

EBAFOSA

Ecosystem Based Adaptation for
Food Security Assembly



KENYA ACTION PLAN 2016 -2017



EBAFOSA Kenya

Action plan on supporting Kenya INDC implementation

Kenya's INDC includes both mitigation and adaptation components based on her national circumstances and in line with decision 1/CP.19 and 1/CP.20. Kenya's INDC places emphasis on adaptation and resilience because of the country's high vulnerability to climate change and climate vulnerability. However, many agricultural management practices that reduce vulnerability- and improve agricultural production potential –also reduce emissions.

The INDC adaptation goal is enhanced resilience to climate change towards the attainment of Vision 2030. Priority adaptation actions in the Agricultural sector as identified in the National Adaptation Actions (NAP) include promotion of drought tolerant crops, water harvesting and management, integrated soil fertility management, insurance schemes, conservation agriculture, and Agroforestry. In regards to livestock, priority low carbon climate resilient actions identified in the National Climate Change Action Plan (NCCAP) and highlighted in the INDC include management of grazing systems, livestock diversification, price stabilization schemes, breeding of animals to improve their ability to adapt to climate change and produce lower methane emissions.

Further, the Kenya INDC emphasizes the promotion and implementation of the following mitigation activities: expansion in geothermal, solar and wind energy production, other sources of renewables and clean energy options; enhancement of energy and resource efficiency across the different sectors; make progress towards achieving a tree cover of at least 10% of the land area of Kenya; Clean energy technologies to reduce overreliance on wood fuels; climate smart agriculture, and sustainable waste management systems.

EBAFOSA entry into INDCs implementation support is through its strategy of convening, building on & complementing established ongoing & planned initiatives for harmonized progress in its focus area of policy and ground actions to actualize EBA-based agro-industrial zones powered by clean energy, with ICT enabled enhanced market linkages. This contributes to socio-economic priorities of food security, expanding clean energy and job & income generation while simultaneously contributing to specific articles of the Paris agreement. EBAFOSA entry is also through leveraging EBA for innovative domestic climate finance. Hence, EBAFOSA will support implementation of specific Kenya INDC priority areas that are aligned within its focus areas as follows:

Kenya INDC priorities aligned to EBAFOSA	EBAFOSA contribution & strategy	EBAFOSA Actions	Time frame	Expected results – Articles of Paris agreement satisfied
ADAPTATION (as per INDC, NCCRS, NCCAP, NAP, KCSAFP) ¹ captured in Annex ¹ of INDC				
<p>AGRICULTURE</p> <p>Enhance resilience of agriculture livestock and Fisheries Value chains by promoting climate Smart Agriculture and Livestock Development in line with National CSA Framework. These include but not limited to:</p> <p>1. Resource Efficiency</p> <p>a) Soils</p> <p>Organic farming</p> <p>Agroforestry/ Farmer Managed Natural Regeneration (FMNR)</p> <p>Conservation Tillage</p> <p>Hydroponics</p> <p>Integrated soil fertility management</p> <p>Other Good Agricultural Practices (GAPs)</p> <p>b) water</p> <p>Promotion of :</p> <p>water efficient technologies (Drip Irrigation)</p> <p>Rainwater harvesting (<i>in-situ and ex-situ using Zai pits, trapezoidal and semicircular bands, water pans, etc</i>)</p> <p>drought tolerant crops</p> <p>Catchment protection</p> <p>c) Energy</p> <p>Fertilizer micro dozing (Judicious use of fertilizers)</p> <p>Renewable energy (Wind/solar) powered agro-industrial systems</p> <p>High yielding seed varieties</p> <p>Promotion of energy efficient cooking appliances</p>	<p>1) A comprehensive database of actors from govt. policy level to operational level actors in academia, private sector, extension services etc., to foment mutual partnerships to integrate Ecosystems Based Adaption approaches (EBA) in Kenya, including those identified in column 1. Target will be proven low carbon climate resilient techniques that increase yields while simultaneously restoring degraded areas, improving ground water recharge and upholding ecosystem integrity.</p>	<p>Phase 1</p> <p>1) Mapping out relevant planned & ongoing individual and institutional initiatives in the country at both policy level and ground actions by government, private sector, academia, NGOs, development partners critical to implementing the INDC priorities</p> <p>2) Reach out, mobilize and register into EBAFOSA database these mapped out stakeholders / initiatives</p>	<p>As captured in Gantt Chart</p>	<p>Article 3 on INDCs and Article 7 on adaptation</p>

(Footnotes)

1 Intended Nationally Determined Contributions, National Climate Change Response Strategy, National Climate Change Action Plan, National Adaptation Plan, Kenya Climate Smart Agriculture Framework Programme.

