address climate change. An example is a partnership with the Japanese Government for sustainable forest management. He stressed the importance of forests for food security and livelihoods; and noted Embu County is working with the private sector to promote improved seedlings, sustainable production of timber, fruit production and the development of Forest Management Plans. Civil society is active, who are important players, including in helping Embu County promote afforestation. An investors conference in early April 2018 resulted in the signing of MOUs with companies to undertake programmes on clean energy and waste management. By 2022, Embu County intends to have several projects underway including solar energy and cookstoves. It is important for the Counties to learn from one another and take collective action because climate change has no boundaries.

3. Presentations on Climate Change Implementation Status in Kenya

Mr. David Nyantika, Ministry of Water and Sanitation, Member of the Task Force on the National Climate Change Action Plan (2018-2022), provided an overview of climate change implementation in Kenya. He noted that climate change is a shared responsibility for the National and County Governments. He reviewed the institutional framework for climate change, noting that the County Governments are expected establish climate change desks. HE reviewed the roles of responsibilities of County Governments as set out in the Climate Change Act, including mainstreaming of climate change in County Integrated Development Plans (CIDPs), and annual reporting on climate change to the CCD. He reviewed the process of updating the NCCAP as set out in the Climate Change Act and discussed a proposed outline for the NCCAP. He noted that challenges in a watershed required interdisciplinary groups. He set out the requests to the Counties:

- Support the consultation process for the NCCAP,
- Ensure that climate change is mainstreamed in the CIDPs.
- Designate CECs to be in charge of climate change affairs and establish cross-sectoral climate change implementation committees.
- Consider a COG/CEC committee on climate change
- Take note of climate change reporting requirements in the Climate Change Act
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Picture 1 Mr Nyatika presenting NCCAP 2018-2022 Process to participants

Ms. Annpatliz Wambui Mwhiki, Programme Office, Council of Governors, provided a presentation on the CoG and climate change. She noted that the CoG is not an implementing entity, but a coordinating entity. The Climate Change Act and updated NCCAP will create strong links between the CCD and CoG leading to improved coordination and implementation of climate change actions. The Council provides a forum for consultations among the County Governments. The Water, Forestry and Mining Committee provides advice on matters relating to. Inter alia, climate change. She noted that the CIDP guidelines state the climate must be mainstreamed. Kisumu has a climate change department. CoG is developing a climate policy for mainstreaming environment and climate change activities through collaboration with the National Government (CCD). Various counties are working with accredited agencies to develop proposals to attract support from the Green Climate Fund (GCF). The CoG collects and shares innovation and best practices from the Counties through the Maarifa Centre. Forty-two counties have designated a CEC member to be responsible for climate change in accordance with the requirements of the Climate Change Act. The CoG supports other programmes and projects to enhance climate change adaptation and mitigation, including the Kenya Climate Smart Agriculture Programme. Some of the challenges include lack of funding for committees, e.g., many environment committee are not operational.

Dr. Warui noted that county governments can request training from Kenya School of Governments. He noted that the NCCAP (2018-2022) is the roadmap for NDC implementation.

4. Identification of Priority Climate Change Actions

The groups reported back to the plenary on the results of the break-out sessions, with reports back summarized below, and the full reports included in Annex 1 of this report.

Group 1 reported on industrialization, infrastructure and Information, Communication and Technology (ICT).

Industrialization

Issues/Challenges: GHG emissions and other emissions of other pollutants

Opportunities/Actions:

- Agro-forestry and clean energy sources (hydro, geothermal, wind, solar, etc.) in the tea sector. Such as Mathioya Hydro project for three tea factories
- Promote carbon sinks – planting of trees near industries and urban centres
- Introduction of fruit trees

Issues/Challenges: Water pollution and water shortages

Opportunities/Actions:

- Water recycling
- Subsidies for drip irrigation
- Zoning of industrial areas (undertaken by County Governments)

Infrastructure

Issues/Challenges: Destruction of infrastructure, roads power lines, dams

Opportunities/Actions:

- Green building technology (examples include Strathmore University, Enaishapai, UTANRMP) and regulations
- Climate proofing of infrastructure – such as concrete poles for powerlines
- Water harvesting / Capture of road run-off – Isiolo-Moyale road
- Regulations for water harvesting - roof tops

- Invest in riverbank conservation and on-farm soil and water conservation to prevent silt runoff from poor farming methods that impact effectiveness of dams (e.g., Seven Falls Dam in Thika)
- discourage open canals for irrigation
- Enforce existing regulations – such as environmental impact assessment (EIA)

Information, Communication and Technology (ICT)

Issues/Challenges: Climate information provided in a complex way; use of ICT increases GHG emissions (depends on source of electricity generation; ICT also an enabler.

