



**GREEN
CLIMATE
FUND**

Meeting of the Board
17 – 20 October 2018
Manama, Bahrain
Provisional agenda item 17

GCF/B.21/10/Add.33

26 September 2018

Consideration of funding proposals - Addendum XXXIII

Funding proposal package for SAP002

Summary

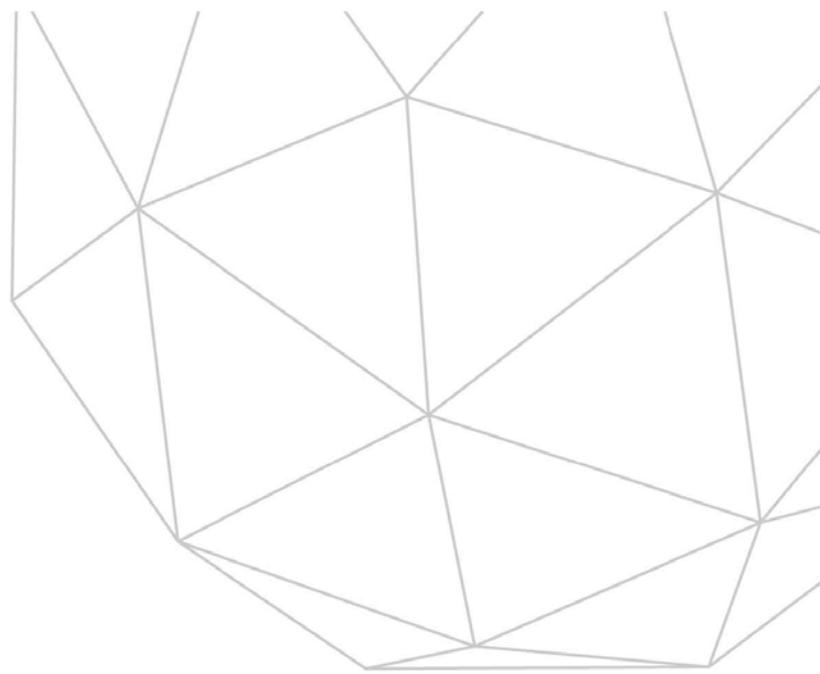
This addendum contains the following seven parts:

- a) A funding proposal titled “Climate services and diversification of climate sensitive livelihoods to empower food insecure and vulnerable communities in the Kyrgyz Republic”;
- b) No-objection letter issued by the national designated authority(ies) or focal point(s);
- c) Environmental and social report(s) disclosure;
- d) Secretariat’s assessment of the funding proposal;
- e) Independent Technical Advisory Panel’s assessment of the funding proposal;
- f) Response of the accredited entity to the independent Technical Advisory Panel’s assessment of the funding proposal; and
- g) Gender documentation of the funding proposal.

The funding proposal package for SAP002 was formerly submitted for the Board’s consideration at its twentieth meeting and it remains unchanged.



GREEN
CLIMATE
FUND



Funding Proposal

Version 1.1

The Green Climate Fund (GCF) is seeking high-quality funding proposals.

Accredited entities are expected to develop their funding proposals, in close consultation with the relevant national designated authority, with due consideration of the GCF's Investment Framework and Results Management Framework. The funding proposals should demonstrate how the proposed projects or programmes will perform against the investment criteria and achieve part or all of the strategic impact results.

Project/Programme Title: Climate services and diversification of climate sensitive livelihoods to empower food insecure and vulnerable communities in the Kyrgyz Republic

Country/Region: Kyrgyz Republic/Central Asia

Accredited Entity: UN WFP

Date of Submission: 21 March, 2017

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Note to accredited entities on the use of the funding proposal template

- Sections **A, B, D, E** and **H** of the funding proposal require detailed inputs from the accredited entity. For all other sections, including the Appraisal Summary in section F, accredited entities have discretion in how they wish to present the information. Accredited entities can either directly incorporate information into this proposal, or provide summary information in the proposal with cross-reference to other project documents such as project appraisal document.
- The total number of pages for the funding proposal (excluding annexes) is expected not to exceed 50.

Please submit the completed form to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

“FP-WFP-21032017-03”

A.1. Brief Project / Programme Information		
A.1.1. Project /programme title	Climate services and diversification of climate sensitive livelihoods to empower food insecure and vulnerable communities in the Kyrgyz Republic.	
A.1.2. Project or programme	Project	
A.1.3. Country (ies) / region	Kyrgyz Republic	
A.1.4. National designated authority (ies)	Mr. Abdykalyk Rustamov Director State Agency on Environment Protection and Forestry	
A.1.5. Accredited entity	United Nations World Food Programme	
A.1.5.a. Access modality	<input type="checkbox"/> Direct <input checked="" type="checkbox"/> International	
A.1.6. Executing entity / beneficiary	Executing Entity: State Agency for Environmental Protection and Forestry, Ministry of Agriculture, Food Industries and Melioration and Ministry of Emergency Situations, Ministry of Labour and Social Development Co-Executing Entity: WFP Country Office in the Kyrgyz Republic Beneficiary: Climate vulnerable, poor and food insecure communities in rural Kyrgyz Republic	
A.1.7. Project size category (Total investment, million USD)	<input checked="" type="checkbox"/> Micro (≤ 10) <input type="checkbox"/> Small ($10 < x \leq 50$) <input type="checkbox"/> Medium ($50 < x \leq 250$) <input type="checkbox"/> Large (> 250)	
A.1.8. Mitigation / adaptation focus	<input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> Adaptation <input type="checkbox"/> Cross-cutting	
A.1.9. Date of submission		
A.1.10. Project contact details	Contact person, position	Andrea Bagnoli, Country Director
	Organization	UN World Food Program
	Email address	andrea.bagnoli@wfp.org
	Telephone number	Office no: +996 312-660-033
	Mailing address	UN WFP 150 Panfilova Street, Bishkek, Kyrgyz Republic

A.1.11. Results areas <i>(mark all that apply)</i>	
Reduced emissions from:	
<input type="checkbox"/>	Energy access and power generation (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
<input type="checkbox"/>	Low emission transport (E.g. high-speed rail, rapid bus system, etc.)
<input type="checkbox"/>	Buildings, cities and industries and appliances (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
<input type="checkbox"/>	Forestry and land use (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)
Increased resilience of:	

<input checked="" type="checkbox"/>	Most vulnerable people and communities (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
<input checked="" type="checkbox"/>	Health and well-being, and food and water security (E.g. climate-resilient crops, efficient irrigation systems, etc.)
<input type="checkbox"/>	Infrastructure and built environment (E.g. sea walls, resilient road networks, etc.)
<input type="checkbox"/>	Ecosystem and ecosystem services (E.g. ecosystem conservation and management, ecotourism, etc.)

A.2. Project / Programme Executive Summary (max 300 words)

The project “Climate services and diversification of climate sensitive livelihoods to empower food insecure and vulnerable communities in the Kyrgyz Republic” (henceforth ‘the project’) will contribute to the capacity of the Government of Kyrgyz Republic, its line ministries, and local authorities and communities to implement climate change adaptation activities in the food security and nutrition and agricultural sectors of the country. The objective is to support the Government of the Kyrgyz Republic to reduce its vulnerability to climate change and to increase the adaptive capacity and resilience of rural communities in Osh, Batken and Naryn provinces, which are increasingly affected by climate change impacts and suffer from low adaptive capacity.

The underlying principle of project implementation is an innovative yet pragmatic set of actions. These include an informed top-down but user-tailored generation and dissemination of climate services, a focused effort to support climate change adaptation actions at community level, and a generation of knowledge, awareness and best practices to inform broad-based capacity building and improved decision making, which taken together will contribute to an enabling environment for climate action in the Kyrgyz Republic.

The proposed GCF project will support 102,000 direct (20,400 households) and 700,000 indirect beneficiaries in the Batken, Osh and Naryn provinces through implementation of the following three inter-linked components:

1. Climate services to support vulnerable rural communities to plan for and manage climate risks and increased weather variability¹;
2. Livelihood strengthening and diversification to increase the adaptive capacity of vulnerable groups and build community resilience; and
3. Capacity building and decision-making support to enhance climate action using a multi-sectoral approach.

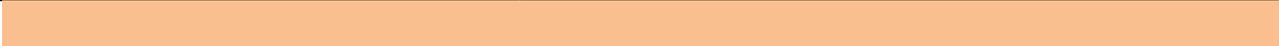
The three components are designed to create synergies and optimize investments made in each component to jointly contribute to the overall project objective, thus contributing to greater efficiency, impact and longer-term sustainability.

A.3. Project/Programme Milestone

Expected approval from accredited entity’s Board (if applicable)	N/A
Expected financial close (if applicable)	2022
Estimated implementation start and end date	Start: September 2018 End: August 2022

¹ Climate services –a climate service is the provision of climate information in such a way as to assist decision-making by individuals and organizations. The service component involves appropriate engagement, an effective access mechanism and responsiveness to user-needs.

Project/programme lifespan	4 years
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B.1. Description of Financial Elements of the Project / Programme

Given the project objective and implementation of three inter-linked components, an economic analysis is provided in Annex 4 (4.6) and Annex 5 (5.4-5.7), reflecting the results at household, community and national level, including cost savings and cost avoidance. The analysis also provides brief information on other non-monetary benefits and presents information on financial viability within 10 and 20 years' timeframe. Details of the analysis are summarized below:

Cost structure: The cost structure is derived from the budgeted costs of the project, which include component implementation, government contributions, capacity building, personnel, employment and goods and services.

Project benefits:

a. Direct benefits:

All direct benefits are computed to occur at the household level through increased incomes from adaptation practices, such as increase in agricultural yields by applying new skills and improved natural resource management, as well as increase of income through processing of agricultural produce and diversification of incomes and resilience of households/livelihoods to shocks. Detailed calculations are provided in Annex 5 (5.4-5.7)

b. Cost savings:

According to a WB and UNICEF study, undernutrition in the Kyrgyz Republic costs US\$32 million annually. These losses are due to losses in productivity as a result of increased mortality and morbidity, and reduced cognitive and physical development. About US\$ 6 million could be saved nationwide annually through multiple nutrition interventions. With regard to nutrition improvement activities under the project, costs savings could be assumed to be generated from interventions in target areas. For the use of alternative energy use for heating and cooking and insulation of houses, cost savings would be generated from a reduction in the use of traditional energy use.

c. Cost avoidance:

The Ministry of Emergencies estimates that during 2014-2016, there were 129 disasters (mudflow, landslide, flooding, inundation, avalanches, frost and hail) in project target areas, resulting in US\$12.3million of losses to assets and livelihoods. Risk reduction activities, such flood protection and slopes reinforcement, disaster awareness raising, rehabilitation of mudflows and dams, will protect lives, livelihoods, and public infrastructure, which would result in cost savings. Direct benefits of the proposed project include monetary and non-monetary benefits in the form of higher income from agricultural production thanks to better adapted natural resource base through the rehabilitation of assets and the use of new technologies and practices (e.g. soil and water conservation assets, the use of climate information services and the training provided on renewables).

According to the performed economic analysis, the project presents a > 1 benefit-cost ratio both within 10 and 20 years of project start date. Considering a discount rate of 12%, IRR is 24% in the 10 year scenario and 29% in the 20 years scenario, which indicates cost-effectiveness.

A grant-financing instrument is used for this project, with WFP seeking maximum concessionality to undertake the proposed adaptation investments. Without grant resources, the proposed interventions would not be financially sustainable.

As one of the most climate risk prone country in the region and a low middle-income country, the Kyrgyz Republic has limited financial and technical capacity for financing adaptation investments. The project targets highly vulnerable, food

insecure rural populations, more than half of whom are women, living in disaster prone and food insecure districts dependent on climate sensitive and marginal livelihoods.

- a breakdown of cost/budget by expenditure type (project staff and consultants, travel, goods, works, services, etc.) and disbursement schedule in project/programme confirmation (term sheet) as included in section I, Annexes.

Expected Disbursement (in million USD)

Component	Output	GCF Funding (USD)	Gov. Co-financing (USD)	Total (USD)	Total in local currency (KGS)
Component I: Climate services to support vulnerable rural communities to plan for, and manage climate risks and increased weather variability	Output 1.1	832,370		832,370	57,017,345
	Output 1.2	465,000		465,000	31,852,500
	Output 1.3	602,100		602,100	41,243,850
	Monitoring & Equipment	28,500		28,500	1,952,250
	Sub-total Component 1		1,927,970		1,927,970	132,065,945
Component II: Livelihood strengthening and diversification to increase the adaptive capacity of vulnerable groups and build community resilience	Output 2.1	3,722,860		3,722,860	255,015,910
	Output 2.2	1,894,000	1,038,117	2,932,117	200,850,015
	Monitoring & Equipment	180,000		180,000	12,330,000
	Sub-total Component 2		5,796,860	1,038,117	6,834,977	468,195,925
Component III: Capacity building and decision making support to enhance climate action using a multi-sectoral approach	Output 3.1	348,369		348,369	23,863,277
	Output 3.2	277,821		277,821	19,030,739
	Monitoring & Equipment	36,000		36,000	2,466,000
	Sub-total Component 3		662,190		662,190	45,360,015
PMC		189,088	24,000	213,088	14,596,528
TOTALS		8,576,108	1,062,117	9,638,225	660,218,413

B.2. Project Financing Information

	Financial Instrument	Amount	Currency	Tenor	Pricing
(a) Total project financing	(a) = (b) + (c)	...9.6.....	million USD (\$)		

(b) GCF financing to recipient	(i) Senior Loans	.....	<u>Options</u>	() years	() %		
	(ii) Subordinated Loans	.....	<u>Options</u>	() years	() %		
	(iii) Equity	.....	<u>Options</u>		() % IRR		
	(iv) Guarantees	.....	<u>Options</u>				
	(v) Reimbursable grants *	.....	<u>Options</u>				
	(vi) Grants *	8.5	<u>million USD</u> (\$)				
* Please provide economic and financial justification in section F.1 for the concessionality that GCF is expected to provide, particularly in the case of grants. Please specify difference in tenor and price between GCF financing and that of accredited entities. Please note that the level of concessionality should correspond to the level of the project/programme's expected performance against the investment criteria indicated in section E .							
Total requested (i+ii+iii+iv+v+vi)		8.576	<u>million USD</u> (\$)				
(c) Co-financing to recipient	Financial Instrument	Amount	Currency	Name of Institution	Tenor	Pricing	Seniority
	<u>GrantGrant</u>	1.062	<u>million USD</u> (\$)	Government of Kyrgyz Republic	() years	() %	<u>Options</u>
	<u>GrantGrant</u>	.....	<u>Options</u>		() years	() %	<u>Options</u>
	<u>Options</u>	.....	<u>Options</u>	.....		( ) % IRR	<u>Options</u>
	<u>Options</u>	.....	<u>Options</u>	.....			<u>Options</u>
Lead financing institution: GCF							
* Please provide a confirmation letter or a letter of commitment in section I issued by the co-financing institution.							
(d) Financial terms between GCF and AE (if applicable)	In cases where the accredited entity (AE) deploys the GCF financing directly to the recipient, (i.e. the GCF financing passes directly from the GCF to the recipient through the AE) or if the AE is the recipient itself, in the proposed financial instrument and terms as described in part (b), this subsection can be skipped.						
	If there is a financial arrangement between the GCF and the AE, which entails a financial instrument and/or financial terms separate from the ones described in part (b), please fill out the table below to specify the proposed instrument and terms between the GCF and the AE.						
	Financial instrument	Amount	Currency	Tenor	Pricing		
---	.....	<u>Options</u>	() years	() %			
Please provide a justification for the difference in the financial instrument and/or terms between what is provided by the AE to the recipient and what is requested from the GCF to the AE.							

B.3. Financial Markets Overview (if applicable)

N/A

C.1. Strategic Context

The Kyrgyz Republic is a small land-locked mountainous country located at the center of the Eurasian continent with a territory of 199,9 sq. km; the country borders China, Kazakhstan, Uzbekistan and Tajikistan. It has a population close to 6.2 million², of which 67% live in rural areas and **depend significantly on agriculture and livestock breeding**; welfare payments and remittances represent a significant additional source of income in rural areas.