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	<p>2) A comprehensive database of private sector, academia, extension services to enhance dissemination & usage of low carbon, climate resilient technologies in Kenya</p> <p>3) Align activities to sector priority adaptation actions and building synergies</p>	<p>Phase 2</p> <p>1) Send motivational emails and follow-up reminders inviting registered stakeholders to volunteer to be sectorial and regional focal persons to lead in both mobilization & registration of additional relevant stakeholders and in mutual partnerships building for concrete actions implementing INDC priorities</p>		
	<p>Earmarked initiative to build on</p> <ul style="list-style-type: none"> - the EBAFOSA Kenya EBA farm linked to additional stakeholders in government, academia, private sector etc., to upscale EBA practices and demonstrate restoration & conservation viability of EBAs hence inform EBA integration into relevant policies - Identify on-going activities by policy and non-policy actors and integrate EBA in collaboration with EBAFOSA Kenya Stakeholders - Document success stories EBA for upscaling 	<p>2) Develop questionnaire to be shared with registered stakeholders to capture details of what the respective stakeholders are planning / implementing in Agriculture sector INDC priority areas, i.e.</p> <p>a) Activities including and not limited to those enlisted in column one.</p> <p>b) gaps they need to be bridged at both policy and ground level to enhance their activities</p> <p>c) stakeholders they believe will be key to bridging the gaps</p>		

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		<p>3) Mail out questionnaires and set response period</p> <p>4) Analyze responses and make follow-up to clarify unclear responses</p> <p>5) Compile report of responses and note ongoing/planned activities and gaps identified</p> <p>6) Link stakeholders’ ongoing activities that are implementing Kenya INDC to the Ministry of Environment and Natural Resources INDCs focal point to be captured officially for reporting as official INDC implementation progress by Kenya under the UNFCCC</p> <p>7) Develop map of potential mutual combinations between registered stakeholders based on their ongoing and planned initiatives at both policy and ground level that can bridge identified gaps to enhance implementation of INDCs</p> <p>8) Link up these stakeholders by sharing the map of activities and arranging networking meetings to catalyse development of business / partnerships that bridge these gaps</p> <p>9) Follow up with matched stakeholders to come up with proposals for joint mutually complementary initiatives building on and complementing their ongoing and planned initiatives towards bridging identified gaps to enhance INDC implementation</p>		

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		<p>10) Review and refine proposals and in collaboration with continental secretariat provide necessary backstopping e.g. financial for stakeholders to implement these joint activities</p> <p>11) Note reminder gaps that cannot be bridged through mutual partnerships with current registered members</p> <p>12) Note other non-registered stakeholders / initiatives suggested in questionnaire and research additional ones that will be key to bridge the remaining gaps</p> <p>13) Target phase 1 stakeholder mobilization efforts to register these stakeholders</p> <p>14) Monitor and report on progress</p>		
<p>2. Climate resilience</p> <p>Support smallholder farmers' graduation to market –oriented/ commercial farming, addressing key constraints in production, post-harvest management, processing and marketing in target commodity value chains.</p> <p>Sustainable management of livestock production systems(including grazing systems, manure management, animal breeding; limit use of fires in range and crop land management)</p> <p>Alternative livelihoods promotion (Beekeeping, gums and resins)</p>				

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<p>WATER AND IRRIGATION</p> <p>Mainstream of climate change adaptation by implementing the National Water Master Plan (2014)</p> <p>HUMAN RESOURCE DEVELOPMENT, LABOUR AND EMPLOYMENT SECTOR</p> <p>Enhance adaptive capacity of informal private sector organizations</p> <p>ENERGY SECTOR</p> <p>Enhance resilience of current and future energy systems</p> <p>SCIENCE, TECHNOLOGY AND INNOVATION</p> <p>Support innovation and development of appropriate technologies that promote climate resilient development</p> <p>INFRASTRUCTURE</p> <p>Climate proofing of infrastructure (energy, transport, buildings, ICT)</p> <p>EDUCATION AND TRAINING</p> <p>Enhance education, training, public awareness, public participation, public access to information on climate change adaptation across public and private sector</p> <p>ENVIRONMENT AND NATURAL RESOURCES</p> <p>Enhance resilience of ecosystems to climate variability and change</p> <p>Enhance Climate Information services</p>				

