

NS-249 - Rainfed Mountain Belt Reforestation

Uzbekistan

NAMA Seeking Support for Preparation

A Overview

A.1 Party	Uzbekistan
A.2 Title of Mitigation Action	Rainfed Mountain Belt Reforestation
A.3 Description of mitigation action	<p>Reforestation of initially 30,000 hectares (by 2030) and 400.000 hectares (long-term) of foothill slopes, currently used for low productive wheat production and as pasture land, with native tree species, pistachio (<i>Pistacia vera</i>), almond (<i>Amygdalus communis</i>) and (for barriers for livestock), dog rose (<i>Rosa canina</i>), oleaster (<i>Eleagnus</i> spp.), Thorny almond (<i>Amygdalus spinosissima</i>), to (i) achieve a substantial net greenhouse gas (GHG) sequestration, (ii) achieve a comprehensive, country-wide organized transformation to sustainable, low-carbon land-management, (iii) decrease above ground soil erosion of watersheds and improve water retention, (iv) improve soil fertility, and (v) provide sustainable livelihoods to local communities.</p> <p>Target: Planting of 6 mln pistachio plants by 2030 with a survival rate of min. 90 % self-sustainable trees. For natural pistachio sites a sequestration net-gain of 5.9 tC/ha/a for the first 20 years has been calculated (below ground and above ground biomass); dead wood, litter and soil carbon content is not considered. Accumulated for the first 20 years 118.1 tC/ha)</p> <p>The age group from 21st to 40th a sequestration net-gain of 1.3 tC/ha/a has been calculated (accumulated for the subsequent years sums up to 25.9 tC/ha),</p> <p>age group III 41st to 80th year accumulated 16.1 tC/ha, age group IV 81st to 100th year accumulated 5.3 tC/ha, age group V 101st to 140th year accumulated 4.0 tC/ha age group VI 141th to 160th year accumulated 0.6 tC/ha.</p> <p>As overall sequestration target of a subsequent NAMA implementation assuming 30,000 ha of natural like plantations (90 % survival rate) starting by 2015 and accounting 2030 is 3,537,000 tC.</p> <ul style="list-style-type: none">• Development of a complete land inventory on Uzbekistan's mountain regions, altitude between 600-1.400 m <p>The complete land inventory will:</p> <ul style="list-style-type: none">• Describe in detail the historic (1990, where possible) and present land use (using GIS and remote sensing techniques);• Provide an agricultural practice and water and soil impact assessment;• provide a comprehensive socio-economic stakeholder mapping; and• provide a legal title/land-tenure analysis.<ul style="list-style-type: none">◦ Development of a comprehensive Reforestation and Forest Farming Plan <p>The Reforestation and Forest Farming Plan will:</p> <ul style="list-style-type: none">• define appropriate tree species in line with available planting manuals and ecologic-economic analysis (as per above) for all areas involved;

- lay out a sustainable forest farming and land-use strategy with production and distribution details;
- prepare the establishment and business procedures for 5-6 NAMA Distribution Centres (providing and disseminating planting technology, inoculate material and other, and a training-program), building on the practice of the Gallya Aral, Andizhan and Tashkent Provinces farmers support station;
- Building on existing projects, establish a financing plan (farmer compensation until the first harvest) consisting of a mixture of tax rebates, direct seed financing and the potential for international crediting to support domestic funding;
- Provide a legal title implementation plan (securitization of sustainable forestry use by giving long-term leasing contracts to farmers);
- Lay out a measuring, reporting and verification (MRV) system for the NAMA (including a methodological framework);
- Lay out an anti-leakage monitoring and risk management strategy;
- Set out the NAMA (AFOLU) governance and institutional structure; and
- Define a pace of implementation (with milestones and cash flow arrangements)
 - **Sustainable land-use and reforestation suitability tool**

The sustainable land-use and reforestation suitability tool will for each site under consideration for NAMA implementation:

- build on existing studies[1] and provide (or update) an ecologic-economic land-use analysis of current and future practices;
- make a soil fertility, water availability and sustainable usage assessment;
- assess different native tree species for their environmental, soil, farming and sustainable forest management impact;
- provide a comprehensive leakage analysis; and
- engage with central and local government, farmers' associations and civil society on NAMA design options: tree species, harvest/farming options, value chain, marketability of farming products including certification, land-use change incentives, environmental protection (protection (special regards to biodiversity)).
 - **Development of finance and operations facilities**

The finance and operation facilities will:

- support the Ministry of Economy and the Ministry of Agriculture and Water Resources (Main Department of Forestry) in the implementation of the NAMA;
- provide advance payments, loans or export guarantees to farmers/traders;
- oversee the timely planting, maintenance and tree protection;
- advice the harvesting/farming and marketing activities;
- provide the measuring, reporting and verification (MRV) for the NAMA; and
- facilitate international funding flows (sourcing, distribution), in addition to state funding.
 - **Dissemination and Up-Scaling until 2030**