Opportunities/Actions:

- Early warning systems, information centres for farmers, introduction of digital data programs, packaging of CIS information for farmers (such as Digi-farm in Kirinyaga County)
- Upscale the use of ICT devices to reduce GHG emissions
- Explore tax and fiscal incentives for use of ICT
- Invest in electronic waste management through partnerships

Gender

Issues/Challenges: lack of land ownership, women-headed households, limited control over decision making and control of budgets, gender inequality is a large problem in the ASALs where women are forced to work through the problems caused by climate change (lack of access to water), while often men have the option to leave; women suffer from greater food insecurity and health issues because food for men is prioritized.

Opportunities/Actions:

- Kenya Integrated Climate Resilience Project – has information on promoting the role of women and girls in climate change
 - Promote gender-friendly and water conservation measures
 - Promote gender-friendly agroforestry – fruit and fodder trees
 - Provide livelihood options/diversification for women, both on- and off-farm and options that extend across seasons
 - Address land ownership issues
 - Invest in high-value crops
 - Consider how to involve both genders in climate change action
 - Empower women through information; improve women's access to training; improve women's input to decision making
 - Consider gender-based budgeting

Group 2 reported back on Agribusiness, water/ natural resource management, tourism and health care and cross-cutting issues

Agribusiness

Issues/Challenges: erratic rains, drought

Opportunities/Actions:

- Use of KMD climate data and information – increase coverage of meteorological stations and awareness creation/training
- Conservation of water catchment areas
- Technology innovations: such as climate-smart agriculture, hydroponics, dairy goats, pest and disease resistant crops, promote GMOs
- Promote urban agriculture

Water Resource Management

Issues/Challenges: Inadequate, low water levels, cultivation along riparian areas and water masses, invasive species, siltation of open water harvesting structures, flooding

Opportunities/Actions:

- Promote water harvesting technologies (construct more structures, desilt dams)
- Promote integrated lake basin management
- Enforce laws and customize national policies to county level (water abstraction)
- Enhance sustainable irrigation technologies
- River bank protection (and promotion of indigenous trees and discourage water-draining exotic trees – e.g., eucalyptus and some bamboo)
- Monitoring of water quality and quantity
- Water and soil conservation in water catchment areas
- Payment for eco-system services and other innovative financing mechanisms
- Review regulatory framework to harmonize
- COG to develop MOU on sharing trans-boundary resources.
- Support for Water Resource Users Associations (WRUA).

Tourism

Issues/Challenges: Inadequate investment plans in areas with high tourism potential, reduced carrying capacity in wildlife areas / degradation of habitat– droughts and floods; pests and diseases; human-wildlife conflict; change of migratory patterns of animals; decline of glaciers on Mt. Kenya, increase carbon footprint from increased number of tourists, which disrupts cultural and social structures

Opportunities/Actions:

- Promote REDD+ and purchase of credit credits
- Develop clear boundaries between human habitats and wildlife
- Broaden tour packages and products
- Promote ecotourism

Health

Issues/Challenges: Increases in vector-borne and water-borne disease; damage to health infrastructure; loss of biodiversity and medicinal plants, increased use of agro-chemicals; malnutrition, climate change-induced poverty.