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<p>Forestry</p> <ul style="list-style-type: none"> - Make progress towards achieving a tree cover of at least 10% of the land area of Kenya -Support review and implementation of National Forest Policy -Landscape restoration initiatives - Promote farm forestry -Strengthen Community Forest Associations (CFAs) -support implementation of Miti Mingi Maisha Bora Programme and Kenya National REDD+ Programme 	<p>1) A comprehensive database of policy level and ground actors from both agriculture and forestry to foment mutual partnerships to Integrate Ecosystems Based Adaption approaches (EBA) that link agriculture to forestry into mainstream agriculture & forestry plans & policies and upscale ongoing ground initiatives. Simultaneous objectives are enhancing tree cover while improving food security. Below specific techniques will be prioritized:</p> <p><i>-Agroforestry / forest regeneration:</i> In Malawi, Agroforestry is reported to improve maize yields by about 50% by planting nitrogen fixing <i>Faidherbia albida</i> trees. Quantitative increases from 4.6 T/ha to 5.7 tons/ha have been reported in test/monitored fields in the country.</p>			
	<p><i>-Farmer Managed Natural Regeneration (FMNR)</i> Examples: Mali has restored over 500,000 hectares through using simple FMNR. The same technique in Senegal has regenerated indigenous trees on 40 000 hectares of cropland. This ecological technique has increased tree density on cropland from an average of 4 to 33 trees per hectares and improved soil fertility, crop yields, and wildlife, and reduced soil erosion, while in Ethiopia, it has restored 2 700 hectares of barren mountain terrain.</p> <p>2) A comprehensive database of Community Based Organizations (CBOs) to work with policy stakeholders & technical actors in agriculture & forestry towards strengthened implementation of the National Community-Based Forest Resources Management Programmes</p> <p>Earmarked initiative to build on</p> <ul style="list-style-type: none"> - the EBAFOSA Kenya EBA farm linked to additional stakeholders in government, academia, private sector etc., to upscale EBA practices and demonstrate restoration & conservation viability of EBAs hence inform EBA integration into relevant forestry, agriculture & other land use policies 	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the forestry INDC priorities targeted by EBAFOSA</p>	<p>As captured in Gantt Chart</p>	<p>Article 3 on INDCs, Article 5 on REDD+ and Article 7 on adaptation</p>

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<p>Biodiversity</p> <ul style="list-style-type: none"> - Support the active implementation of the National Biodiversity Strategy and Action Plan (NBSAP), particularly those strategic actions that address climate change impacts - Support recommended climate change adaptation policies and programmes in sectors that affect biodiversity conservation, including agriculture, forestry, energy and livelihoods. - Support and implement programmes for alternative livelihoods in order to reduce unsustainable resource use that contributes to loss of biodiversity 	<p>A comprehensive database of multiple stakeholders at both policy and operational level from bio-diversity dependent sectors / ministries i.e. environment, agriculture, forestry, energy, lands to ensure formulation, refinement and implementation of relevant sectorial bio-diversity conservation policy, plans and practices.</p> <p>Earmarked initiative to build on</p> <ul style="list-style-type: none"> - the EBAFOSA Kenya EBA farm linked to additional stakeholders in government, academia, private sector etc., to upscale biodiversity conserving EBA practices and demonstrate their viability hence inform EBA integration into relevant policies in forestry, agriculture, lands, energy & other biodiversity dependent sectors 	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the biodiversity INDC priorities targeted by EBAFOSA</p>	<p>As captured in Gantt Chart</p>	<p>Article 3 on INDCs, Article 5 on REDD+ and Article 7 on adaptation</p>
<p>Industry & Commerce</p> <ul style="list-style-type: none"> -Review and enforce land use plans in industrial areas in light of climate change (long term) -Promote and market emerging opportunities from climate change 	<p>1) EBAFOSA targets favorable land-use policies to establish suitable locations for setting up rural agro-industrial zones powered by clean energy, hence convenes relevant stakeholder partnerships</p> <p>2) EBAFOSA target for policy and ground actions to establish EBA-Based agro-industrial zones powered by clean energy and ICT enabled market linkages promotes entrepreneurial opportunities in climate action as follows:</p> <p>a) ICT through mobile apps that enhance market linkages (instead of paper processes & physical travelling) create income opportunities for mobile innovators while contributing to climate resilience through minimizing sources</p>	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the Industry & Commerce INDC priorities targeted by EBAFOSA</p>	<p>As captured in Gantt Chart</p>	<p>Article 3 on INDCs, Article 7 on adaptation and Article 9(2) on voluntary climate finance</p>
	<p>b) Clean energy powered agro-industry creates income opportunities for processing industries while contributing to climate resilience through minimizing sources</p> <p>c) Upscaling EBA approaches to food security ensures sustainable yield increases under the changing climate (up to 128% compared to non-EBA) hence increases farmer level incomes while contributing to climate adaptation given that EBA is an adaptation technique</p>			