Climate. The Kyrgyz Republic is **highly vulnerable to climatic shocks** which are expected to increase in frequency and intensity with climate change. Over recent decades, the Kyrgyz Republic has experienced increased weather variability such as **changes in rainfall patterns, an increase in incidences of heavy snowfall, higher numbers of floods and mudflows in spring and an increase in drought and severe cold spells** (Annex 2). The latest scientific evidence suggests that temperature changes, and **increasingly erratic rainfall and glacial melt**, will likely result in more extreme weather events, which are predicted to have a detrimental effect on rural livelihoods and food security.

These events are already having a **negative impact on the livelihoods and food security of vulnerable people** throughout the Kyrgyz Republic. A recent WFP-led analysis³ on the relationship between changes in climate trends and the impact on food security highlighted that **water availability, in particular, is a key climatic variable affecting food security** in the Kyrgyz Republic. The analysis further highlights how the livelihoods and food security of households dependent on small-scale farming, unskilled wage labour and social allowances for their main source of income, are particularly vulnerable to climate risks and their negative impacts on crop productivity and incomes. This is largely due to a low base of assets, information, skills and incomes and limited coping capacities among vulnerable households.

In order to address climate change, its impact and provide guidance for adaptation, the Government of the Kyrgyz Republic has adopted several documents. These include a national policy document on “Priority Directions for Climate Change Adaptation”, “Key directions for developing the Hydrometeorology Agency of the Kyrgyz Republic until 2017”, several sectoral Adaptation Action Plans to Climate Change, as well as three National Communications submitted to UNFCCC. **The Third National communication (TNC) report of the Kyrgyz Republic to UNFCCC, studies of ADB and WB⁴ analysis confirm the expected negative impact of climate change on the national economy, mainly on agriculture and natural ecosystems, and emphasizes the urgent need for adaptation.**

According to the WB⁵ water availability is projected to rise until 2025, due to glacial melt. Thereafter, it will fall, as the supply of water for irrigation declines. This combination of higher summer temperatures and less access to water for irrigation is the major long-term risk for agriculture. In the following graphics⁶ the long term estimate of possible change in the surface runoff by all basins considering the glacial fluid loss is given. These data indicate a significant runoff reduction under all possible scenarios and options for precipitation changes. However, the range of the reduction is very wide. The decrease in the surface runoff will be the greater, the greater are the expected the surface temperature

² Kyrgyzstan in numbers. National Statistics Committee, January 2018

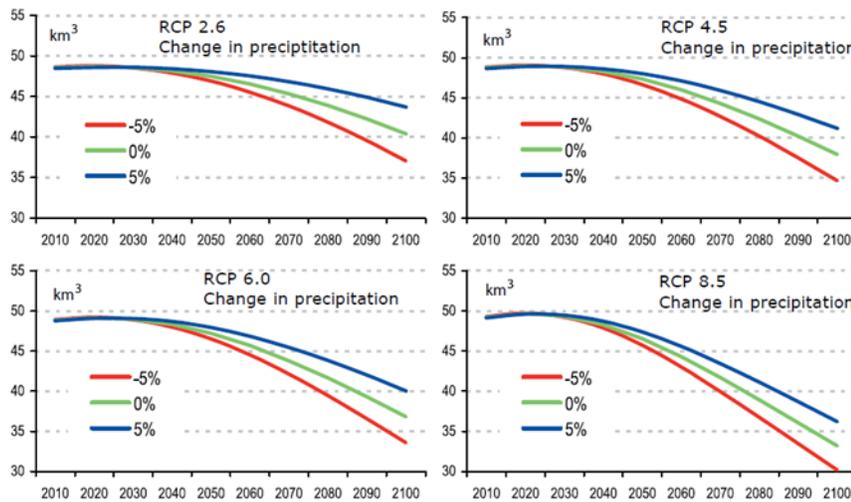
³ Kyrgyz Republic. AN overview of climate trends and the impact on food security. 2014. SAEPP. Climate change center. WFP. National Agency for Hydrometeorology. <https://www.wfp.org/content/kyrgyz-republic-overview-climate-trends-and-impact-food-security-june-2014>

⁴ Agricultural sector risk assessment, Kyrgyz Republic. Sandra Broka and et.al, WB 2016

⁵ ibid

⁶ Ilyasov Sh. A. “Climate Change: World, Central Asia and Kyrgyzstan in facts and numbers.”, Bishkek, 2016 – 40p.

increase and precipitation decrease. According to the worst-case climate change scenario (RCP 8.5 scenario), the water runoff may reduce approximately 40% during this century, causing a major long-term risk for agriculture.



Estimation of surface runoff for selected hydrological basins showed small changes in the difference between the two, determined by the specific conditions of the runoff formation zone.

The water resources of the country are mainly generated by glaciers and snow melt that are fed by rivers. According to the studies, during 1970-2000 (WB, 2009), the area of **glaciers already decreased by 19.8%** and will continue to decline in correlation with rising temperatures. Glaciers are important for water availability for irrigation not only in the Kyrgyz Republic but for other neighboring Central Asian countries, which rely on the mainly trans-border rivers of the Kyrgyz Republic.

Water resources and irrigation is therefore expected to experience negative impacts considering that availability of stable irrigation water for agriculture is critical for 80% of arable land which depend on irrigation.

Further studies identified the following impacts:

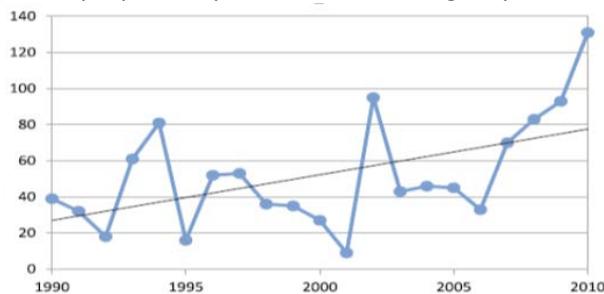
- a) Land degradation, droughts and desertification:
 - The analysis of the National Academy of Science estimates **an increase in desert and semi-desert of up to 49% by 2100**, which will **directly affect crop productivity**. Similarly, the Second National Climate Change Communication (GoK/UNEP 2009) and Climate risk profile (UNDP/SAEPF 2015) highlighted that **climate change conditions affect crop production in many different ways, including reduced surface water sources, drying of farmland, and increases in extreme climate events such as drought**. The Climate Risk and Food Security (WFP/SAEPF 2014) study illustrated how climate conditions may affect diet quantity and quality through a direct impact on food production and an indirect impact on food prices leading to increases in price of nutritious food.
 - Climate Change Impact on Pastures and Livestock System in the Kyrgyz Republic (IFAD 2014) stresses that **livelihoods of livestock farmers and fodder producers will be more affected by climate-induced hazards, because there will be less access to pastures, and greater risk of damage to infrastructure**.
 - **Climate change will accelerate land degradation and aggravate disaster risk:** The National Sustainable Development Strategy for 2013 – 2017 emphasized the impact that land degradation has on achieving sustainable development. It specifically highlighted that “the degradation of agricultural land that is occurring now is a significant threat to food security of the country and moves this threat from a category of environmental threat to that of threats to sustainable national development”. This is highlighted as a priority for action in the new Government programme 2018-2022. The Second National Climate Change Communication (Government of Kyrgyz Republic 2009) states that there is a noticeable trend of degradation of cultivated lands due to salinization,

waterlogging and desertification. If land is heavily degraded, the land is no longer protected so the impact of floods, mudflows and droughts is worse. This is because exposed and eroded soils are less able to withstand the natural elements such as rain, wind and high temperatures.

b) Climate-related disasters such as floods, mudflows and landslides:

- The occurrence of climate emergencies is closely associated with extreme weather events. Major emergencies in the country are monitored since 1951. According to analyses of the number of past natural disasters, it is concluded that **during 1990-2010 an increase in the number of climate related disasters was observed**. The rate of increase varies but the **highest is for mudflows and floods**; the change in the number of emergency situations when the temperature changes by 1 C was also determined as demonstrated below:

The tendency of variability in the number of mudflows and floods (source: Climate Profile of the Kyrgyz Republic (2013) prepared by UNDP and State Agency for Environmental Protection and Forestry)



Based on variability in the ES number and given temperature variability for the period 1990 – 2010, estimated changes in the number of ES attributable to the temperature increase by 1°C, which in accordance with the observed tendency corresponds to a time interval of about 25 years. (source: Climate Profile of the Kyrgyz Republic (2013) prepared by UNDP and State Agency for Environmental Protection and Forestry)

ES type	The increasing ES number for 1990 – 2010	The increase in ES number due to temperature increase by 1oC
Mudflows and floods	50,57	34,4
Landslides	1,896	1,23
Avalanches	26,728	18,2
Flooding	5,376	3,65
Rainstorms	4,416	3,00
Hurricane winds	23,062	15,7
Hail	2,832	1,92
Snowfalls	6,026	4,09

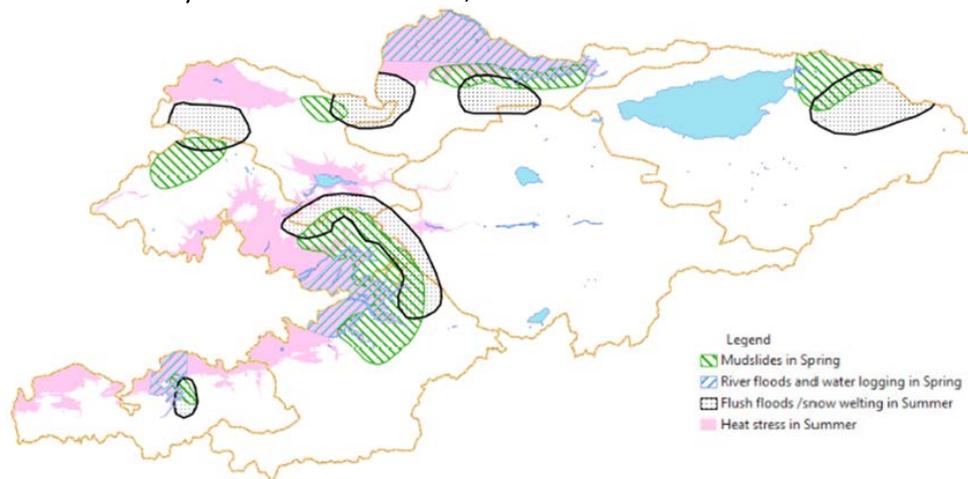
- Key reference documents including the National Priority Direction, SAEPF/UNDP (2013), IFAD (2014) and SAEPF/WFP (2014) also report that climate-related disasters have become more frequent over the last two decades. Whilst an increase in precipitation during winter and snow and glacial melt during spring are likely to be associated with more intense floods and mudflows, an increase in temperature could result in an increased drought risk.
- Another assessment on “Kyrgyzstan Climate Risk Profile” was carried out in 2013 (CAMP Alatau, UNDP)⁷ indicates that floods and flash floods are the most significant climate-related disaster in the Kyrgyz Republic, which has

⁷ Climate Risk Assessment Guide Central Asia, Camp Alatau, UNDP, 2014

already caused an estimated US\$ 66 million in damage between 2000 and 2011. **Extensive areas of the Kyrgyz Republic are vulnerable to large landslide hazards.** Landslides are activated with water such as following large rainstorms. **If climate change causes more frequent high intensity rain, landslides may also grow in frequency and magnitude.** None of the major landslide areas that threaten villages are equipped with monitoring and warning instrumentation, leaving their populations vulnerable to landslide hazards.

c) Impacts to the target population of the proposed project:

- The National Priority Directions for Adaptation to Climate Change (Government of the Kyrgyz Republic, 2013) emphasizes that **the negative impact of climate conditions such as environmental degradation and increases in climate-related natural disasters will be predominantly transmitted to rural households, particularly low-income groups, whose primary livelihoods are agriculture.** The Kyrgyzstan Climate Risk Profile (UNDP/Camp Ala-Too 2013) highlights the disproportionate impact of climate risk on livelihoods in provinces such as Batken, Jalalabad and Osh, due to their higher exposure to climate related disasters and limited income opportunities.
- Again, according to the IFAD study of 2014, mentioned in the previous section, the targeted areas of Osh and Batken will be affected by heat stress in summer, as well as mudslides and river floods and water logging in spring.



Based on this evidence, agriculture has been identified as the most climate-sensitive sector, since its productivity depends on climatic conditions, including annual precipitation level, seasonal distribution of rainfall and moisture content during the growing season. Droughts, hail, frosts and other weather phenomena have a significant impact on agriculture affecting yields and stability of production in the Kyrgyz Republic. These impacts play a critical role in the livelihoods of some of the most vulnerable people who mainly rely on agriculture as their main income source.

Climate risk overlays an already critical context.

The Kyrgyz Republic's macro-economic environment is highly unstable. According to the IMF⁸, despite significant reforms over the past two decades, persistent structural weaknesses limit potential growth. A dependence on gold, remittances, and foreign aid leave the economy vulnerable to external shocks and impede the achievement of broad-based prosperity. As productivity lags, growth continues to rely on large-scale capital spending and an abundant supply of labour. The link between credit expansion and economic growth is weak as the financial sector is still underdeveloped. Still nascent institutions, frequent changes in government, and a challenging business environment further hamper economic development. The regional economic slowdown, transmitted primarily through a decline in remittances, a slowdown in trade, and exchange rate pressures, has amplified domestic vulnerabilities. At the same

⁸ Kyrgyz Republic. Selected issues. 2015. <https://www.imf.org/external/pubs/ft/scr/2016/cr1656.pdf>

time, large external borrowing has significantly increased debt levels, while the depreciation of the national currency (the Kyrgyz Som) has elevated financial and debt vulnerabilities. The economy continues to face significant challenges associated with the weak regional economic environment, high public debt, and the transition related to the country's entry into the Eurasian Economic Union in May 2015. These challenges, together with volatile growth and inflation, increase the economy's vulnerability to external shocks.⁹ The Government's National Development Programme 2018-2022 aims to address some of these constraints by providing an improved economic base for greater macro and micro stability within the country.

Poverty disproportionately affects rural populations, young people and women, increasing the vulnerability of these groups. The national poverty rate in 2016 stood at 25.4% with considerable regional variations in prevalence.¹⁰ According to the National Statistics Committee, in 2016, the overall poverty rate decreased by 6.6% compared to 2015. While poverty decreased in Jalalabad (45% to 32%), Osh provinces (29% to 22%), Batken (41.% to 37.%), Issykul (29% to 25%), and remained unchanged in Naryn (35%), it increased in Chui (25% to 30%), which indicates significant fluctuations and prevalence¹¹ The prevalence of poverty also impacts educational attainment and national skills levels as a large proportion of young people in poverty do not complete secondary schooling.¹² A considerable gender gap is also present in the Kyrgyz Republic, with women experiencing greater barriers to accessing productive assets and capital than men. Women are also heavily employed in the informal sector, which increases income insecurity.¹³ Poverty reduction is a major focus of the Government's National Development Programme 2018-2022 and related sectoral plans/programmes, such as the food security and nutrition programme.

Food insecurity is closely correlated with chronic poverty in the Kyrgyz Republic, with a significant portion of the income of poor families spent on food. There is cause for concern as food insecurity and undernutrition affects the wellbeing of a significant part of the population, with climate change impacts likely to further exacerbate the situation. A large proportion of poor households cannot afford to access enough nutritious food to live a healthy and active life. Seasonal variations including volatile food prices, as well as natural disasters, affect the food insecure, and the transient poor (10-15% of the population) who remain at risk of falling into food insecurity. According to latest estimates (2017 SOFI), about 6% of the population or 340,000 people, are estimated to be suffering from dietary energy deficiency (undernourishment). However, this does not take into account the severe deficiency in the quality of food and micronutrient intake. According to the most recent Democratic and Health Survey (DHS), conducted in 2012, 43% of children under five years of age, and 39% of women of reproductive age, were diagnosed with iron deficiency anemia, and 13% of children under five year of age were suffering from chronic malnutrition¹⁴. These rates are significantly higher than the prevalence of dietary energy deficiency, indicating a prolonged inadequate consumption of nutritious food. The Food Security Law (2016) and the Food Security and Nutrition Programme, the latter which incorporates a nutrition improvement plan, makes an effort to address these constraints.

⁹ <http://www.imf.org/external/np/country/notes/kyrgyzrep.htm>

¹⁰ National Statistics Committee, 2016, Poverty headcount ratio at national poverty line (%age of population).