Opportunities/Actions:

- Promote family planning methods
- Promote forestry; Afforestation
- Disaster management and preparation
- Research the link between health and climate change

Priority Areas identified by Group 2

1. Environment and water management – develop and implement integrated catchment management plans – shared across counties
2. Agribusiness – promote appropriate and sustainable practices and technology, Use of climate-smart technologies for value addition
3. Tourism, - explore, develop and package tourism destinations and circuits and develop mechanisms for access and benefit sharing to improve livelihoods.
4. Cross-cutting – adopt human rights-based approach for mainstreaming gender and special groups under the PANEL approach

5. Forestry Actions in the County – Working toward 10% Tree Cover

Nakuru

- *Challenges:*
 - Forest Management Task Force: a key consideration is that County Governments be given funding to manage forests and transition forest resources. Contributions in forest management need to be addressed. There is little that County Governments can do if not provided with authority. Counties as a bloc, need to decide on what direction to take.
 - How to convince farmers to plant trees (requiring 15 years to get a return on investment, rather than annual crops (such as carrots) where they make immediate money in that year.
 - Trees are expensive, government requires support. We have worked to encourage tree planting, but the economics are difficult.
 - Ensuring that actions are sustainable beyond the current 5 year political cycle; it is about attitudes toward environment: we have talked about planting trees for years.
- *Goal* – to grow (not plant) a minimum of one million trees every year. 5 million trees in 5 years
- *Actions*
 - Ensure trees are growing in secure places that can be protected. County Government has identified enclosed areas, schools, public areas where they can ensure accountability. Identify effective strategies (how many trees per acre – 500 per acre?)
 - This year – 200,000 shillings allocated for tree planning. Support is needed because trees are expensive. There are partnerships, e.g., Findlays.
 - Twinning program officers with ECDs – so that children work alongside environmental officers to plant trees.

Nyeri

- *Challenges:* seedlings are expensive; County government produces seedlings – problem to provide high value trees to schools and farmers (macadamia, avocado)
- *Forest cover (2018):* 38% tree cover
- *Actions:*
 - School greening,
 - Conservation of riparian areas,
 - On-farm forestry by issuing farmers with seedlings.

Nyandarua

- *Forest cover (2018):* 18.6 6% (KFS data) to 22% tree cover - have 5 gazetted forests, with sustainable forestry management plans to replant what is harvested.
- *Goal* – 10 million trees in 5 years campaign. Announced by DP and Governor announced that this plan can be achieved. On way to 10 million because have identified 3 million:
 - One million trees can be planted on protected land.
 - One million trees in next three years (recent deal with partner, not yet announced)
 - One million trees through identified targeted areas (farms, public institutions – hospitals, schools, colleges)
- *Actions:*
 - Seedlings from KEFRI, promotion of youth-based planting of certified seedlings. Have identified target areas, reservoirs, riparian areas, schools; need water for survival.
 - 35,000 trees contracted out, with contractor to look after for 6 months to ensure survival and report on survival rate.
 - Promotion of on-farm trees working with Association of Small-scale Farmers (¼ hectare); will monitor and track progress.
 - Monitoring system – will monitor woodlots every 3 years
 - Lake Bogoria is in process of assessment, and once gazetted will provide ample land for forestation.

Tharaka Nithi

- *Challenges:*
 - Larger part of county is dry
 - chronic charcoal burning area and people use firewood.
 - Closing down tree nurseries because the County was using resources on tree nurseries but they were not working and not achieving results. Gave out all seedlings for planting.
- *Goal:* All farmers are to have 10% tree cover for each acre. Want people to plant trees in next 5 years
- *Actions:*
 - Providing water tanks
 - Forming environmental clubs in primary schools and will have County award for best survival percentage of tree seedlings.
 - Partnering with CBOs to promote indigenous trees in sub-locations.
 - Recruiting farmers to plant trees. 100 farmers every 6 weeks, and every farmer plants 100 trees (providing tamarind trees - indigenous). For next 3 years will plant 210,000 trees per sub-locations – over 200 sub-locations in the county; and targeting 600 farmers per sub-location. Require incentives for farmers who plant 100 trees that survive for 6 months; before obtaining monthly incentive, will be monitoring.
 - Rehabilitation of 3 rivers – upper side with bamboo. Aiming to rehabilitate 10 km per river for the first year. Trying to attract partners