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	<p>d) Private sector companies opportunities to enhance their corporate brand internationally & nationally through engaging their CSR to support countries implement Paris agreement & support national socio-economic development priorities</p> <p>e) Financial institutions engagement to establish EBA based agriculture climate risk sharing facilities to lower the cost of agriculture finance risk and simultaneously finance climate adaptation given EBA is climate adaptation technique</p> <p>Earmarked initiative(s) to build on</p> <ul style="list-style-type: none"> - the EBAFOSA Kenya EBA farm being linked to clean energy agro-processing & other commercial value chains; - 5 year Initiatives by the KCB to support Agriculture - Upcoming Agricultural Conferences 			
<p>Rural Livelihoods Adaptation to climate change</p> <ul style="list-style-type: none"> - Build a network of intermediate NGOs capable of working on climate change and livelihoods issues, where these NGOs support a number of communities in high risk Counties. -Animate communities with appropriate engagement methods, in order to elicit and document valid climate change and livelihood related needs/vulnerabilities -Use or reinforce available (indigenous) community resources to reduce vulnerability and build livelihood-linked capacity to adapt to climate change. 	<p>A comprehensive database of climate change and livelihood improvement NGOs and CBOs within Kenya and across Africa and partnerships between them to facilitate peer learning cross-hybridization and exchange of innovative climate resilient approaches especially on enhancing food security</p> <p>Earmarked initiative to build on</p> <ul style="list-style-type: none"> - the EBAFOSA Kenya EBA farm linked to additional stakeholders in government, academia, private sector etc., to upscale biodiversity conserving EBA practices and demonstrate their viability hence inform EBA integration into relevant policies in forestry, agriculture, lands, energy & other biodiversity dependent sectors - Initiative on waste to wealth for electrification (Clean Energy) & Bio fertilizer 	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the Livelihood INDC priorities targeted by EBAFOSA</p>	<p>As captured in Gantt Chart</p>	<p>Article 3 on INDCs, and Article 7 on adaptation</p>

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MITIGATION				
<p>Energy</p> <ul style="list-style-type: none"> -Expansion in geothermal, solar and wind energy production, other sources of renewables and clean energy options; - Enhancement of energy and resource efficiency across the different sectors; - Clean energy technologies to reduce overreliance on wood fuels; 	<p>1) EBAFOSA target for policy and ground actions to establish EBA-Based agro-industrial zones powered by clean energy, with decentralized systems being the most economically viable in rural areas convenes relevant stakeholder partnerships to actualize</p> <p>2) Comprehensive database of policy level and operational actors from private sector, academia and development partners engaged in decentralized clean energy systems</p> <p>Earmarked initiative(s) to build on</p> <ul style="list-style-type: none"> - the EBAFOSA Kenya EBA farm being linked to clean energy agro-processing, ICT enabled market linkages & other commercial value chains; - Initiatives on waste to wealth for electrification (Clean Energy), Bio fertilizers (Biochar, compost manure) 	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the Energy INDC priorities targeted by EBAFOSA</p>	<p>As captured in Gantt Chart</p>	<p>Article 2 on climate resilient growth, Article 3 on INDCs, and Article 4 on mitigation through minimizing sources</p>
<p>Agriculture and Land Use</p> <ul style="list-style-type: none"> - Climate smart agriculture, and sustainable waste management systems. 	<p>1) EBAFOSA convenes relevant stakeholder partnerships targeting to actualize policy and ground actions to establish EBA-Based agro-industrial zones powered by clean energy and ICT enabled market linkages / digital market systems. This promotes climate smart agriculture through</p> <p>a) Upscaling clean energy based value addition hence ensure carbon is sequestered in such activities (solar irrigation can sequester over 1,000,000tCO₂ equivalent by 2030)</p> <p>b) Upscaling EBA approaches like agro-forestry, FMNR, reforestation etc., which enhance carbon sinks</p>	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the Agriculture & Land use INDC priorities targeted by EBAFOSA</p>	<p>As captured in Gantt Chart</p>	<p>Article 2 on climate resilient growth, Article 3 on INDCs, and Article 4 on mitigation through enhancing sinks & reservoirs</p>