¹¹ World Bank, Poverty Reduction and Economic Management Unit Europe and Central Asia Region, Mahadevan, M., Yoshida, N., & Praslova, L., April 2013, Poverty Mapping in the Kyrgyz Republic: Methodology and Key Findings, Table 5. Available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/04/16/000445729_20130416152925/Rendered/PDF/766900WPOP12200ty0Map0Apr4020130ENG.pdf

¹² Government of the Kyrgyz Republic/United Nations in the Kyrgyz Republic, March 2011, United Nations Development Assistance Framework (UNDAF) for the Kyrgyz Republic 2012-2016. Available at

<https://data.unfpa.org/downloadDoc.unfpa?docId=411>

¹³ Ibid

¹⁴ Multi Indicator Cluster Survey (MICS) 2014

While the agriculture sector decreased from 34% (in 2000) to 12% of GDP in 2017 (NSC 2017), the sector remains the main source of income for 43% of the rural population and employs one third of the county's population. The country has around 300,000 small farms, comprising an estimated 1.5 million people or 25% of the total population, who produce some 90% of agricultural output. They are faced with challenges of low levels of productivity, aggregation, limited access to services such as storage, processing and certification facilities, marketing challenges and high logistical costs, which prevent competition with other regional producers. Agricultural lands make up 53% of the total land area, comprising 85% pastures and only 7% is arable land, of which 80% is irrigated. Therefore, the stable supply of irrigation water during the main crop-growing season is a key requirement for smallholder farmers. The irrigation sector suffers from poor investment in infrastructure and is poorly managed, resulting in reduced canal capacity due to water losses and poor maintenance, as well as reduced and unpredictable water availability. The agricultural sector is among the most risk-prone sectors, due to a perpetual cycle of "shock-recovery-shock", which creates obstacles to development and sustainability and reinforces poverty traps. Agriculture-related priorities are addressed in the Government's National Development Programme and related laws such as the Law on Agricultural Development.

High levels of unemployment and a lack of earning opportunities have led to significant levels of external labour migration, leaving behind groups that are more vulnerable to the impact of hazards. Over one million men and women – equivalent to half of the working-age population – have sought work abroad, mainly in Russia and Kazakhstan.¹⁵ Some 30% of the country's GDP is comprised of remittances.¹⁶

Shortly after gaining independence in 1991, the Kyrgyz Republic carried out a successful land reform programme dismantling all state and collective farms. 75-80% of the country's arable land was privatized during a three-phase land reform process. 80% of the rural population received cultivated arable land by 2008 in 900,000 household plots, comprising 300,000 peasant farms (averaging three ha each) (USAID 2011). Women own around 14% of peasant farms. 20-25% of arable land remain under Government control and are leased out to farmers on a short to medium-term basis. Today, the majority of farmers are landowners, but this has not resulted in a significant increase of agricultural production due to the absence of sound policies, investments, limited transboundary trade, poor product quality and inadequate natural resource management policies and practices.

The Kyrgyz Republic has made progress in ensuring an equal status for women and men under the law¹⁷ and addressing gender gaps; the country is ranked 90th (2015) in the Gender Inequality Index¹⁸. However, there are many unresolved issues with regard to the socio-economic status of women such as access to economic opportunities and control over productive resources; as a result, economic activity among women is almost 1.5 times lower than that among men. The hardship of domestic labour in the Kyrgyz Republic is largely female. Rural women (65 % of the female population), who are traditionally engaged in crop production, face even more difficult labour conditions on their land shares and are forced to seek other sources of income. Women spend 3.6 times more time working on household chores than men and twice more on parenting. The most common strategies used to overcome or reduce economic risks in agriculture are migration and the use of unpaid female and child labor. Thus, gender inequality is one of the key factors that reduce the quality of life and basic human development indicators. The Kyrgyz National Gender Strategy (2012- 2020) and Action Plan provide a basis for the government to address these gender issues.

¹⁵ UNISDR, Sub-regional Office for Central Asia and Caucasus, 2010, In depth Review of Disaster Risk Reduction in the Kyrgyz Republic. Available at http://www.unisdr.org/files/14436_14436INDEPTHREVIEWOFDRRINKRfi nal1.pdf; International Labour Organization, 2009, Labour Migration and Productive Utilization of Human Resources: Kyrgyz Republic. Available at <http://www.ilo.org/public/english/region/eurpro/moscow/info/publ/kri19oc09.pdf>

¹⁶ World Bank, 2015, Remittances as % of GDP. Available at <http://data.worldbank.org/>

¹⁷ In 2011, the Electoral Law was amended and now specifies a 30 % quota for either sex on electoral lists

¹⁸ http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf

C.2. Project / Programme Objective against Baseline

As a consequence of high exposure to climatic shocks and a low adaptive capacity, climate change vulnerability in the Kyrgyz Republic is one of the highest in Eastern Europe and Central Asia.¹⁹ Rural populations, which comprise 67% of the total population, are particularly vulnerable and also suffer from the highest rates of poverty and food insecurity. With a high percentage of rural populations living in remote areas, barriers related to low levels of connectivity to infrastructure, markets and basic services are common. To a significant degree, rural populations are engaged in agricultural livelihoods that are directly dependent on their immediate environment and weather-related factors and are therefore highly sensitive to climatic shocks and variability as well as longer term changes in the climate. According to recent estimates, the annual damage to agriculture from climate-related disasters already amounts to more than US\$ 70 million.²⁰

Resources from the Green Climate Fund will be used to achieve the overarching project objective to support the Government of the Kyrgyz Republic to reduce its vulnerability to climate change and to increase the adaptive capacity and resilience of rural communities in Osh, Batken and Naryn provinces. These project areas are characterized by high levels of poverty, a reliance of communities on agriculture for their livelihoods, a high level of exposure to natural disasters and land degradation. They have been identified using WFP's Integrated Context Analysis tool (extended ICA), which was further validated through extensive national and community consultations. The ICA exercise used a convergence of five vulnerability indicators to identify the geographical areas for the project. The five key indicators used for targeting are: i) Share of households with income below the poverty line; ii) Changes in past temperature and precipitation; iii) Income and livelihood reliance on agriculture; iv) Exposure to natural disasters, and v). Levels of land degradation.

The selection process grouped all 40 districts of the country under eight categories (area 1a, 1b, 2a, 2b, 3a, 3b, 4 a, 4b), based on the highest total score from the 5 indicators. Project areas were then selected from a grouping of only the first two categories (category 1a and category 1b) of most vulnerable areas, based on the highest total scores from all five indicators.

The project targets 102,000 direct beneficiaries who live below the poverty line, are food insecure, live in areas prone to climatic shocks (drought in Zone I and floods in Zone 2) and whose food security and livelihoods depend on climate-sensitive sectors. Of these, 50% are women. Indeed, women have significant involvement in crop production and 34.5% of all employed women are engaged in agriculture. Therefore, the selection of beneficiaries is based on the following criteria to ensure the inclusion of the most vulnerable:

- The poorest households, living below poverty line
- Communities, living in disaster risks and climate change prone areas
- Communities, highly depending on agriculture, with poor access to off-farm income generating activities
- The priority will be households headed by women, households with disabled people

(Annex 4).

Through assessments and extensive consultations with stakeholders at national and local levels, three inter-related project outcomes have been identified as critical to achieve the project objective:

Outcome 1: Vulnerable communities are empowered to make informed decisions about their livelihoods, respond to climate risks and opportunities, and adapt to climate-related changes;

¹⁹ Fay and Patel (2008). Taken from World Bank, June 2009, Adapting to Climate Change in Europe and Central Asia.

²⁰ Third National Communication

Outcome 2: Livelihoods are diversified and made climate resilient for vulnerable smallholder farmers and rural communities;

Outcome 3: Knowledge, skills and ownership of local communities and government are improved to manage climate risks and adaptation measures.

The following baseline information is provided with regard to project outcomes:

Outcome 1: Vulnerable communities are empowered to make informed decisions about their livelihoods, respond to climate risks and opportunities, and adapt to climate-related changes

In the Kyrgyz Republic, the Hydromet Agency, under the Ministry of Emergency Situations (MES), is the main government agency responsible for collecting, analyzing and disseminating weather, climate, stream flow and water quality data. The work of the Hydromet Agency is primarily guided by the National Law on Hydrometeorology in the Kyrgyz Republic. The National Law of the Kyrgyz Republic on the Hydromet Agency specifies that the Agency is mandated to manage weather and climate data to the benefit of a wide range of sectors to help reduce risks and generate improved economic benefits from sectors affected by climatic variability.

In recent years, the quality of Hydromet services has significantly declined, and is currently unable to meet the needs of the country.²¹ Indeed, the total number of observation stations have reduced significantly during the last 20 years. Since the 1980s, 62% of weather stations were closed due to a lack of funds, and by 2008, there were only 32 stations left. As of 2017 there are 53 Automatic Weather Stations in the country. These remaining stations were installed during the Soviet era.

Hydromet is responsible for distributing ten-day agro-metrological bulletins to ministries, yet with no direct dissemination to end-users such as farmers and decision-makers at local level. This results in information rarely reaching end-users, limiting their opportunity to act or plan based on forecasts and restricting the opportunity for user feedback on the information provided. In addition, during baseline data collection, very limited evidence of interaction between Hydromet and users in different sectors could be found. Such interaction is typically critical to better understand needs and to identify ways to improve products and information. Weather forecasts and early warning information are applied uniformly to valleys and high mountain areas, which have drastically different weather patterns, thus not fully meeting user requirements.

Hydromet collects and archives historical data on temperature, precipitation, soil moisture, wind speed/direction, air pressure, the height of snow cover. However, the period of availability of data varies for each meteo station, since most of the meteo stations stopped operating in various time periods during last hundred years, it depends on lifespan of the meteostations. For example, for some meteo stations data exists for 1926-2017, 1930-2017, 1976-2017, 1956-2017. Recent efforts to modernize Hydromet infrastructure includes a World Bank project which began in 2012 and has installed 35 modern automated weather stations (AWS) in 2016 and 3 automated hydro stations. These stations have the capacity to provide automated data to Hydromet central servers, which significantly reduces the time and resources required for data processing, thereby allowing more efficient and effective service delivery and more time for analysis.

While the current World Bank project focuses on strengthening the infrastructure and capacities of Hydromet to enable it to observe, forecast, and deliver weather, water and climate services, it does not address the producer-user interface

²¹ This assessment was carried out with the Hydromet staff members and other stakeholders in 2016 using the GFCS tool, which clearly highlighted the need to increase the quality and usefulness of climate services as well challenges in data management, packaging and dissemination of information to end users

and does not tailor specific climate and weather products to user needs²². For example, serious constraints remain in the type of products and content of currently available meteorological information. These are presently limited, consisting of information on daily average temperatures for night and day (through national TV and radio), the type and level of precipitation expected at provincial levels, a 2-3 day advance warnings on extreme weather events such as storms and avalanches disseminated through national TV, radio and text messages for general population.

An important gap identified by the assessment of Hydromet capacity was that it currently does not provide any seasonal forecasts nor conducts any climate-related analytical work. At present the Hydromet unit working on climatology is only responsible for documenting and archiving data, without analyzing past climate trends, nor modeling climate change forecasts. The absence of localized information and long term/and seasonal weather information on temperature changes, early and late frosts, precipitation changes, seasonal water availability, drought early warning is a major constraint for decision making on crop and livestock management and other activities that are specific to local livelihoods in the areas covered under this project.

From an end-user perspective, existing weather services are not providing the required information. Assessments and consultations that include farmers and local communities confirm that while some climate information is available, such as early warnings through SMS from the Ministry of Emergency Situations on extreme weather, rainstorms or snowfalls, these are insufficient and not useful to support livelihood planning in a meaningful way. Weather forecasts by Hydromet are furthermore provided at region or province level, ignoring topographical variations between highlands and lowlands, rendering these services irrelevant as they do not capture local meteorological contexts critical for informing livelihood planning and local needs.

Traditional ways and knowledge to predict weather at local level exists and is able to complement modern climate services in project locations. For instance, by observing the position of the moon, communities can tell whether the month is going to be rainy or dry; by observing the change in the color of the trees, they predict whether winter will come soon or late; by observing fruits of the grapes they can predict if autumn weather is going to be favorable. Some farmers document their cropping season, and compare it with previous years.

Responding to these needs, the first component of this proposal will focus on enhancing the capacity of Hydromet to produce tailored information to end users by strengthening Hydromet services for data collection and generation of information. Automated Weather Stations (AWS) will be installed to generate improved, more reliable, climate data and tackle existing hardware constraints. Training will be provided to staff to support the use of new technologies such as GIS and development of new products including downscaled and additional timescales for weather forecasts. To overcome livelihood planning barriers at local level, this component will also establish new partnerships to strengthen the producer-user interface, including engaging with the private sector to establish sustainable and cost-efficient modes of service transfer, and providing training and skills to strengthen capacities at user level for interpretation of climate data and advisories.

Outcome 2: Livelihoods diversified and made climate resilient for vulnerable smallholder farmers and rural communities

²² This project and two other already completed projects (World Bank “Agricultural Productivity Assistance Project”, 2012-2015 and UNDP’s “Climate Resilience” Project, 2011-2014) have been taken into consideration in this proposal to avoid any duplication of activities

The Third National Communication (TNC) of Kyrgyz Republic²³ and the Sectorial Adaptation Action Plan for Agriculture 2015-2017 highlights the negative impacts of climate change and identifies agricultural-based livelihoods as the most climate-sensitive sector. This is a result of the agricultural sector depending on climatic conditions throughout the year, such as annual precipitation level, seasonal distribution of rainfall and moisture content during the growing season. Climatic shocks such as droughts, hail, frosts and other related weather phenomena also have a significant impact on agriculture and the livelihoods of rural people.

Agriculture employs one third of the country's population with approximately 300,000 smallholder farms. In spite of being responsible for nearly 90% of all agricultural output, these farms are characterized by low levels of productivity exemplified by a low and decreasing GDP share relative to number of people employed in the sector. Key barriers to increased agricultural productivity exists at many levels with key factors including a small average farm size, limited opportunities for processing and marketing, lack of access to technologies, knowledge and capital as well as information that can support risk informed and proactive decision making.

Stability of water resources and irrigation represent a foundation for many agricultural-based livelihoods. In the Kyrgyz Republic, nearly 80 % of the cultivated area is irrigated which is critical for effectively maximizing supporting crops during growing seasons, but also to reduce risks related to rainfall variability. Yet, the combination among limited irrigation infrastructures, evaporation during hot summers leading to losses between 20-40%, as well as unpredictable water replenishment create as main challenges for irrigation.

Variability and potentially longer replenishment cycles of the water tables are set to increase with climate change in the short and long term. The water resources of the country are mainly generated by glaciers and snow melt that feed rivers. These glaciers have decreased by about 20% from 1970 to 2000 according to a World Bank study (2009) and are likely to further decline as temperatures increase. With the worst-case climate change scenario (RCP 8.5), the water runoff may reduce by approximately 40% during this century, causing a major long-term drought risk for agriculture.

In addition to water, with around 5,000 potentially active landslide sites, extensive areas of the Kyrgyz Republic are vulnerable to large landslide hazards. Landslides made up 6,5 % of all the hazard events that occurred in 2016. From 2000-2016 Osh province had 146 landslides, Batken 16, and Naryn 15. However, the number has drastically increased in 2017 with 160 landslides within 5 months in Osh and Batken provinces. The landslides were exacerbated by torrential rains; unusual warm winter and excessive snow melt in spring 2017. 34 people were killed, livelihoods and infrastructure were destroyed. With more frequent high intensity rain landslides are expected to grow in frequency and magnitude. None of the major landslide areas that threaten communities are equipped with monitoring and warning instrumentation, leaving their populations and valuable assets vulnerable to landslide hazards.

In the proposed project areas of Batken and Osh (referred to as project area **Zone I** and includes Batken, Leilek, Kadamjay Aravan, and Nookat districts) livelihoods are based on crop production and horticulture, with production mostly focused on vegetables, fruits, wheat and potatoes. The second project area, **Zone II**, is located in Jumgal, Naryn and Ak-Tala districts of the Naryn province and the majority of the rural population are engaged in animal husbandry, and potato, wheat and fodder production.