Meru

- *Actions:*
 - Program to plant avocado trees – through tea factories with farmers. In two weeks will have data on number of trees; many have requested trees
 - Planting trees and on hills and small mountains – contracting companies to plant and maintain for 6 months
 - Planting of trees in schools and checking that trees are maintained

Kirinyaga

- *Challenge:* Can get trees and provide to farmers, but monitoring is the biggest issue. How do you know that the trees do not die?.
- *Actions*
 - Working with community organization on 20 plots and sub-locations
 - Support is available from NetFund

Embu

- *Actions*
 - Green schooling programme and providing water so that schools can maintain trees
 - Hold an environment day
 - Trees distributed to farms

General

- Need for a clear programme of how to manage wood lots, and could work as a bloc to have an action programme
- Need to consider how to engage citizens, how to encourage issue of ownership.
- When developing a long-term plan – what is the benefit of trees on farms, sustainable timber – how do people /farmers benefit? How to provide incentives

6. Closing Remarks and the Way Forward

Ruth Moraa, GIZ, made closing remarks, noting the high level of input in the room and the useful contributions to the NCCCAP process. She noted that County Governments and stakeholders are invited to provide input and to continue to engage on the NCCAP process.

The CCD will provide a report of the meeting and copies of the presentations by email and through Whatsapp. Comments can be provided by email at nccap@enviornment.go.ke.

7. Annexes

ANNEX 1: Presentations



COUNTY
PRESENTATION_APR



Groupwork.pptx



NCCAP II COUNTY
CONSULTATIONS PR

Annex 2: Programme

Time	Activity	Lead
Travel Day		
	Departure from Counties and Check-in to venues	All
Day 1		
08:00 – 08:30	Registration of participants	Moderator – County
08:30 – 08:45	Welcome remarks - Introduction of participants and expectations	Moderator – County
08:45 – 09:30	Introduction - Remarks from MoEF representative and workshop objectives - Opening Remarks from the Governor of the host County	MoEF
09:30 – 10:30	Presentations on Climate Change Implementation Status in Kenya	MoEF/ Task Force Member
10:30 – 11:00	Presentation by the Council of Governors	COG Representative
11:00 – 11:15	<i>HEALTH BREAK</i>	
11:15 – 13:00	Break Out Groups to identify County climate change priority actions	MoEF/LECRD
13:00 – 14:00	<i>LUNCH</i>	
14:00 – 16:00	Plenary Session	MoEF/ LECRD
16:00-16:30	Way Forward	
	Health Break and Closing remarks	
Return Day		
	Checkout and Departure	

Annex 3: Group Work

GROUP 1

SECTOR 1.Agribusiness 2.Water resource management(NRM) 3.Tourism 4.Health care 5.Cross- cutting issues		
Problems	Existing Opportunities	Actions
Agribusiness i. Unpredictable weather patterns ii. Drying of the rivers/lakes and reservoirs iii. Water shortage iv. Minimal exploration of alternative sources of water (e.g. sea water) v. Food shortage vi. Low crop production/yields vii. Drought viii. Pest and diseases(crop) ix. Loss of livestock due to diseases and drought (lack of water and pasture) x. Reduced quality and quantity for consumption and sale xi. Post-harvest losses xii. Loss of indigenous tress has led to poor of smart agriculture production such as bee keeping xiii. Disappearance of important drought resistant /adaptive seeds/crops xiv. Floods	i. Utilise existing KMD information and data ii. Conservation of water catchment and riparian areas iii. Growing of fodder crops (baling hay) iv. Technologies and innovations e.g. Climate smart agriculture, hydroponics, small dairy holder farming, dairy goats v. Urban agriculture (hydroponics) vi. Pest and diseases resistant crops/animals vii. Promotion of Biotechnology	I. Effective use of information generated & shared by KMD, II. Increased coverage of meteorological and rainfall stations III. Awareness creation IV. Integrated Pest Management (IPM) Integrated Species Management (ISM) V. Synchronize rain fed agriculture with irrigation VI. Counties must legislate on issues in water harvesting (devolved function) VII. Promote de-salinization of hard water/sea water
Water resource management i. Poor quality/polluted water		1) Controlling illegal water abstraction 2) Creating awareness