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	<p>and sequestration (one large-scale forest regeneration project of 25,000Ha can ensure a country sequesters up to 15.6 million tons of CO₂) and enhance capacity of ecosystems which underpin production (FMNR in Senegal has regenerated indigenous trees on 40 000 hectares of cropland, increased tree density on cropland from an average of 4 to 33 trees per hectares and improved soil fertility, crop yields, and wildlife, and reduced soil erosion).</p> <p>Agroforestry</p> <p>Key Technologies required include: Nurseries, improved market access for small farms; extension service support, capacity building, research and pilot projects, MRV capacity</p> <p>Conservation Tillage Key technologies required include:</p> <p>Agricultural extension services, low cost tillage systems and equipment</p> <p>Limiting use of fire in Range and Crop land Management</p> <p>Key technologies required include: Agricultural Extension Services, capacity building for extension workers, research and pilot projects</p> <p>c) Digital market systems / ICT based market linkages reduce paper processes, hence paper based emissions & physical travel for markets (transport emissions)</p> <p>2) Enhance use of clean, energy efficient cook stoves to reduce indoor pollution from charcoal use and preserve forest sinks</p>			

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	<p>Earmarked initiative(s) to build on</p> <ul style="list-style-type: none"> - the EBAFOSA Kenya EBA farm being linked to clean energy agro-processing, ICT enabled market linkages & other commercial value chains; - Initiative on waste to wealth for electrification (Clean Energy) & Bio fertilizer - World Food Day and Freedom from Hunger walk -Utilizing EBAFOSA Kenya in mobilizing multiple stakeholders to upscale dissemination of clean, energy efficient cook-stove technologies to reduce indoor pollution from charcoal use and preserve forest sinks 			

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<p>Industry</p> <p>-Adoption of green technology in industry</p>	<p>EBAFOSA convenes relevant stakeholder partnerships targeting policy and ground actions to establish EBA-Based agro-industrial zones powered by clean energy and ICT enabled market linkages / digital market systems enhancing adoption of clean technologies in industry as follows:</p> <p>a) Clean energy powered agro-processing & value addition,</p> <p>b) Digital marketing systems to reduce paper processes related emissions and</p> <p>c) EBA technologies to ensure agro-industrialization enhance forest sinks.</p> <p>Earmarked initiative(s) to build on</p> <p>- the EBAFOSA Kenya EBA farm being linked to clean energy agro-processing, ICT enabled market linkages & other commercial value chains;</p> <p>- Initiative on waste to wealth for electrification (Clean Energy) & Bio fertilizer</p> <p>- Utilizing EBAFOSA Kenya stakeholders in mobilizing multiple stakeholders to upscale dissemination of clean, energy efficient cook-stove technologies to reduce indoor pollution from charcoal use and preserve forest sinks</p>	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the Industry INDC priorities targeted by EBAFOSA</p>	<p>As captured in Gantt Chart</p>	<p>Article 2 on climate resilient growth, Article 3 on INDCs, and Article 4 on mitigation through minimizing sources & enhancing sinks & reservoirs</p>

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<p>Transport</p> <p>-Low carbon and efficient transport systems</p>	<p>EBAFOSA convenes cross-cutting stakeholders for mutual partnerships to actualize policies & plans to enhance investment in rural transport infrastructure – rural roads, to enhance efficient linkage of high potential agro-areas & agro-industrial zones to affluent urban markets & export centers. Target is to:</p> <p>a) Ensure shortest distance linking production zones to markets to minimize travel distances & related emissions</p> <p>b) Good roads ensure vehicles consume fuel efficiently hence lowers emissions.</p>	<p>Steps as elaborated in priority area 1 (agriculture) but customized to the Transport INDC priorities targeted by EBAFOSA</p>	<p>Long term future focus</p>	<p>Article 3 on INDCs, and Article 4 on mitigation through minimizing sources</p>



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