Building on early pilots developed as stand-alone rain fed mountain belt regeneration or pistachio re-vegetation projects (<http://sgp.uz>), the NAMA will follow an ambitious implementation schedule (2.000 ha per annum in average), coordinating the national roll-out with support activities by different governmental bodies (Ministries of Economy, Trade, Environment, Finance, municipal authorities, other) with farmers' association and business. The pilot sites (of +/- 100 hectares each) will be selected as follows: (1) Buffer zone of either Ugam Chatkal National Park, Zaamin National Park, or an area to be established as buffer zone in proximity of Hissar Zapovednik to secure involvement of the local population, local authorities (hokimiyat) and protected area administrations. It is to promote sustainable land-use strategies under a clearly defined "test umbrella" to scale up under national and regional administration; (2) a region chosen for its support by local stakeholders.

The advantage of the approach for its self-sustaining sustainability is its proven and calculated economic beneficial effects for individual farmers in comparison with current conventional land use practices in the rainfed mountain belt of Uzbekistan. The following information outlines perspectives of a subsequent NAMA implementation phase.

The farmer/investor has 4.120 USD investment costs for the first 10 years per ha (maximum amount – by min 5 ha investment costs decrease by 50-80%). For a detailed breakdown:

1.350 USD for one ha

2nd year operational costs (incl. watering and fertilizer) apprx. 30% 450 USD (per ha and year)

3rd year (incl. grafting) 700 USD (per ha)

From 4th to 10th year on 270 USD (per ha per year)

	Profitability (in average for a period of 18 years)*
Wheat	35.4 %
Livestock	80.3 %
Pistachio	427 %

*Based on calculations of Rudenko, I., Kudrat, N. and Volkov, A. (Tashkent, 2011), Economic Analysis of Pistachio Plantations; Chernova G.M., Nikolayai L.V., Rakhmonov A.M., Tulyaganov T.E, and Volkov, A. (Tashkent, 2014), Recommendations for Growing Pistachio Varieties as Gardening Plants in Uzbekistan. (in uzbek)

As income from pistachio harvesting kicks in only after several years, the pre-financing through a (concessional) loan or loans is envisaged. Domestic banking institutions such as Agrobank are expected to act as national interface with international funding sources.

Initially two (2) million USD, then gradually more up to around eight (8) million USD upfront capital annually will be needed over the first 10 years. Overall capitalization costs are estimated at eight (8) million USD from Year 3 to Year 15.

[1] Rudenko, I., Kudrat, N. and Volkov, A. (Tashkent, 2011), Economic Analysis of Pistachio Plantations; Chernova G.M., Nikolayai L.V., Rakhmonov A.M., Tulyaganov T.E, and Volkov, A. (Tashkent, 2014), Recommendations for Growing Pistachio Varieties as Gardening Plants in Uzbekistan. (in uzbek)

A.4 Sector

<input type="checkbox"/> Energy supply	<input type="checkbox"/> Transport and its Infrastructure
<input type="checkbox"/> Residential and Commercial buildings	<input type="checkbox"/> Industry
<input checked="" type="checkbox"/> Agriculture	<input checked="" type="checkbox"/> Forestry
<input type="checkbox"/> Waste management	
<input type="checkbox"/> Other <input type="text"/>	

A.5 Technology

<input type="checkbox"/> Bioenergy	<input type="checkbox"/> Cleaner fuels
<input type="checkbox"/> Energy Efficiency	<input type="checkbox"/> Geothermal Energy
<input type="checkbox"/> Hydropower	<input type="checkbox"/> Solar Energy
<input type="checkbox"/> Wind Energy	<input type="checkbox"/> Ocean Energy
<input type="checkbox"/> Carbon Capture and Storage	<input type="checkbox"/> Low till / No till
<input type="checkbox"/> Land fill gas collection	

A.6 Type of action	<input type="checkbox"/> Other <input type="text"/>	
	<input type="checkbox"/> National/ Sectoral goal <input type="checkbox"/> Strategy <input checked="" type="checkbox"/> National/Sectoral policy or program	<input type="checkbox"/> Project: Investment in machinery <input type="checkbox"/> Project: Investment in infrastructure <input type="checkbox"/> Project : other
	<input type="checkbox"/> Other <input type="text"/>	
A.7 Greenhouse gases covered by the action	<input checked="" type="checkbox"/> CO2 <input checked="" type="checkbox"/> N2O <input type="checkbox"/> PFCs	<input checked="" type="checkbox"/> CH4 <input type="checkbox"/> HFCs <input type="checkbox"/> SF6
	<input type="checkbox"/> Other <input type="text"/>	

B National Implementing Entity

B.1.0 Name	Main Department of Forestry, Ministry of Agriculture and Water Resources
B.1.1 Contact Person 1	Mr. Sobir Ergashev (Head of Main Department of Forestry)
B.1.2 Address	8-21 Kataral Str. 100113 Tashkent Republic of Uzbekistan
B.1.3 Phone	+998 71 236 63 24
B.1.4 Email	urmon@qsvx.uz
B.1.5 Contact Person 2	Abduvokhid Zakhadullaev
B.1.6 Address	8-21 Kataral Str. 100113 Tashkent Republic of Uzbekistan
B.1.7 Phone	+998 71 2732991
B.1.8 Email	miyon2001uz@mail.ru
B.1.9 Contact Person 3	
B.1.10 Address	
B.1.11 Phone	
B.1.12 Email	
B.1.13 Comments	