Poor households in these provinces clearly have a high reliance on climate-sensitive income sources which combined with low incomes makes them vulnerable to climate change with limited opportunities and resources to adapt their livelihoods.

²³ Agricultural sector risk assessment, Kyrgyz Republic. Sandra Broka and et.al, WB 2016

Climate impacts highlighted in the TNC of Kyrgyz Republic and the Sectorial Adaptation Action Plan on Agriculture 2015-2017 are progressively seen as major challenges to livelihoods in the project areas (Annex 3). Rural communities in Batken, Osh and Naryn, experienced increasing weather unpredictability with deviation from well-known and established weather patterns. For example, due to unexpected hail storms during summer, delayed vegetation, early and late seasonal frosts, and snow in early summer, agricultural based livelihoods in the project areas have negatively been impacted. With an increase in variability, ensuring sufficient water during critical growing seasons have been made more difficult. Heavy rains resulting in flash floods are another cause of devastation to these livelihoods. In Zone I during the last vegetation season, 40% of the crops were lost due to the heavy rains, with farmers having to replace expensive input such as seeds, that were lost due to weather anomalies. As rural communities grow a very limited range of crops²⁴ and do not engage in a diversified set of activities there is also a high concentration of risk to their income base, especially when faced with recurrent climatic shocks.

A more varied portfolio of income generating activities would be beneficial to people’s capacity to adapt. However, project areas lack the needed capacities to support diversification, value-addition and thereby generate higher and more stable income opportunities. In many cases, singular focus on specific crops such as potatoes, also has a negative impact on dietary diversity and nutritional status of communities²⁵. Authorities have been unable to fully support affected households, including due to limited capacities and resource shortfalls. Main barriers include lack of access to quality information and appropriate agricultural practices, as well as lack of adaptation assets that reduce the identified climate related impacts.

Hydro energy plays a significant role, accounting for over 90% of electricity production in the Kyrgyz Republic. Despite the good coverage, the reliability of power supply decreases significantly in winter, as the network load at this time is three times as high as the load in summer. While the inflow is expected to increase in short term, according to the analysis conducted by National Academy of Science on “Stocks and potential of Hydro-energy resources of Kyrgyz Republic and forecast till 2100”, the shortfall of production and supply is already expected between 2020-2030. The analysis display (table below) scenarios on hydro-power production potential with increase of temperature by 1.5, 4 and 6.4 (for the period of 2030-2100 – for each decade) with the demand on GDP growth of 4% and 4 to 2%. In these scenarios, the shortfall in hydro-energy supply is already expected between 2020-2030.

Year	Guaranteed hydro-energy potential (at increase of temperature by: Billion kW hour per year			Required billion kW - hour per year	
	t - 1.5 - p - 1	t - 4 - p - 1	t - 6.4 - p - 0.9	with GDP growth of 4% a year	With GDP grown 4-2% a year
2020	30,98	31,56	32,09	31,97	31,97
2030	30,91	31,55	31,42	47,32	47,32
2040	30,67	31,32	29,84	70,03	63,41
2050	30,29	39,81	27,62	103,65	84,37
2060	29,76	28,53	25,18	153,40	113,85
2070	29,11	26,74	22,63	227,04	138,90
2080	28,29	25,32	20,28	336,01	169,35
2090	27,34	23,57	18,09	497,30	206,73

²⁴ Climate risk and food security in the KR, 2013, SAEPF and WFP

²⁵ As an example, near 40% of women in reproductive age and more than 40% of children under five suffer from iron deficiency anemia.

2100	26,27	21,79	15,93	736,00	252,21
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The situation is further exacerbated by poorly insulated houses, which drives up energy consumption. Access to natural gas is limited and the price of coal is expensive during winter months resulting in communities resorting to cutting down trees for firewood as a coping mechanism.

The component II of this proposal will therefore seek to strengthen communities’ adaptive capacities by (1) Improving risk informed planning by communities, diversifying their income generating activities and, adapting and protecting their natural resource base and livelihoods; and (2) promote low cost locally adapted renewable energy sources. These efforts – identified as high priorities during community consultations - will overcome barriers related to high exposure and concentration of risks by supporting off-farm livelihood activities that provide additional incomes that is not climate-sensitive. It will also reduce risks to existing agricultural livelihoods by improving agricultural practices and by rehabilitating community level structures such as irrigation canals and check dams. And it will promote knowledge and training of key risks and their associated impacts on livelihoods and people, as well as opportunities related to marketing of products and energy efficiency.

Outcome 3: Knowledge, skills and ownership of local communities and government improved to manage climate risks and adaptation measures

The Kyrgyz Government has adopted a number of key national documents for promoting climate change adaptation which are relevant for the proposed project and related target locations, such as the Priority Directions for Climate Change Adaptation and sectorial adaptation action plans in agriculture, forestry and biodiversity, disaster risk reduction and health sector. The Government also conducts regular assessment of vulnerability of key sectors of economy to climate change and invests in understanding future climate change scenarios and priority for actions, which has been used to develop and submit Intended Nationally Determined Contributions (INDC) to the UNFCCC.

Consultations with key national and sub national stakeholders and focus group discussions conducted with communities have revealed some significant gaps in understanding of climate change and its impacts, as well as the implementation and monitoring of policies (Annex 3). Although documents are circulated and disseminated at the national level among a wide range of government and non-government stakeholders, there is limited coordination. Particularly inter-ministerial coordination is insufficient with institutions largely operating in a silo approach which indicates limited complementarities and synergies between national institutions. There is also a lack of focused capacity building of line ministries responsible for implementation of sectorial adaptation action plans on climate change. At the same time, there is lack of young professionals within national government institutions to address climate change issues, which will have an impact on the long term capacity of Government ministries and also negatively influences the introduction of innovations and dissemination of modernized technologies, practices and skills.

Moreover, national level studies on climate change and adaptation policies are not transmitted to the sub-national and grassroots level. Interviews with local government authorities and consultations with communities show both local government and communities have limited understanding and knowledge about climate change nor the capacity to take appropriate and pro-active adaptation measures. Local government authorities are frequently not aware and do not have sufficient information about adopted policies related to climate change adaptation for key vulnerable sectors (Annex 3). Furthermore, while agronomists, water technicians and other specialists at local level often have the required expertise, the awareness of sectorial adaptation action plans is low and practical tools and other resources to deal with climate change adaptation are often missing. Similarly, while local government develop and update local community development plans annually, but these plans are not informed by climate risks, their impact on community development and hence do not consider any relevant adaptation measures.

In relation to the gaps mentioned above, the project will strengthen the technical knowledge of line ministries such as MoAFIM, MES/Hydromet, SAEPF, MLSLSD, local government and academia through specialized regional and international workshops to link knowledge exchange and feedback systems. A specific emphasis will be given to developing training modules on climate change adaptation, tools will be developed to support local level climate risk profiling which can support adaptation planning. Emphasis will also be put on supporting exchange of experience and documentation of lessons learned and best practices. Workshops and conferences will take place to ensure feedback and that grassroots adaptation practices are disseminated and inform policy development. Awareness raising and capacity strengthening at local level, in addition to training, will also include using films and posters which are in line with national and sectorial adaptation policies and recommendations.

Component 3 of the project will therefore largely focus on supporting national institutions to address the above-mentioned challenges identified during consultations at national and field levels. Through support to effective capacity development, Government and communities will be capacitated to develop risk-informed plans and to identify the most effective and efficient approaches to adapt to climate risks to support sustainable and climate resilient development.

International development organizations implement several projects in the Kyrgyz Republic which focus on sustainable management of natural resources, climate-smart agriculture and knowledge management. Some of these projects operate within the same area and thus are potential partners for cooperation with WFP.

Most important projects are:

- Readiness and Preparatory Support Proposal, 2017 – 2019, FAO (GCF funded)
- Livestock and Market Development Programme – II (Batken, Jalal-Abad, Osh provinces), 2014 – 2019, USD 39.5 million, IFAD
- Livestock and Market Development Programme – III, (Chui, Talas provinces), 2014 – 2019, USD 33 million, World Bank
- Integrated natural resources management in drought-prone and salt-affected agricultural production landscapes in Central Asia and Turkey (CACILM-II), 2017 - 2021, FAO
- Sustainable management of mountainous forest and land resources under climate change conditions, (Chui, Issyk-Kul, Naryn, Jalal-Abad, Osh Provinces) 2014 - 2018, USD 5.5 million, FAO
- The Second On-Farm Irrigation Project, USD 22.55 million, World Bank
- Climate Adaptation and Mitigation Program for the Aral Sea Basin (CAMP4ASB), in Tajikistan and Uzbekistan, 2016 - 2022, USD 38 million, World Bank
- Cross-border Cooperation for Sustainable Peace and Development (Kyrgyzstan, Tajikistan), 2018-2019, USD 2 million, UN-Organisations
- Strengthening of livelihoods through climate change adaptation in Kyrgyzstan and Tajikistan, 2014 - 2018, GIZ
- Regional programme for sustainable and climate sensitive land use for economic development in Central Asia, 2016 - 2019, GIZ

C.3. Project / Programme Description

Overall Objective: The proposed project aims to support the Government of the Kyrgyz Republic to reduce its vulnerability to climate change and to increase the adaptive capacity and resilience of rural communities in Osh, Batken and Naryn provinces, which are increasingly affected by climate change impacts and has a low adaptive capacity.

To achieve this objective, the project will adopt an integrated approach to strengthen the resilience of climate vulnerable, poor and food insecure communities in selected districts. This will be achieved through the implementation of the following three components:

- Climate services to support vulnerable rural communities to plan for and manage climate risks and increased weather variability;
- Livelihood strengthening and diversification to increase the adaptive capacity of vulnerable groups and build community resilience, and;
- Capacity building and decision-making support to enhance climate action using a multi-sectoral approach.

Selection of proposed target areas: Based on thorough analysis and targeting exercise (Annex 4), the proposed project areas are situated in Batken, Osh and Naryn provinces in the southern and central parts of the Kyrgyz Republic. In the south, this includes the five vulnerable districts of Leilek, Batken, Kadamjay, Nookat and Aravan in Batken and Osh provinces, which form a contiguous **Zone I**, and in the north, the three most vulnerable districts Ak-Tala, Naryn and Jumgal in Naryn province, which form a contiguous **Zone II**. These project areas are characterized by high levels of poverty, communities reliant on agriculture for their livelihoods, and a high level of exposure to natural disasters and land degradation. The changes in past annual temperature and precipitation in these zones are also more significant compared to other provinces in the country. Both zones lack the presence of any specific indigenous groups.

Detailed description of project components: The three components of the project are closely interrelated. Component 1 on climate services will directly inform activities under component 2 and serve to improve household asset bases, increase, protect and diversify livelihoods and improve market access to make the agriculture sector and the livelihoods of rural households more productive, resilient and sustainable. The implementation of components 1 and 2 will be supported by component 3 which will develop capacities and knowledge of national, regional, local authorities and communities, so that stakeholders have the means to plan and implement adaptation activities, take more coordinated action, and are better prepared to respond to climate shocks.

Component I: Climate services to support vulnerable rural communities to plan for, and manage climate risks and increased weather variability

Outcome: *Vulnerable communities are empowered to make informed decisions about their livelihoods, respond to climate risks and opportunities, and adapt to climate-related changes.*

This component will generate and disseminate tailored, demand-driven climate services to support improved livelihood planning and climate change adaptation activities. These services will be provided for risk prone communities with a focus on reaching the most vulnerable farming and pastoral communities. 20,400 households will subscribe for SMS based information system through 1 or 2 intermediaries and 50 local advisories. 700 000 beneficiaries will receive climate information through TV and Radio programmes in 8 districts of 3 provinces in the country. The project envisages engagement with two of the largest telecommunications companies such as Megacom and Beeline for delivering the SMS based services.

The delivery of high quality and timely daily and seasonal climate forecasts to climate vulnerable communities in rural areas will support the ability of these communities to plan for, and implement, livelihood actions suited to changes in local climatic conditions. Activities in this component are linked to activities supporting livelihoods with climate services under component II. In turn, component III of this proposal will support component I by ensuring that target communities have the required capacities to access, interpret and take action based on the use of climate services.

The component will focus on two levels: (i) strengthening the capacity of national level service providers (the Hydromet Agency, technical specialists and intermediaries), and (ii) support to end-users (district authorities and planners, agriculture and livestock farmers, and other households with climate vulnerable livelihoods). By connecting these two levels, national services will be better equipped to develop products that support decision-making among end-users and enable them to better plan and adapt to a changing climate.

The information tailored to the needs of the users will be supported by:

- (i) Production of agro-met advisory services (medium to short-term) for local level dissemination;
- (ii) Knowledge sharing and learning to improve user understanding of weather and climate forecasts and data and their limitations.

This component will include a focus on building the capacity of agricultural intermediaries²⁶ and technical specialists of the MoAFIM, which will be undertaken in coordination with Hydromet, to translate climate information into agro-climatic advice and help farmers optimize overall risk management, planning and decision-making.

To ensure the long-term sustainability of interventions, there will be a strong emphasis on creating a demand-driven model for climate information and services which will encourage public and private sector stakeholder involvement. By

advocating for and strengthening knowledge management and transfer through national, sub-national, and local communities, climate information and services will become an integral part of decision-making at all levels.

A critical aspect of component I on climate services is how it integrates with the other components of the project. Climate services will specifically be linked to the decision-making, planning and implementation of activities featured in both components II and III. Farmers who participate in the project and have access to climate services will be supported to identify appropriate crop and livestock management actions including adjusting crop varieties, planting times, storage, and irrigation, harvest collection times and respond to information such as early warning against frosts, and counter the seasonal variability of water for irrigation, in accordance with short-term and seasonal information provided by climate services. Component 3 of this proposal will facilitate training of farmers to take advantage of climate services while also supporting enabling environment for risk profiling, participatory adaptation planning and knowledge sharing.

The following outputs and activities are planned under component I:

Output 1.1.: Enhanced capacity of Hydromet to produce tailored climate information to end-users

Activity 1.1.1.: Strengthen capacities of the national Meteorological Hydromet service for data collection, translation and generation of tailored climate information

This activity builds on assessments and consultations with information providers and end-users, mainly farmers, which have identified required climate services based on local contexts and requirements in project areas. Optimal transmission channels will be established to deliver requested services focusing on radio and ICTs and extension services that take into consideration lead-times and gender-specific requirements for the design and delivery of climate services, specifically for agriculture and livestock farmers. This will be done by:

- Carrying out an inception workshop to validate plans of action and fostering stronger links between climate information providers and users;
- Developing sites for establishing additional Automated Weather Stations (AWS)/²⁷observation stations, based on WMO criteria in project target areas;
- Establishing location-specific preferred delivery channels for climate and weather services of communities living in project areas;
- Strengthening climate information and data collection by enhancing the observation network with the installation of up to 8 new Automated Weather Stations (AWS) to enhance the quality of weather forecasts in project zones; AWS will be installed according to the regulations of Kyrgyz Hydromet in public community lands in agreement with the local governance bodies.
- Strengthening Hydromet capacities to generate and tailor climate information by training National Hydromet technical staff to interpret climate information for local levels and use GIS tools to monitor agro-met parameters, such as vegetation conditions, and improve data management in pilot districts. While Hydromet has a WRF (weather research and forecasting model) to make 3-day forecasts, this will be further optimised to produce 5-day weather forecast with the installation of a server as recommended by the technical staff of Hydromet. The project will also support as technically agreed with Hydromet to access data from the European Centre for Medium-Range Weather

²⁶ Extension services officers, locally based NGOs, CBOs World Bank “Hydrometeorology Modernization in Central Asia “(2012-2016).

²⁷ The need for additional weather stations might arise because of the very different topography present in the target districts, where often there is only one weather stations not sufficient to collect data to support the development of locally tailored forecasts for different locations in the district. This assessment will take into consideration proposed location of new weather stations funded through the World Bank initiative to avoid any duplication of activities.

Forecasts (ECMWF). The access will provide Hydromet with data on forecast 15 days in advance, long-term forecasts of up to 32 days, with clarifications two times per week, which will significantly improve early warning forecasts (Annex 3).

- Generating localized weather forecasts for up to five days and national 15 days in advance long term forecasts as agreed with national and subnational stakeholders, including products to support the needs of both vulnerable communities and local/district level decision-makers to inform the development of plans and policies in order to better address climate change impacts and support adaptation and district climate profiling under Component II. Explore the possibility of automatization of the process for generating the localized forecasts.