<ul style="list-style-type: none"> ii. Inadequate water/low water levels iii. Cultivation along riparian areas of water body masses iv. Invasive species in the lakes and rivers v. Siltation of open water harvesting structures vi. Flooding vii. Excessive run off viii. Over-abstraction ix. Degradation of water catchment areas/wet lands x. Human livestock /wildlife conflicts (sharing of water resources) xi. Non-sustainable water utilization methods xii. Loss of ecosystem values/services/habitat xiii. Lack of clarity in institutional arrangement/roles& responsibilities (County and National) xiv. Lack of clear harmonized laws and policies by the regulatory bodies and government 	<ul style="list-style-type: none"> a) Enforcing laws and policies to reduce water pollution b) Customize existing national policies to the county level c) Strengthening the institutional, partnerships with lead agencies Water resources authorities d) Promoting Integrated Lake Basin Management (ILBM) e) Promoting water harvesting technologies 	<ul style="list-style-type: none"> 3) Monitoring water quality and quantity 4) Conduct abstraction surveys for water resources 5) Desilting of water harvesting structures and construct more water harvesting structures 6) Embrace sustainable irrigation technologies/methods 7) Uprooting/discouraging planting of water draining exotic trees e.g. eucalyptus 8) River bank marking and protection 9) Water and soil conservation in water catchment areas 10) Control pollution from agro chemicals and industrial waste 11) Payment for ecosystem services 12) Seek for innovative financing systems 13) CoG to develop a MOU on sharing trans-boundary resources 14) Clarity of institutional roles and responsibilities 15) Review of the regulatory frameworks with a view to streamline/harmonize the operations 16) Support the water resource users' association (WRUA)
<p>Tourism</p> <ul style="list-style-type: none"> i. Inadequate investment plan in arid and semi-arid areas with high tourism potential ii. Reduced carrying capacity in wild conservation areas iii. Pest and diseases iv. Loss of biodiversity v. Degradation of the habitat vi. Invasive species vii. Human wildlife conflicts viii. Change of migratory patterns ix. General degradation of tourism attraction sites e.g. Snows, Waterfalls x. Increased carbon foot prints from tourism e.g. flights, vehicles, xi. Disruption of Cultural and social structure 	<ul style="list-style-type: none"> 1) Adopting of Red++ and proper purchase of carbon credits 2) Expanding the tourism circuit 3) Conservation of wildlife conservation areas/ migratory corridors (conservancies), 4) Promotion of ecotourism 5) Willingness and good will form all counties 	<ul style="list-style-type: none"> a) Creation of awareness b) Develop inter-counties tourism investment plans/package c) Develop clear boundaries between human habitat and wildlife to end the conflict d) Broaden tourist packages/ products
<p>Health</p> <ul style="list-style-type: none"> i. Increased lifestyle diseases ii. Increased spread of vector borne diseases 	<ul style="list-style-type: none"> 1) Promotion of forestry including indigenous medicinal trees 	<ul style="list-style-type: none"> a) Monitoring use of agro chemicals b) Afforestation (attain 10%) tree cover- plant trees and monitor the survival rates,

<ul style="list-style-type: none"> iii. Water borne diseases due to low quality /contaminated water iv. Floods v. Damaging of drainage and sanitation infrastructures vi. Loss of biodiversity (medicinal plants vii. Increased reliance / use of agro chemicals causing health complication viii. Malnutrition and high cost of health care ix. Climate change induced poverty 	<p>2) Promote Family planning methods</p>	<ul style="list-style-type: none"> c) Lobby National institutions to give Counties leeway in forestry management & governance, d) Promotion of extended producer responsibility to reduce pollution e) Improve health care facilities f) Creation of awareness g) Sufficient funding h) Innovative technologies i) Disaster management preparedness j) Research of link between issues of health and climate change k) Adoption of nutrition sensitive production (appropriate feeding habit)
<p>Priority solution to:</p> <ul style="list-style-type: none"> a) Environment and water management <ul style="list-style-type: none"> i. Develop and implement integrated catchment management plans b) Agribusiness <ul style="list-style-type: none"> i. Promote appropriate and sustainable agricultural practices and technologies ii. Use of Climate Smart Technology in value addition and marketing c) Tourism <ul style="list-style-type: none"> i. Explore, develop and package tourism destination and circuit and develop mechanism for access and benefit sharing to improve livelihoods <p><u>Cross-cutting issues</u> Adopt /include human right based approaches to mainstream gender and special groups, that is, the PANEL (Participation, Accountability, Non-discrimination and equality, Empowerment and Legality) approach</p>		