C Expected timeframe for the preparation of the mitigation action

C.1	Number of months for completion	36
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D Currency

D.1	Used Currency	<input type="text" value="AED"/>
		Conversion to USD: 1

E Cost

E.1.1 Estimated full cost of preparation	550000
E.1.2 Comments on full cost of preparation	<ul style="list-style-type: none"> • Development of a complete land inventory on Uzbekistan's mountain regions, altitude between 600-1,400 m 300,000 USD • Sustainable land-use and reforestation suitability analysis 75,000 USD • Development of a comprehensive Reforestation and Forest Farming Plan 100,000 USD • Development of finance and operations facilities 75,000 USD

F Support required to prepare the mitigation action

F.1.1 Amount of Financial support	450000
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F.1.2 Type of required Financial support	<input checked="" type="checkbox"/> Grant <input type="checkbox"/> Loan (sovereign) <input type="checkbox"/> Loan (Private) <input type="checkbox"/> Concessional loan <input type="checkbox"/> Other <input type="text"/>
F.1.3 Comments on Financial support	<input type="checkbox"/> Guarantee <input type="checkbox"/> Equity <input type="checkbox"/> Carbon finance
F.2.1 Amount of Technical support	0
F.2.2 Comments on Technical support	The NAMA is drafted as international supported NAMA. In-kind contributions from government of Uzbekistan are agreed by providing staffing, office infrastructure and technical infrastructure. Farmers contribute with labour force and provision of construction material (fencing) for dissemination, up-scaling and implementation phase.
F.3.1 Amount of capacity building support	100000
F.3.2 Type of required capacity building support	<input checked="" type="checkbox"/> Individual level <input checked="" type="checkbox"/> Institutional level <input type="checkbox"/> Systemic level <input type="checkbox"/> Other <input type="text"/>
F.3.3 Comments on Capacity Building support	Technical equipment is not envisaged for NAMA preparation phase but will become relevant for NAMA implementation. Negotiations about national NAMA contribution will be part of NAMA for preparation.
F.4 Financial support required	<input type="checkbox"/>
F.5 Technological support required	<input type="checkbox"/>
F.6 Capacity support required	<input type="checkbox"/>

G Relevant National Policies strategies, plans and programmes and/or other mitigation action

G.1 Relevant National Policies	<p>The build up of NAMA capacities including its functioning institutions, certainly in the AFOLU sector, requires concise capacity building efforts.</p> <p>In accordance with the Law “On Forest” adopted by Uzbek Parliament (Oliy Majlis) in April 15, 1999, and resolutions of the Cabinet of Ministers #32 of 17.01.2001 “On Improving of Activities of the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan (MAWR)”, #160 of 30.03.2001 “On Approval of Provisions for the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, Main Department of Forestry...” the MDF has been entrusted with functions as a governmental body responsible for forestry sector in Uzbekistan. The MDF implements are activities jointly with local government at province and district level jointly with subordinated enterprises (leskhoz).</p> <p>While the National Forest Programme and the Forest Code is under preparation, forest management is governed by 5-yearly-forestry plans approved by MAWR. The plan entail, among other, annual afforestation targets (42,000 hectares for the whole country, 39,000 hectares of which to be borne by Karakalpakstan for Saxaul afforestation) as well as protection of 3,000,000 ha of forest.</p>
G.2 Link to other NAMAs	.

H Attachments

H	Attachments	Title Description
H.1	Attachment description	
H.2	File	<input type="text"/> <input type="button" value="Browse..."/>

I Support received

I.1 Outside the Registry

GEF/UNDP Small Grants Programme (www.sgp.uz), jointly with Main Department of Forestry and Michael Succow Foundation for the Protection of Nature (Germany) (www.succow-stiftung.de/home.html) were starting to implement small scale pistachio growing centers in Jizzak, Surkhandarya, Andizhan and Tashkent Provinces.

I.2 Within the Registry -

Source	Amount	Date
SGP GEF/UNDP, Jizzak province	93.487 USD	2009-2011
SGP GEF/UNDP, Jizzak province	87.298 USD	2011-2013
SGP GEF/UNDP, Surkhandarya province	70.138 USD	2012
SGP GEF/UNDP , Andizhan province	147.193 USD	2013-2014
SGP/GEF/UNDP / Main Department of Forestry, Michael Succow Foundation for the Protection of Nature (via German Ministry of Environment, Nature Protection, Building and Nuclear Safety) Tashkent Province	64,864 USD	25.11.2013 – 31.07.2014

I.2 Within the Registry

Support provided	SupportType	Amount	Comment	Date
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