Output 1.2.: Sustainable collaborative partnerships established between climate services providers and users, intermediaries, regional and national government institutions and the private sector to improve climate services

Activity 1.2.1.: Improve information availability and capacity of users to employ climate information for climate risk management

- Provision of training and technical support to government, non-government organizations, which agricultural intermediaries²⁸ to better translate climate information into advisories to strengthen end-user decision-making and adaptation practices. Intermediaries will be trained on the use of the Participatory Integrated Climate Services for Agriculture (PICSA) tool.²⁹ PICSA aims at providing intermediaries and then farmers) with weather and climate data, the skills to interpret it, and a menu of livelihood, crop and livestock options that best fit user needs and expected weather patterns. Support for the generation of user tailored information with agro-met advisories, based on improved, locally downscaled, seasonal and short-term lead forecasts, including the establishment of mechanisms and standard procedures for coordination among key stakeholders working on generating, translating and disseminating information (i.e. Hydromet agency, Ministry of Agriculture, WFP, national TV and radio broadcasting companies, farmers associations etc.).³⁰

Output 1.3.: Effective delivery of climate information to vulnerable communities

Activity 1.3.1.: Strengthen delivery for tailored climate services to ensure vulnerable communities receive information needed for planning and decision-making

Hydromet will be assisted with technical support in production, supply, and communication of the weather and climate information together with collaborating institutions. Support will be provided in developing cooperating and institutional arrangements and the set-up of the overall functioning of the national climate services system. An approach based on close interaction with end-users, i.e. local communities, will be adopted. Appropriate dissemination and delivery channels will be part of an overall strategic approach, which will focus on:

- Establishing the main channels for dissemination through TV, Radio and SMS-based services in suitable formats in accordance with local community preferences (Annex 3). This is based on end-user preferred options for receiving different types of information, with particular attention on how women are receiving information. Specific efforts will be made to establish a two-way dialogue between producers and users of information;
- Establishing feedback loops to ensure a two-way dialogue between users and producers of information to support the revision and improvement of the climate and weather services;
- Support the establishment of stronger partnerships between climate service providers, including both public and private sector stakeholders, to ensure the longer-term sustainability of service provision.

²⁸ i.e. agricultural extension officers, local NGOs and CBOs

²⁹ The PICSA tool has been developed by the University of Reading and successfully implemented by WFP and partners in Malawi, Zimbabwe and Tanzania.

³⁰ These include the National Public Radio Company, TV Company ELTR and First Radio.

The cost recovery for climate services is envisaged after an initial grace period. The readiness and needs of farmers to pay fee for accurate, timely and tailor-made weather forecast has been already identified and assessed by the WB supported project³¹. During the first year, the project will start with sensitization of the farmers/end users and during the second year the project will produce, deliver and support the use of the weather forecast by farmers/end users. During these first two years of project, end users will be also sensitized about fee-based subscription and have the time and possibility to test the advantages of receiving and using specialized weather forecasts. Starting from the third year, farmers/end users will subscribe for fee-based specialized weather services, which will be mutually agreed between Hydromet and subscribers.

Component II: Livelihood strengthening and diversification to increase the adaptive capacity of vulnerable groups and build community resilience

Outcome: *Livelihoods diversified and made climate resilient for vulnerable smallholder farmers and rural communities.*

The activities under this component will use climate services information under component I to inform direct investments to reduce climate risks and the impact of climate change through adaptation planning and improving the adaptive capacity of vulnerable communities (Annex 3). Farmers will have access to localized, timely, weather services and to long-term weather forecasts and will receive training on how to manage weather risks and better plan their farming and livelihood activities. More specifically, support will be provided to farmers to identify appropriate options for crop and livestock management using climate risk information, allowing farmers to adjust the timing of planting, crop management, storage, irrigation and harvest collection in response to weather information, including early warning of frosts, seasonal variability of water for irrigation.

The approach under this component will be to mobilize poor and vulnerable households in target communities to conduct community level adaptation actions, such as attend training, rehabilitate irrigation and drinking water systems, flood protection and slope enhancement. These participants, who normally lack the resources and time will receive a transfer to support their basic needs during seasonal shortages, while at the same time participate and contribute to adaptation measures rehabilitating assets and improving adaptive capacity.

According to the needs identified through community consultations and anticipated increase of natural disasters, the following potential community assets rehabilitation activities will be prioritized : Strengthening flood protection by planting the trees; Strengthening of slopes; through the planting of fruit tree; Installation of gabion nets; Terracing of slopes; Rehabilitation of small dams; Cleaning branch ducts; Concreting of internal irrigation canals; Cleaning and strengthening of ground channels (rocks, plastic, etc.); Use of drip irrigation systems; Selection of efficient irrigation systems; Creation of basins to collect irrigation water; Rehabilitation, clearing and strengthening groundwater basins to collect irrigation water; Rehabilitation of basin to collect rain and melt water; Improve community water supply systems.

In the context of this project, transfers are a crucial element to for the most vulnerable populations to engage in climate adaptation activities. They are conditional to each household's participation to community-level assets creation under Component 2 and calculated based on food needs, the assets to be built, and the person/days needed for it.

³¹ Marketing survey for agro-metereological needs of the farmers in the Kyrgyz Republic, WB/Agrobusiness competitiveness center.

Based on several years of implementation of this approach in over 50 countries, the following elements should be considered when looking at transfers for climate change adaptation:

- a. Compared to many other organizations, WFP targets the most vulnerable rural households – both farmers and pastoralists, who fail to meet their daily food needs. These people are the ones who are most vulnerable to the impacts of climate change. Transfers are therefore a necessary enabling condition for these populations to participate in the creation of adaptation assets, as they immediately cover the food and nutrition needs of people otherwise unable to feed themselves. In practical terms, without food assistance, the most vulnerable people would need to use their time and efforts to provide food for their families to meet their *current* needs, rather than participating in the creation of adaptation assets to address climate variability and shocks in the *future*. This means that without the enabling element of an initial transfer, those who are in greatest need of adaptation services would be excluded from the opportunity to restore land and create their own climate change adaptation assets. This, in turn, would undermine the sustainability of the project.
- b. By enabling the most vulnerable households to participate in the creation of adaptation assets, transfers associated with asset creation contributes to transformational change. As it brings some of the most vulnerable people from a subsistence to a sustainable livelihoods level by, (1) reducing pressure on landscapes and the natural environment (e.g. avoiding negative coping strategies such as deforestation); (2) gradually increasing adaptive capacity through training, creation and management of climate adaptation assets and (3) by improving productivity and building economic protection from shocks, thereby preventing relapse into poverty.
- c. In terms of sustainability, participants are gradually phased out of the conditional transfer as they are eventually able to produce or access food from the market. This is in fact the case of the proposed project whereby participants only receive transfer in Year 2 and 3, after which transfer are completely phased out. Based on several other experiences with this type of intervention, rural populations are able to maintain and replicate the assets created thanks to the establishment of community level structures such as Management committees and service centers.

All the participating communities of the project have already been identified. Each participant will receive a total transfer of \$30.5 over the 4 years.

The following outputs and activities are planned under component II:

Output 2.1.: Strengthened adaptive capacities of rural communities through improved adaptation planning and diversification of livelihoods

Activity 2.1.1.: Climate risk profiling, awareness raising and mainstreaming of climate change adaptation into community planning

Building on its experience on resilience building and livelihood enhancement³², WFP and the Government have designed activity 2.1.1. in alignment with component III of this proposal on capacity building, with the objective of developing climate risk profiles to support evidence-based joint community adaptation planning by local government and communities. The activity will specifically address gaps related to a climate sensitive planning of local livelihood management, including factors such as seasonal variations, issues related to reduced crop production, volatile food prices, and climate risks. A specific emphasis will be given to the needs of women who are engaged in crop production and who face difficult labor conditions on their land shares. During community consultations women identified lack of access to and knowledge of climate change adaptation practices as a cause of land degradation and shortages of locally produced crops, including nutritious fruits and vegetables. This directly influences women's nutrition and the health status of their families. Under this activity, the following will be implemented:

³² "Productive Safety Net and Longer-term Community Resilience Project" 2014-2017 in Kyrgyz Republic

- **Developing climate risk profiles to promote longer-term community adaptation planning.** Climate risk profiles will be jointly developed by local government and communities. The exercise will be supported by modules and tools developed under component III activity 3.1.1., and will be directly informed by the outputs of component I on climate services. Based on climate risk profiles, long-term adaptation measures will be integrated into the development plans of local governments;
- **Training and awareness raising on disaster preparedness for local experts.** The integration of climate risk profiles into community adaptation plans will be complemented by capacity building of national and local authorities, and community members on disaster preparedness and response through training, simulation exercises and awareness raising campaigns. This activity will also be important in order to raise the understanding of local government and decision makers on the current and long-term impacts of climate change, the importance of adaptation planning and the integration of adaptation into community development planning;

Activity 2.1.2.: Strengthening resilience through livelihood diversification, nutrition improvement and support for non-climate sensitive incomes

Community consultations revealed dependency of the majority of community members on agricultural-based, single income sources, which are typically climate sensitive. Such dependency puts significant pressure on the natural resources, such as land and water, while also putting the income of vulnerable groups at high risk in the event of shock or stressor. Therefore, there is a need for both diversifying the income base towards less climate sensitive livelihoods, as well as adapt current practices on existing livelihoods to the changing climate for improved production and productivity. This activity will provide support to community members to diversify their income base through introduction of off-farm practices, rehabilitate assets and provide necessary skills and knowledge to improve their livelihood. Value-added off-farm activities will serve as a basis for a shift to less climate sensitive incomes, and thus reduce exposure and improve the adaptive capacity of communities. The results of this activity will provide feedback to and directly inform the design and development of tools for climate risk profiling to ensure improved relevance and sustainability and more firmly grounded national capacities beyond the duration of this project. The following sub-activities will be implemented under activity 2.1.2:

- **Diversifying livelihoods by improving knowledge and skills on income generating activities.** With the aim to diversify livelihoods towards less climate sensitive sources, community members will receive training to enhance their financial literacy to promote savings, improve their knowledge of market demands, marketing of products and establishing small-scale on and off-farm businesses. This activity will be implemented utilizing an existing government system - SKaP (Skills, Knowledge and Practice) platform that provides short-term courses for the population. The modules developed include supporting the communities in establishing off-farm business such as eco-tourism, beekeeping, composing and provision of agriculture related services. . SKaP was established by the MoAFIM, MLSD, MoES, KNAU, and the Agency for Professional Education and the Republican Methodical Center, with support from WFP. WFP, jointly with MLSD, have also published a learning material on 100+ business ideas, which will guide efforts to diversify the income base of the population to improve the adaptive capacity.;
- **Strengthening resilience through improved crop, pasture and land management.** Adapting to a changing climate implies improving the use of natural resources and adapt it to new conditions. To this aim this activity will focus on improving the knowledge and skills of farmers on adaptation for crop, pasture and land management practices to support more climate resilient livelihoods, in consultation with government technical services. Based on community needs and priorities identified during field level consultations and studies conducted by other organizations³³,

³³ Service centre Single Window "Market assessment of dried fruits in Custom Union" 2011-2013, Kyrgyzstan; FAO report, Processor driven integration of small farmers into value chain in Kyrgyzstan, 2013

activities in Zone I will include the cultivation and marketing of capers, honey, dried fruits and rice production, while in Zone II activities will focus on the cultivation of seed based potatoes, quinoa, meat products and processing of fruits/berries;

- **From subsistence to sustainable livelihoods through the establishment of workshops to process agricultural and non-agricultural products.** In addition to diversifying the income base, the communities will be supported to improve and add value to livelihoods, the project will establish facilities/small-processing workshop for agriculture and non-agriculture goods produced in target areas through provision of processing equipment.. This activity will utilize the platform initiated by WFP, MLSD and MoAFIM for small-scale processing facilities in rural areas. Technical support will be provided by UNIDO. This activity constitutes a critical sustainability element of the project as it allows currently vulnerable, subsistence level communities to participate in the local economy and gradually improve their income base in terms of both volumes and diversification;
- **Adapting homestead gardens to a changing climate to promote household food security and nutrition.** The land reform started in 1990 resulted in households owning small land plots providing a significant opportunity for home-based gardens and greenhouses for early season vegetables. The activity will specifically target the improvement of practices in vegetables growing to adapt to climate variability with the final aim to enhance of the production and consumption of micronutrient-rich, perennial crops and enable women of childbearing age and young children in the most vulnerable regions to access better diets and improve their long-term health and economic opportunities.³⁴
- **Introduction of improved practices for water use and rehabilitation of small-scale irrigation and drinking water supply systems.** According to the National strategy on adaptation to climate change 2020 and UNEP/SAEPF 2016 study, climate change will significantly affect water availability and water flow into reservoirs during the vegetation period at national and regional levels due to the change and variations in water inflow and precipitation. Therefore, the strategy recommended to improve infrastructure (rehabilitate water systems). In order to cope with the variability of water availability, this activity will support the rehabilitation of efficient small-scale irrigation infrastructure and include effective water use techniques and approaches to reduce irrigation water losses during distribution and improve the efficiency of irrigation canals, undertake the rehabilitation of tanks for harvesting rainwater and introduce drip irrigation. Through the same activity, communities will be mobilized to rehabilitate water pipes, cleaning drainage systems and ensuring sanitary and hygienic condition of water wells/reservoirs.

Activity 2.1.3.: Promotion of green technology and alternative energy-based adaptation measures

The country energy mix is significantly dependent on hydro-power. While in the short term the surface runoff will increase due to temperature rise, the energy produced by hydro-station will not be meeting the growing demands of economy and population as described in section C.2 of this proposal. As such, with the stagnant production of hydro-energy vs growing demands, rural households might experience (and have already in certain instances) energy cuts, particularly during winter. Indeed, field level consultations identified the difficulties experienced by households with energy, especially those in remote areas. According to the National strategy on adaptation to climate change 2020, the hydro energy potential will in fact further decrease in the coming years and it is therefore recommended to implement adaptation measures directed at energy efficiency and diversification.

³⁴ WFP, jointly with FAO, UN Women and IFAD are implementing a Rural Women Economic Empowerment project since 2014, focusing on homestead vegetable production improvement; the experience gained through this platform will be utilized to implement this activity.

Community members indicated that lack of the needed energy and related price spikes drive poor households to deplete natural resources through illegal exploitation of forest resources, especially during the winter season. Women seeking to save on electricity cook food on open stoves outside their houses, and are further burdened by having to heat water for laundry and other household needs in the absence of reliable sources of household energy. This activity therefore seeks to develop skills and knowledge on energy efficiency, and alternative energy sources to help vulnerable households adapt to the limitations accessing energy in short terms and potential impact of reduced hydropower in long term, and reduce the pressure on scarce natural resources. This activity will be implemented using the existing SKaP- Skills, Knowledge and Practice – nationally owned platform that provides short-term courses to the population on livelihoods and diversification of income bases.

- **Improving protection of homes and public infrastructure from climate extremes and encouraging use of alternative energy:** Technical support will be provided for the introduction of resource-saving, energy efficient and environmentally friendly technologies to protect communities from high temperatures, extreme cold, strong winds and rain to reduce costs on energy and improve hygiene in extreme climate conditions. Communities will be trained to make use of low cost locally adapted practices and tools (energy efficient stoves, solar ovens, solar panels and biogas) in partnership with local NGOs. This will support better access to energy, reduce costs and encourage the use of clean energy, which has already been supported through local community contributions.

Output 2.2.: Creation of small-scale climate risk reduction infrastructure at community level

Participants of local level consultations indicated that rural households face challenges in late winter and early summer due to the increased frequency of natural disasters, which damage and destroy critical infrastructure and productive assets. Road blockages during this period limit access to pastures, cropland, markets and social facilities such as schools, and public infrastructure. Additionally, vulnerable households trying to cope with these issues reduce their food consumption, which affects their food and nutritional security. Where such risks has been identified by target communities, the project will support small-scale, community level infrastructure activities, together with related provisions for maintenance, through mobilization of communities that help reduce vulnerability to climate shocks and to complement and protect investments made in livelihood strengthening and diversification. These activities will ensure a protection of development gains and reduce losses due to natural hazards.