GROUP 2

Sector		
1. Industrialization 2. Infrastructure 3. ICT		
Problems	Existing Opportunities	Actions
<p>A. INDUSTRIALIZATION</p> <ul style="list-style-type: none"> Emission from industries through direct air pollution KTDA factories using a lot of firewood thus a threat to forest cover Raw discharge of effluents to rivers by factories like Coffee factories Discharge of lead from garage polluting water for domestic use Industrialization versus water scarcity and quality Shortage of Raw materials including water <p>B. INFRASTRUCTURE</p> <ul style="list-style-type: none"> Destruction of infrastructure like roads, power lines, dams 	<ul style="list-style-type: none"> Systems for Land Based Emission Estimation in Kenya, SLEEK project Enhancing Agro forestry and alternative source of clean energy like solar, hydro water, geothermal, wind e.g. Mathiyo Hydro Project produce 5.6 Megawatts REDD+, Carbon Trade Bio fuels on tractors during land preparation, Recycling of the water Subside water for drip kits Encourage Corporates to enhance and increase Corporate Social Responsibility Involve stakeholders to invest in environmental conservation-create a fund for supporting eco system Redesigning or reconfiguring our structural designs through introducing green buildings technology, Green Building Invest on climate smart technologies e.g. roof and road / surface runoff water, e.g. Isiolo Moyale Road For power lines destruction invest in climate techs buildings, resource efficiency technologies, installation of green energy like solar panels, e.g. Strathmore University, Enashipai Hotel, UTANRMP, Meru Herbs, Tunyai, (solar use, Awareness creation and capacity building Invest on river banks conservation Alternative of fencing rather Promote timber based and shoot varieties edible 	<ul style="list-style-type: none"> Introducing carbon sinks – planting of trees Tea subsector need to support through agro forestry Adoption of simple climate smart technologies Relocation of garages, Counties to introduce specific legislation to address the issues Zoning of industrial areas to avoid Relocation or Closing of industries Climate smart infrastructure through climate proofing projects, Introduce on farm soil and water conservation Enforcement of existing regulations like EIA, weed out quacks, Discourage open canal s Introduce legislation on roof catchment either in buildings, e.g. schools, green house Introduce control checks on regulatory bodies, quality assurance Introduce subsidies to climate smart technologies

<p>C. ICT</p> <ul style="list-style-type: none"> • Packaging of climate information for farmers and stakeholders is complex • Increase on carbon footprints e. laptops, phones, e.g. Telecommunication boosters are equipped with diesels and emit GHGs. <p>ENHANCING ROLE OF GENDER AND SPECIAL INTEREST GROUPS</p>	<ul style="list-style-type: none"> • Introducing digital data platforms, farmer based e.g. Digi farm (Kirinyaga County), • Invest in capacity building on reporting • Introducing of Early Warning Systems, Introducing information centers Farmers Management System <ul style="list-style-type: none"> • Promote gender friendly soil and water conservation measures; • Promoting gender friendly agro forestry: fruit and fodder trees; • Introduce more livelihood options, through diversification • Invest on off farm livelihood activities at county levels e.g. value addition • Address land ownership • Invest on high value crops 	<ul style="list-style-type: none"> • ICT has greatly reduced use of environmental products, e.g. printing papers, and enhanced efficiency and timeliness • Upscale the use ICT intelligent devices which will greatly reduce carbon emissions • Introduction of Tax incentives for ICT equipment at National and County levels • Invest on ICT centres • Invest in electronic waste management through partners
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ANNEX 4: Participants list



COUNTY CONSULTATIONS FOR THE NATIONAL CLIMATE CHANGE ACTION PLAN 2018-2022

ATTENDANCE SHEET 16TH TO 20TH APRIL, 2018 - EMBU

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