Activity 2.2.1.: Strengthening community infrastructure to reduce the impact of climate risks and disasters

In alignment with the findings of different studies on the impacts of climate change, communities advised on the increased frequency of natural hazards, such as mudflows, floods, landslides and avalanches, which are putting increased pressure on the availability and use of scarce water and other natural resources. Activity 2.2.1 will strengthen the resilience of local communities to better cope with the impact of natural disasters and improve water use and supply through the following actions:

- **Strengthening of flood protection and slopes and mudflow dams** will protect communities and their livelihoods from landslides, rock falls and floods through strengthening of flood protection with gabion nets, constructing flood protection walls, establishing nurseries and planting trees on eroded slopes, and rehabilitation of mudflow dams and canals, which will prevent the loss of life and property caused by flooding;

Component III: Capacity building and decision making support to enhance climate action using a multi-sectoral approach

Outcome: *Knowledge, skills, and ownership by local communities and government are improved to manage climate risks and adaptation measures.*

Component III is cross-cutting and intended to directly support the development of tools, methodologies and capacities for components I and II. The component aims to strengthen capacities at local and national levels and promote evidence-based decision making to support climate change adaptation. At national and institutional level, activities will enhance the capacity of the climate change unit of the SAEPF and strengthen understanding and technical knowledge in selected departments of key ministries. At local government level, activities will strengthen the capacities of key stakeholders to support the implementation of climate change activities. At local community level, project participants will receive participatory trainings to increase their awareness on climate change, its consequences on livelihoods and adaptation planning measures. Under this component, a participatory tool to create climate profiles will be developed, which will support local ownership of activities and promote longer-term adaptation planning and implementation beyond the duration of the project.

Capacity building activities will engage a broad range of stakeholders, from key ministries to local communities, and will be guided by bottom-up planning and demand-driven approaches. Specific efforts will also be made to ensure that policy documents contribute to awareness raising, and that lessons learnt at the community level inform policies and institutions through workshops and conferences.

A key aspect of this component will be to strengthen coordination of knowledge between key national and sub-national government institutions and universities, such as the American University of Central Asia, the National Agrarian University, and the University of Central Asia, development partners and civil society. The research actions and findings of stakeholders will be regularly shared with decision makers and adaptation practitioners. This will include documentation and dissemination of best practices and the preparation of a new generation of climate adaptation specialists through internships.

The following outputs and activities are planned under component III:

Output 3.1.: Developing tools for awareness raising, learning and behavioral change in communities, for local authorities to understand, design, incorporate climate impacts into local development plans and for monitoring and measuring the reduction of losses from community based adaptation to better manage the impacts of climate change at local level.

Activity 3.1.1.: Developing awareness raising and adaptation training modules, and tools to support the sub-district-level climate risk profiles and promotion of adaptation planning and for monitoring and measuring the reduction of losses from community-based adaptation, risk reduction measures and cost-benefits.

Under this activity, set of tools will be developed and applied for promoting the adaptation at community level and strengthen local government capacities. Participants will include community representatives and leaders, district level representatives and project participants.

- “Learning for adaptation” training modules, which will be developed jointly with Kyrgyz National Agrarian University, MoAFIM, the Hydromet Agency and SAEPF using a participatory learning tool (simulation game) to encourage participants to contribute their own knowledge, experience and to motivate local stakeholders to identify and plan adaptation measures to be undertaken at individual and community levels. The tool will be complemented with guidance, instruction materials for the design and implementation of measures/technologies adapted to local contexts (e.g. rainwater harvesting, drip irrigation and fodder) for application under the activities of component II. Awareness raising materials/posters will be produced to

explain the basics of climate change, its impact and practical adaptation measures and displayed at public places, such as local government office, schools, mosques and community-level information resource centers, while short films explaining climate change and its impact on livelihoods will be developed and used for raising the awareness of communities during relevant trainings conducted under Component II. Films will be screened and discussed with communities, local governments, and schools during public events and trainings organized under Component II.

- The second tool will be developed **to support sub-district-level climate risk profiles and promotion of adaptation planning**. This tool aims to develop a methodology for preparing sub-national level climate risk profiles, including GIS community level risk maps. The tool will be designed and tested jointly by Hydromet, Ministry of Agriculture, Food Industries and Melioration, Ministry of Labour and Social Development, National Statistical Committee, in an exercise led by the State Agency of Environmental Protection and Forestry, with the University of Central Asia and the Kyrgyz National Agrarian University. This will provide methodological support for both the development of community-level adaptation measures and mainstreaming into long-term local development plans. The tool will directly support Component II in climate profiling of all project target areas. The tool will assist the Government in implementing national priorities and sectorial adaptation actions through local community adaptation plans, thus providing an effective delivery of adaptation services to climate vulnerable communities. The design of the tool will directly use the outputs of component I by taking into account key design parameters generated through climate services to inform local government and communities on priorities areas for which improvements are required for the timely delivery, interpretation and usage of climate information for community and household level livelihood planning.
- The third tool will be developed for monitoring and measuring the reduction of losses from **community-based adaptation, risk reduction measures and cost-benefits**. The tool will be developed and tested to measure the reduction of losses and benefits gained from implementation of adaptation and disaster risk reduction measures under the project as recommended by the national stakeholders. The tool will be developed and maintained by the MES, with the support of the MoAFIM, SAEPF, NSC and national research institutes and introduced at local government level. This will also contribute to the work initiated by the MES and the NSC on recording the costs and benefits of risk reduction and adaptation measures. The tool will also support efforts to emphasize the importance of adaptation measures for scaling-up.

Output 3.2.: Lessons learned and best practices documented and disseminated to support future learning and to inform policies, strategies and programmes of multiple government bodies.

Activity 3.2.1.: Documentation and dissemination of lessons learned and best practices to support future learning and to inform policies, strategies and programmes through regional workshops and national conference.

The experience and knowledge acquired through the implementation of grassroots and other activities will be analyzed and documented for communication to decision makers and disseminated through online and offline platforms. This activity will be closely coordinated and linked with internship programs of universities such as Kyrgyz Agrarian University, American University in Central Asia and University of Central Asia in order to involve the graduate and undergraduate students into this activity, which will also contribute to training a new generation of practitioners in the area of climate change adaptation. The main target audience is the national level stakeholders including the Climate change coordination commission, ministries who are members of the commission, and local governments to raise their awareness and ensure wider replication. Sub-national workshops will involve the participants of the project (local government representatives, advisories, implementing partners, national government, beneficiaries), from the three

project provinces, which have significant livelihood, cultural and climatic differences. These workshops will allow for participants to exchange information, knowledge and experience they are gaining during the project implementation.

Lessons learned and best practices will be disseminated in following specific ways:

- An online portal on best practices and lessons learned on climate change adaptation will be developed, led and coordinated by the SAEPF on their national website; this activity will also inform and keep updated all stakeholders on the mainstreaming work of SAEPF and other relevant government partners. As above mentioned partner universities will support the gathering and distribution of information on given subjects and prepare information articles and publications on relevant websites. This activity will build on the results of Component II by distilling and disseminating the outputs from the testing and implementation of field level adaptation measures, as well as the key lessons gleaned from Component I on climate services. Specifically, the model of climate services piloted in target areas will be promoted among other communities and at national level for wider replication through lessons learned and best practice activities. Best practices and lessons learned will be also shared through other live dialogue platforms and working groups such as the Climate Change Dialogue Platform and the Development Partners Coordination Council Working Groups on Agriculture, Rural Development, Food Security and Nutrition, and, Environment, Disaster Risk Management and Climate Change. The activity will ensure the dissemination of the most relevant findings and support the interconnection of existing information systems for adaptation and risk reduction as well as linkages to food and nutrition security sources.
- Two regional workshops will be organized to discuss lessons learned, best practices on climate services and community level adaptation and the way forward for the project only for technical specialists of key ministries such as SAEPF, MES/Hydromet, MLSD, NSC, MoH, MoAFIM, NISS, local government representatives. ii) One national level conference will be also organized by the end of the third year of the project to advance the policy dialogue among key government institutions such as SAEPF, MES/Hydromet, MLSD, NSC, MoH, MoAFIM, NISS, local government representatives, communities, representatives from association of land and forest users, water user associations, pasture user committees, universities such as Kyrgyz Agrarian University, AUCA, UCA, civil society organizations such as ADI, CADRI and other UN agencies and development organizations, The main purpose of the conference will be to derive key lessons and adaptation practices for upscaling, replication and updating or revising the climate change adaptation related policy documents in consultation among all above mentioned stakeholders.

A summary of the outputs, activities and entities in charge is shown in the table below:

[Output]	[Activities]	Entity(ies) in Charge
Output 1.1: Enhanced capacity of Hydromet to produce tailored climate information to end-users	1.1.1 Strengthen capacities of the national Meteorological Hydromet service for data collection, translation and generation of tailored climate information	WFP Hydromet Agency of the Ministry of Emergencies of the Kyrgyz Republic
Output 1.2: Sustainable collaborative partnerships established between climate services providers and users, intermediaries, regional and national government institutions and the private sector to improve climate services	1.2.1 Improve information availability and capacity of users to employ climate information for climate risk management	WFP Hydromet Agency of the Ministry of Emergencies of the Kyrgyz Republic

<p>Output 1.3: Effective delivery of climate information to vulnerable communities</p>	<p>1.3.1 Strengthen delivery for tailored climate services to ensure vulnerable communities receive information needed for planning and decision-making</p>	<p>WFP Hydromet Agency of the Ministry of Emergencies of the Kyrgyz Republic</p>
<p>Output 2.1: Strengthened adaptive capacities of rural communities through improved adaptation planning and diversification of livelihoods</p>	<p>2.1.1 Climate risk profiling, awareness raising and mainstreaming of climate change adaptation into community planning</p>	<p>WFP Ministry of Labor and Social Development Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic</p>
	<p>2.1.2 Strengthening resilience through livelihood diversification, nutrition improvement and support for non-climate sensitive incomes</p>	<p>WFP Ministry of Labor and Social Development Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic</p>
	<p>2.1.3 Promotion of green technology and alternative energy-based adaptation measures</p>	<p>WFP Ministry of Labor and Social Development Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic</p>
<p>Output 2.2: Creation of small-scale climate risk reduction infrastructure at community level</p>	<p>2.2.1 Strengthening community infrastructure to reduce the impact of climate risks and disasters</p>	<p>WFP Ministry of Labor and Social Development Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic</p>
<p>Output 3.1: Developing tools for awareness raising, learning and behavioral change in communities, for local authorities to understand, design, incorporate climate impacts into local development plans and for monitoring and measuring the reduction of losses from community based</p>	<p>3.1.1 Developing awareness raising and adaptation training modules, and tools to support the district-level climate risk profiles and promotion of adaptation planning and for monitoring and measuring the reduction of losses from community-</p>	<p>WFP State Agency for Environmental Protection and Forestry of the Kyrgyz Republic</p>

<p>adaptation to better manage the impacts of climate change at local level.</p>	<p>based adaptation, risk reduction measures and cost-benefits</p>		
<p>Output 3.2: Lessons learnt and best practices documented and disseminated to support future learning and to inform policies, strategies and programmes of multiple government bodies.</p>	<p>3.2.1 Documentation and dissemination of lessons learned and best practices to support future learning and to inform policies, strategies and programmes through regional workshops and national conference.</p>	<p>WFP State Agency for Environmental Protection and Forestry of the Kyrgyz Republic</p>	

C.4. Background Information on Project/Programme sponsor (Executing Entity)

Under this project, WFP will be acting as both AE and co-EE (in collaboration with Government agencies). As an Accredited Entity (AE), WFP HQ will be responsible and accountable for managing the project, including ensuring effective use of project funds according to agreements made with the GCF, oversight and reporting (annual reporting, mid-term and final evaluations, and audit), achieving project objectives and coordinate the involved actors to implement the project components and ensure government handover. WFP Cairo Regional Bureau and HQ units will perform the AE functions including project supervision, financial oversight, reporting and auditing. The role of RB/HQ serves as an internal control mechanism to ensure transparency and segregation of duties by:

- Reviewing quarterly reports before CO disburses funds for the next tranche of activities;
- Reviewing APRs and Financial reports before submission to the GCF
- Conducting site visits for monitoring project activities and keep track of annual work plan;
- Reviewing evaluation reports as well as project audit reports.

In addition, WFP HQ will:

- Provide a central point of contact, coordination and reporting to service the needs of the donor as required;
- Provide specialized technical support to the CO upon request;
- Identify and document best practices and lessons learned to promote knowledge transfer and cross-fertilization of experience and success stories;

All communication with the GCF will be done via HQ.

As a co-Executing Entity (EE), WFP Kyrgyz Republic CO will be responsible for direct implementation of project activities and for achieving project outputs. WFP CO will be responsible for the day-to-day project execution functions ensuring that the objectives and outcomes of the projects are delivered effectively.

Government partner agencies will act as co-Executing Entities (EE). These include the SAEPF, MLSD, MoAFIM and Hydromet/MES, which will be jointly responsible for the technical supervision of project activities. The EEs will oversee and coordinate the implementation, monitoring and evaluation of the project within their respective areas of expertise and execute agreements with local government units to ensure effective implementation. The EE will submit quarterly progress reports as well as details of expenditures to WFP CO. All mentioned government agencies have solid experience and capacity to implement large-scale projects. During project preparation, a stakeholder engagement process was conducted to assess government agencies' capacity to execute the project. These agencies are already known by the AE which has worked in the country over several years.

The EEs have different functions and responsibilities. SAEPF is responsible for environmental protection and forestry in the Kyrgyz Republic and acts as the focal point for UNFCCC. SAEPF also hosts the NDA for GCF. SAEPF will supervise the implementation of Component III and has long-term experience in executing GEF-projects together with other international organizations.

MLSD and MoAFIM are the main implementation partners for component II, which is devoted to practical solutions to increase climate resilience and food security of communities. Both ministries, especially MoAFIM, have long-term experience in implementation of large-scale investment projects to modernize and adapt agricultural production in the Kyrgyz Republic.

The MES, and especially its Hydro-meteorological Agency, will be the main implementation partner for Component I. The project will improve the climate information service of Hydromet and tailor end-user products.

Funding flows: Funds will be channeled through WFP HQ (Rome, Italy) and further disbursed to WFP CO in the Kyrgyz Republic. Any expense and disbursement will be executed by WFP CO in accordance to the Financial Rules and Regulations of WFP. No funds/grants will be transferred to other EEs engaged in the project. Government entities enlisted in the FP as EEs will be co-implementing the projects, providing own expertise, permits, authorizations, registration, mobilization of communities and resources, monitoring, reporting and to ensure all aspects of implementation. The AE (WFP HQ) will have the sole role in defining the procurement rules and regulations, while the co- EE – WFP CO will have the sole role in implementation of procurement activities in accordance to the rules and regulations set by AE and its Governing Body (WFP Executive Board).

C.5. Market Overview

The Kyrgyz agricultural sector is exposed mostly to physical and economic risks, including price volatility, given the country's position as a small open economy.³⁵ Gross agricultural output (GAO) consists of eight products: 45 % is represented by livestock products, sold almost exclusively within the domestic market, wheat and maize make up 16 %, potatoes, cotton tomatoes make up to 17% of GAO. Despite a diverse production base, the country remains a net importer of food dominated by wheat, sugar and vegetable oils. Agriculture exports equaled only 7 % of total production by volume, but 17 % by value. Export crops are higher-value products, including beans, cotton, fresh apricots, apples, potatoes and tomatoes. While Kazakhstan and Russia are the largest destination markets for Kyrgyz agriculture exports, the domestic market is the most important market, with over 80 % of GAO by value. However, the agriculture sector has to compete even domestically with regional and global production considering that the country is a small and open economy. The Kyrgyz agricultural sector and farmers' competitiveness in domestic and external markets are also weakened by low levels of investments in formal agribusinesses, high postharvest losses, poor technologies, poorly developed agro-food logistics and marketing. Access to markets and market risks could be improved by measures such as diversifying crop exports, increasing the share of value, and increasing the efficiency of the supply chains.

C.6. Regulation, Taxation and Insurance

For the planned activities within the three components, there are no applicable permits or licenses. All investments are financed by grants, which are administrated in accordance with national laws and regulations, which have to comply with the standard conditions for UN/WFP grants. The natural resource management policies of the Kyrgyz Republic allow for the adoption and piloting of technological innovations and climate-smart practices and the scale-up of best practices. The Executing Entities of the project are government organizations, which are in charge of implementation, monitoring and evaluation of the project, including the observance of relevant regulations.

³⁵ World Bank Agricultural Risk Assessment, Sandra Broka et al., WB 2016

C.7. Institutional / Implementation Arrangements

Accredited entity: The United Nations World Food Programme is the accredited entity of the project. While, the WFP country office in the Kyrgyz Republic will be leading the coordination and execution of the project as co-Executing Entity through its staff in Bishkek, its Sub-Office in Osh and its decentralized monitors in various parts of the country. WFP has a proven record in livelihood enhancement projects through a productive safety net approach, implementing over 2,000 projects in more than 100 communities since 2014. WFP also has extensive experience in the successful implementation of climate services in several African countries including Tanzania and Malawi, as well as asset creation experience in more than seventy countries worldwide.

Key national and international partners: The project will be executed jointly with the Hydromet Agency under the Ministry of Emergency Situations (MES) for component I, Ministry of Labour and Social Development (MLSD)/ Ministry of Agriculture, Food Industry and Melioration (MoAFIM) for component II and the State Agency of Environmental Protection and Forestry (SAEPF) for component III, according to their mandates against each project component. Based on its long-term collaboration, WFP has concluded Memoranda of Understanding and activity agreements with the MLSD, MES, National Institute of Strategic Studies, National Statistical Committee and the State Agency of Environment Protection and Forestry. Agreements are also in place with UN agencies, such as FAO, UNICEF, and academia such as University of Central Asia and Kyrgyz National Agrarian University. Additional agreements currently under negotiations are with UNDP, UNIDO and AUCA. WFP has been working with the mentioned government institutes during the last three years on implementation of its project, ‘Support to national productive safety nets and longer-term community resilience’, in five out of seven provinces of the country. MLSD, MoAFIM, MES and SAEPF have an administrative and technical presence at the national, regional and district administrative levels, while MLSD also has a presence at the sub-district level. WFP has signed a long-term MoU with the listed partner government agencies to implement activities in line with this proposal. WFP will amend all existing agreements as appropriate to ensure they comply with the AMA and FAA requirements.

National Steering Committee (NSC): The national level consultations for proposal development included agreements with national counterparts on establishing a National Steering Committee, chaired by the SAEPF, which is the NDA and Secretary of the national Climate Change Coordination Committee (CCCC). The national steering committee will consist of main executing entities: MLSD, MoAFIM, MES/Hydromet agency and governors of the three target provinces of Osh, Batken and Naryn and WFP as budget holder. Project implementation team will act as a secretariat to the NSC. While focal points will be set up in each participating ministries, the emphasis will be on using the existing staff and platforms in each concerned partner agency in order to ensure the long-term sustainability of interventions. The NSC’s key responsibility will be to give general guidance on implementation, approving work plans and monitoring the implementation progress of the project.

WFP Project Support Unit: A project support unit will be created within the WFP office, comprising technical experts and support staff. The unit will liaise with focal points in each of the EEs and with complementary partners as required for implementation of the project.

Component I on climate services will be led by the Hydromet agency and coordination support will be provided by WFP. The Hydromet team will be led by a national expert on climate services, who will provide technical support and coordinate the implementation of activities under component I. The expert will be supported for the duration of the project and will be responsible for transferring his knowledge to existing government employees before the end of the project. The team will collaborate with private mobile companies such as Megacom and Beeline, national TV, radio

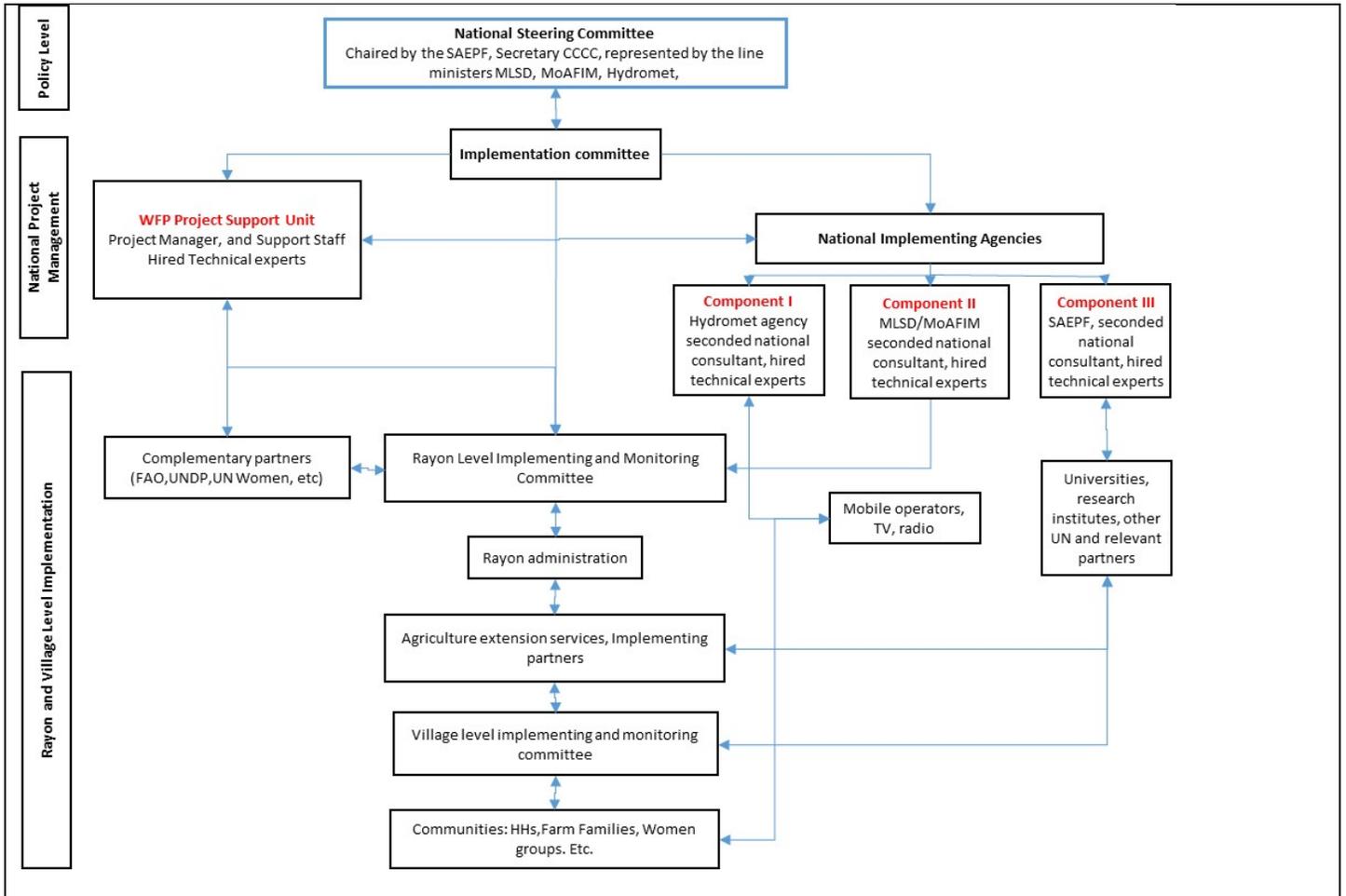
stations (according to suitable delivery channels), extension, advisory services, MoAFIM, the World Bank and local NGOs including Agency for Development Initiative (ADI) and Center for Activation and Development of Rural Initiatives (CADRI) for delivery, dissemination and interpretation of the climate information. Dissemination of the text messages with weather forecasts will be supported through the existing hardware installed within the Hydromet, which has been evaluated under previous projects as the best economically suited option. The program hardware package consists of personal computers with GSM modems that are connected to the personal computers and a program software GigaSMS, which allows for the production and the mass dissemination of text messages according to a composed database of receivers. Three structural subunits of Hydromet will be involved: the operational unit for meteorological forecasts, the communication and information management unit, and the international department.

WFP will also jointly with Hydromet introduce its Participatory Integrated Climate Services for Agriculture (PICSA) tool. The PICSA couples climate crop, livestock and livelihood information with tools that farmers can use to decide best options. By combining historical climate data with location-specific crop and livestock data, PICSA enables farmers to assess climate risks and, through different participatory tools, take the best decisions for the upcoming season based on seasonal and short-term forecasts. The PICSA approach is implemented jointly with national Meteorological agencies, government extension services, and NGOs.

Component II on increasing adaptive capacity of vulnerable groups and building community resilience will be led by the MLSD, in collaboration with MoAFIM. MLSD is the key ministry at the national level for addressing all relevant needs of the most poor and vulnerable segments of population. It has a presence at all administrative levels down to the community level, which ensures direct leadership in project implementation at the field level. Since component II is concentrated on activities related to diversifying livelihoods and supporting climate action in communities, field level activities will be closely coordinated with the MoAFIM. A staff member will be seconded to both the MLSD and MOAFIM to act as focal point. Existing platforms of “extension services”, SKaP mechanism, associations such as “Kyrgyz Association of Forest and Land Users”, the “Water Users Association” and the “Rural Agriculture Service” will be directly involved. These organizations will assist in validating community action plans, localized activities, mobilising local level committees and communities, sensitization and advocacy, project implementation and monitoring.

Component III on decision making support and capacity building for enhancing climate action using a multi-sectoral approach is a cross cutting activity which will be led by SAEPF, which is also the key national institute responsible for coordinating all climate change-related matters in the country, as well as the focal point for knowledge management and capacity building. National expert(s) on capacity building, knowledge management and on advocacy for climate change adaptation will be seconded to the SAEPF who will provide technical support for implementation of activities under component III. They will be responsible for overall coordination among other relevant agencies such as Hydromet, MLSD and MoAFIM. The agency will collaborate with other research institutes and think tanks to document best practices, provide workshops, develop tools and disseminate knowledge. Partners who will provide support and engage in this component are the Kyrgyz National Agrarian University and National Institute of Strategic Studies. They will be engaged in documentation of best practices and lessons learned, provide trainings and workshops, develop tools and methodologies, and build the online libraries and databases. In addition, the project will ensure linkages and synergies with other relevant stakeholders and projects.

Project management structure:



C.8. Timetable of Project/Programme Implementation (see Annex 2)

D.1. Value Added for GCF Involvement

The GCF intervention adopts a crosscutting approach for both climate resilience that is aimed at filling key gaps in national and local response mechanisms to climate change. As such, chronic structural, institutional and financial barriers that have been preventing the effective functioning of institutional and community action would be lifted and coordinated and sustainable climate-sensitive actions undertaken to bring social and economic benefits to local communities facing the immediate and long-term impacts of climate change. The results of adaptation approaches under the project are increased resilience of food security and nutrition, improved ecosystem services, and livelihoods of most vulnerable people and communities.

Under current conditions, the capacity of institutions and communities to collectively engage in climate change activities is hindered by a lack of coordinated action, limitations in knowledge and awareness of climate change risks, and the lack of appropriate and adapted mechanisms and financing to address them. Data and information on current climate variability, future climate change, and its impacts on economic growth and human development also need to be further developed in order to inform decision-making. Monitoring, early warning and forecasting systems are also insufficiently developed to predict the likelihood of extreme events and to assess possible changes in weather patterns. Limited resources for acquiring, operating and maintaining equipment restrain the ability of responsible agencies to generate, store and analyze climate data, and produce information for decision makers.

Against this background, a key aspect of the GCF intervention is the bringing together of relevant government, community and other actors under a single project, thus ensuring a coordinated and multi-sectoral response to the impacts of climate change. A strong emphasis is also given to the development of systems, tools and methodologies, as well as knowledge management and learning. A further innovation is the combination of user-tailored knowledge management, practical local level improvement of infrastructure, incomes and production, and a bottom-up feedback of lessons learned and best practices for adaptive capacity building. The components of the project will be supervised and technically supported by respective ministries and government agencies, with the close engagement of local communities. The result will therefore be an increased capacity of government organizations and rural administrations and the empowerment of local government and communities, so that the results of the intervention are sustainable and open to replication and also more broadly inform climate change actions.

The proposed GCF project intervention will therefore bring significant value to climate change action in the Kyrgyz Republic by delivering a coordinated set of mutually reinforcing measures, comprising climate services; capacity building at national and local levels; strengthening of livelihoods of the vulnerable at community level that will ensure increased food security and nutrition; enhanced adaptation measures; and improved resilience to climate change in priority target areas in the country. The project will set a new paradigm for climate action in the country and set an example for the effective use of national and local financial resources for climate change action.

D.2. Exit Strategy

Sustainability is at the core of the design and strategy of the project. The project aims to integrate planning and implementation of climate change resilience at provincial/district/community levels and into national level policy, programmes and budgets. It will build the capacity of communities to better understand the causes and implications of climate change and how it relates to food security and nutrition, and engage stakeholders in a participatory process of developing practical and tangible solutions. The training and engagement of local, provincial and national level government authorities in the design and implementation of project activities will gradually build capacity, support local resource mobilization and ensure that stakeholders have the tools to continue their work beyond the duration of this project, thus achieving longer-term sustainability for the Kyrgyz Republic in its progress towards a vision of climate resilience.

For component I, the project will aim to ensure financial sustainability for the continued provision of climate services through introduction of fee-based climate services. In particular, an opportunity will be explored to introduce a subscription system to produce localized weather forecasts for farmers. The approach will be tested and introduced gradually, so as to allow for time for farmers to use the service free of charge before the introduction of a paid subscription service. Lessons learned from the World Bank “Agricultural Productivity Assistance Project” will also be taken into account while designing this activity.

For component II, sustainability at the community level will be ensured by ensuring that activities are fully community-driven to increase ownership, commitment and participatory implementation of activities. In addition, the Project Commissions (established by the Government) at the community level will be involved in monitoring functions since inception and will take the lead in ensuring maintenance and sustainability, as well effective use of the asset after project completion. As land and water user associations are part of the project implementation stakeholders, this project will address the organizational matters on maintenance of assets between communities and these associations. Hydromet will be primarily responsible for the maintenance of the AWS through own budget allocated for these purposes. Assets created under the project are based on community wide participatory consultations, as well as beneficiary and local authority co-financing where possible, so that the community is motivated to maintain, repair and replace the assets created using local knowledge, skills, and resources after the project closes. The project entails direct community involvement in project design, implementation and monitoring, with community members seeing concrete benefits in a variety of ways, for example, through improved resource utilization, increased productivity and incomes, and better access to markets. WFP will monitor maintenance in the same communities each year through Food Security Outcome Monitoring (FSOM) and in panel communities both throughout the project period and beyond its completion. Monitoring results of similar assets created in the communities during 2014-17 show a high level of maintenance by communities.

Local government will also have improved capacities to support community-driven and owned processes. Local residents, who are expected to experience improvements in their livelihoods and incomes, will see a value in the services (trainings etc.) provided by their peers and should be willing in due course to pay for those services. NGOs, extension services and others involved in implementation will also receive proper training, while implementation will closely be monitored by the project team.

In terms of the transfer element, in component II, food transfer will only be used as an enabler to allow some of the most vulnerable, food insecure communities to engage and participate to the creation of adaptation assets during year 2 and 3 of the project when the rehabilitation and improvement of their community natural resource base will be more intense. In year 4, transfers will be completely phased out as, based on previous experiences, some of the expected benefits in terms of food security will already accrue, and farmers will be able to dedicate their time to their livelihoods, both the adapted agricultural ones and the non climate-sensitive ones introduced by the project.

A combination of these factors will create a virtuous cycle, where good policy, improved capacity and concrete adaptation actions and resultant benefits empower communities to adapt to the effects of climate change and reverse damage to livelihoods and the environment, which if left unchecked, would further increase vulnerability. The knowledge and lessons learnt from the project will be captured through regular monitoring and validation workshops, documented in accessible reports, shared and discussed with all relevant stakeholders, thus promoting the application and replication of valuable lessons in a wider scope beyond the project itself.

E.1. Impact Potential			
Potential of the project/programme to contribute to the achievement of the Fund's objectives and result areas			
E.1.1. Mitigation / adaptation impact potential			
<p>The project directly contributes to the GCF's strategic results areas for adaptation, particularly: i) increased resilience of food security, health, and water ; ii) increased resilience of livelihoods of people and communities, iii) strengthening of institutional and regulatory systems for climate-responsive planning and development, and iv) increase in generation and use of climate information in decision making and strengthening of awareness on climate risks, adaptive capacity and reduced exposure to climate threats. The project will benefit 20,400 households, consisting of 102,000 direct beneficiaries living under national poverty levels, and more than 700,000 indirect beneficiaries who live in proposed project locations (Annex 4).</p>			
GCF core indicators	<i>Expected tonnes of carbon dioxide equivalent (t CO₂ eq) to be reduced or avoided (Mitigation only)</i>	<i>Annual</i>	N/A
		<i>Lifetime</i>	N/A
	<ul style="list-style-type: none"> ▪ <i>Expected total number of direct and indirect beneficiaries, disaggregated by gender (reduced vulnerability or increased resilience);</i> ▪ <i>Number of beneficiaries relative to total population, disaggregated by gender (adaptation only)</i> 	<i>Total</i>	102,000 direct (51,000 male; 51,000 female) and 700,000 indirect for a total of 802,000 people.
		<i>%age (%)</i>	Direct beneficiaries consist of 2% of total population
Other relevant indicators	<ul style="list-style-type: none"> ▪ <i>Increase in generation and use of climate information in decision-making: 50 local advisors trained</i> ▪ <i>Strengthened adaptive capacity and reduced exposure to climate risks: 86 community climate risk profiles developed with 80% of the targeted population benefitting from improved capacity to manage climate shocks and risks.</i> 		
<p>The number of direct beneficiaries is based on standard WFP calculations of people in selected target areas living under national poverty levels. The number of indirect beneficiaries (700,000) pertains to the share of the total population of target districts that would be able to benefit indirectly from climate services through available information platforms, based on mobile phone coverage, national TV and radio, and an estimate of people who would make use of these services to adapt to climate change to improve their livelihoods. WFP have used the vulnerability data in the selected eight districts from the Ministry of Labor and Social Development. The identified 102,000 beneficiaries fall under WFP beneficiary selection criteria of a) per capita income below extreme poverty line, b) minimal ownership of livestock, c) absence/limited income generating assets. These beneficiaries will directly benefit from activities under component II and I. Beneficiaries will represent eight target districts proportionately to the population and total number of the poor.</p>			
E.2. Paradigm Shift Potential			
Degree to which the proposed activity can catalyze impact beyond a one-off project/programme investment			
E.2.1. Potential for scaling up and replication (Provide a numerical multiple and supporting rationale)			

The project mechanisms have a strong rationale for replication and scale-up. Over 34% of the population live in the three provinces of Osh, Batken and Naryn provinces³⁶, where the proposed model will be implemented.

First, the project is aligned with national policies and national sectorial plans in the area of climate change, therefore its objectives are extendable to a much larger area than the project districts.

Second, its key innovation is in the combined delivery of a multipronged set of mutually reinforcing measures (climate services, community level adaptation and capacity strengthening) as well as the strong integration of the project delivery mechanisms within government and community structures. Such integration among components and institutionalization path can serve as best practice for further climate change adaptation projects in the country, while creating a platform for the project itself to be replicated in other regions.

The project also intends to engrain fundamental changes in attitudes and behaviors among project partners and government structures over the course of the project through delivery of services and benefits that will provide for a 'new normal' for the integration of climate change adaptation in national and local level planning and practices, and support a further replication of project results.

Additional areas of the country could be considered for replication, in spite of having different conditions. In fact, leveraging this project, each district unique set of conditions can be taken into consideration in systems design, so that an adapted approach is offered.

In addition, training, lessons learnt and climate services capacities incorporated at the national level could be replicated across the country, reaching up to five times the current target beneficiary numbers, taking into account that:

- Activities such as climate services could be expanded to other areas, together with a standalone system with its own financial mechanism, to enable nationwide replication;
- Behavioral change in nutrition, diversification of diets, income generation activities and climate change adaptation practices would be promoted in target areas;
- There will be an adoption of a multi-sectoral approaches across pilot areas to enhance impact;
- Replication of best practices could be undertaken in other high priority areas through learning and adoption of project approaches in other national programmes;
- The project will further stimulate climate change adaptation activities through ensuring concrete economic benefits at the individual level.

In practical terms, this project could be scaled up in other regions of the Kyrgyz Republic as other areas are also susceptible to the impact of climate change and many households rely on climate related agricultural activities. Additional sources of funding would need to be sought but could include government budget if regional funds earmarked a portion of their budget. Private sector funds could be sought or foreign investors such as China and Russia who have investment funds in the country.

E.2.2 Potential for knowledge and learning

³⁶ Ibid

Lessons learnt from project implementation will be documented and regular workshops held for monitoring and validation, and for revision of the implementation plan. There is potential for knowledge management and learning through the project's emphasis on the collection, analysis and dissemination of lessons learnt and best practices that would be beneficial to the design and implementation of similar future projects. A key crosscutting component of the proposed intervention is capacity development, and in addition to training and awareness workshops, this activity aims to target the scaling-up of best practices, while also generating opportunities for spontaneous and autonomous adaptation in communities with similar ecological and socio-economic conditions. To ensure sustainability of the intervention, partnerships will be established with national research institutions, and both successes and failures will be documented and incorporated into future pedagogy (syllabi, modes and duration) of training courses related to climate change. A partnership with the National Institute of Strategic Studies, which reports to the Prime Minister, will enable lessons learnt to be further integrated into policy briefs for use by government institutions and for broader national development planning. Lessons and case studies will be disseminated within and beyond the areas of project intervention through a new online portal, live working groups and existing live climate change dialogue platforms, public media articles in both national print and electronic media, policy briefs, and training.

E.2.3. Contribution to the creation of an enabling environment

The proposed project contributes to the creation of an enabling environment in the following way: (1) By building the basis for a strong cooperation among different Government agencies, NGOs, and international organization which could be leveraged for further climate adaptation investments.; (2) By strengthening the ability of local communities to respond to climate change therefore unlocking concrete economic opportunities; (3) By strengthening or building capacity about adaptation at national, provincial and local levels; (4) Through the integration of climate considerations and interventions into government and community structures; and (5) By ensuring effective knowledge management and dissemination of best practices, therefore building a strong base for learning and replication. As an example, improved climate services capacities/mechanisms will provide actionable information for rural beneficiaries as well as emergency services, and hence take a cross-sectoral approach to the upgrading of knowledge and capacities of government agencies at national, provincial and district levels. Timely and actionable information will also help in the management of the resources and the needs of the rural poor in a proactive manner and help mitigate the increased losses (harvests, assets and livestock) caused by climate extremes.

E.2.4. Contribution to regulatory framework and policies

This project is aligned with the climate change priorities described in the national priorities of the Kyrgyz Republic (including the Third National Communication), and as such, offers an opportunity to contribute to a further strengthening of the existing regulatory framework and policies. The project would support an improved implementation of existing frameworks and policies through introduction of capacity building and adaptation planning. Already, an initial review of the existing enabling environment identified several gaps (Annex 2), which were presented to the technical team of the Climate Change Coordination Commission (CCCC) housed in the State Agency on Environmental Protection and Forestry (SAEPF). The technical advisory team of the National Designated Authority was in agreement with the need to tackle these findings, which is likely to contribute to improve functioning of regulatory frameworks and policies. Specifically the project will contribute to implementation and updating of the national policy on “Key priorities for adaptation to climate change”, sectorial adaptation action plan in agriculture and “Key directions for developing the Hydrometeorology Agency of the Kyrgyz Republic until 2017”. In accordance with issues identified with NDA in relation to enabling environment the project will strengthen the understanding of climate change impacts, especially on regional and local levels, relevant stakeholders will be better integrated, cooperation between line ministries, information and knowledge exchange horizontally and vertically will be improved.

The Government of the Kyrgyz Republic established the Climate Finance Center in August 2017 and developed the Strategic Programme for Climate Resilience of the Kyrgyz Republic (SPCR). The SPCR was developed based on the integration of key national and sectorial strategies and the provision of a strategic investment plan of the country. This document provides the climate resilient investment priorities and investment planning framework ensuring a coordinated approach for adaptation to climate change in the country. The current FP of WFP has been also included into this strategic document as a pipeline project in alignment with the main national and sectorial priorities of the country. In addition, the project is closely aligned to both the Agriculture Sector Adaptation Plan and the Environmental Protection and Forestry Sector Adaptation Plan as it addresses the following main priorities: improve pasture management; improve water resource management and soil conditions; provide farmers with training on climate adaptation, introduce innovative agricultural practices; strengthen management of ecosystems and communities; introduce climate change in environmental protection and forestry. The project also addresses adaptation priorities as set out in the 2nd and 3rd NC to the UNFCCC on water management, improved soil quality, EWS and climate services amongst others.

E.3. Sustainable Development Potential

Wider benefits and priorities

E.3.1. Environmental, social and economic co-benefits, including gender-sensitive development impact

The project is aligned closely with the SDGs through its focus on building adaptive capacity and resilience, as well as integrating climate change considerations into national policies, strategies, and planning. By supporting the national government in building climate resilient livelihoods, the project will help address Sustainable Development Goal (SDG) Goal 2, "End Hunger, Achieve Food Security and Improved Nutrition" and SDG 13 on 'Take Urgent Action to Combat Climate Change and its Impacts'. Beyond these explicit food security and climate-focused links, however, the project also helps address SDG Goal 5 on “Gender Equality and Women's Empowerment” as well as SDG 17 and related targets on “Strengthening the Means of Implementation and Revitalizing the Global Partnership for Sustainable Development.”

The following specific benefits are envisaged:

Social and economic benefits: This project will give a particularly strong focus on the development of rural livelihoods, targeting the most disadvantaged and vulnerable communities at risk of the impacts of climate change.

The project strategy also takes into account the physical and economic vulnerability of climate exposed farming families. Outputs of component II will seek to build resilient livelihoods of these vulnerable groups in the face of the more unpredictable and damaging weather patterns, and to strengthen existing and develop alternative livelihoods as part of broader government efforts to address the underlying drivers of climate change. The outputs of this component will also create direct incomes for rural households during the lean season and employment opportunities. The outputs of this component will not only create direct income for rural households during the lean season and employment opportunities, but also help to solve problems of unsustainable use of natural resources and degradation. Through the diversification of income and creation of less climate-vulnerable businesses and improved local infrastructure, communities will be socio-economical stabilized, which will support peace and stability in border areas of Osh and Batken Province.

Gender benefits: Gender considerations are given a special focus throughout the project, with an emphasis on gender differentiated benefits. According to the data of State Migration Service, the total number of migrants in Russia and Kazakhstan in 2016 was 653 thousand people. Number of male migrants is 30% higher than female (m=1.3f). (<http://ssm.gov.kg/reports/view/2>) It means that number of female migrants is 284 thousand; number of male migrants is 369 thousand. And the tendency shows that number of female migrants will increase further. Taking into account that there is 50/50 ratio of male and female population in general, after subtracting number of female and male migrants the ratio will be 49% male and 51% of female. Therefore, 50/50 ratio will be used for project beneficiaries. Climate services will target women to protect and develop their livelihoods and reduce the impact of climate risks. The project will engage women in risk assessment and decision making on activities related to climate change adaptation, local development planning, provide training for women on disaster preparedness and support information management. Women will benefit from training on improved agricultural practices, including modern irrigating practices, as well as marketing and business skills, which will increase the income and resources at their disposal and allow women to strengthen their role in decision making within their family and community. Women will also obtain better access to processing of agricultural products and thus receive higher incomes during the lean season. The training of women in various off-farm income generation activities, including small business activities will also improve incomes. Women of childbearing age and children will also be better able to manage their diets and improve their long-term health through consumption of micronutrient rich foods through promotion of homestead gardens and nutrition education. Women and children will benefit from the knowledge provided on applying house heating systems, energy-saving stoves, and alternative energy resources, which will serve to reduce illness rate and reduce the time and domestic burden of collecting fire wood. The rehabilitation of rural infrastructure, dams and mudflow channels will reduce the risks of disasters, such as floods, and its influence on women, children and men.

Environmental benefits: The project will result in a number of activities that improve the environment. These include reducing the degradation of crop lands, which will increase the resilience of natural resources, promoting the rational use of the irrigation water, increasing the area of green plantations, decreasing degradation of pastures, and reducing damage from flooding and mudflows through disaster risk reduction measures. The promotion of alternative energy use and improvements to homes, schools and public infrastructure by introducing energy-saving, energy efficient and environmental friendly technologies will further reduce the illegal exploitation of forest resources for fuel wood and result in lower consumption of fossil fuels. Support to local processing of natural and agricultural products will increase the value of natural resources and their efficient use.

E.4. Needs of the Recipient

Vulnerability and financing needs of the beneficiary country and population

E.4.1. Vulnerability of country and beneficiary groups (Adaptation only)

Recent climate projections for the Kyrgyz Republic indicate that climate change will have a profound impact on climate sensitive rural livelihoods³⁷. The long term projections with current trend in warming with an average 2°Celsius increase in temperature by 2060 and a 4-5°Celsius increase by 2100 demonstrate catastrophic consequences for all sectors of the country, among key ones, significant shortage of hydro-energy will already be the reality from 2025, up to 49% of the areas will be deserts of semi-deserts, significant increase of natural disasters, and potential reduction of water runoff by up to 40%. Short term projections pose number of risks and missed opportunities, such as increase of natural disasters due to increase of water runoff in early spring and rise of precipitations in winter, and drought as rainfall is also projected to decline during the summer months,. At the same time, the country and population limited capacity and financial resources due to high debt and relatively small economy will limit harvesting the potential benefits from such changes, such as increase in hydro-power production or improved water management to make best benefits of increase of more precipitation and increase in water runoff. Rainfall is also likely to become more variable.³⁸ Changes in climatic conditions will exacerbate existing threats to food security and livelihoods in the Kyrgyz Republic through a combination of increasing frequency and magnitude of climate hazards, diminishing agricultural yields and production, and intensified competition over already scarce natural resources. Efforts to reduce these impacts are therefore a critical part of efforts for sustainable development, and in particular, to ensure food security and nutrition (SDG2). The government recognizes this dynamic, and in Government’s National Development Programme 2018-22, underlines the nexus between climate change and food security.

While the economy of the Kyrgyz Republic is mostly agrarian, with agriculture accounting for 12% of GDP (NSC 2017) and one-third of employment, it is also highly vulnerable to extreme weather, especially droughts and frosts. As a result, many people in the sector often face hardship and poverty, with a significant proportion of people in rural Kyrgyz Republic living below the national poverty line.

Food insecurity in the Kyrgyz Republic is highly seasonal and closely correlated with increasing and chronic poverty. The poverty level determines access to sufficient and nutritious quantities of food. As stated earlier, according to the most recent Democratic and Health Survey (DHS 2012), 43% of children under five years old and 39% of women of reproductive age were diagnosed with iron deficiency anemia and 13% of children under five years old were suffering from chronic malnutrition. These rates are significantly higher than the prevalence of dietary energy deficiency (6%), indicating a prolonged inadequate consumption of nutritious food.

Small-scale subsistence farmers, poor households, women and children, who are already facing socio-economic difficulties, as well as local government, are uninformed with regard to climate change and its current and long-term impacts of climate sensitive livelihoods, and the potential benefits. They are also not taking any structural measures to adapt and reduce risks. Against this background, the poor and vulnerable are increasingly trapped in a vicious circle characterized by continuing poverty and an increasing frequency of climate shocks. These poor households have little access to information, knowledge, skills, resources and financial support to either adapt or reduce the risks of current and long-term climate change impacts.

E.4.2. Financial, economic, social and institutional needs

The Kyrgyz Republic’s macro-economic environment remains highly variable due to continuing internal and external risks. According to the IMF, structural impediments continue to limit the growth of the economy, while external risks remain with the economic slowdown in the Russian Federation and Kazakhstan and a difficult transitional period in

³⁷ Kyrgyz Republic’s second national communication report to the UNFCCC, Kyrgyz Republic, 2009.

³⁸ World Bank Group – Kyrgyz Republic Agricultural Sector Risk Assessment

relation to the country's accession to the Eurasian Economic Union.³⁹ External pressures continue to hold back growth although modest improvements were registered in late 2016 in trade, construction and agriculture. Public debt levels remain at critical levels (the current account deficit is expected to rise to 8.5% in 2016 and reach 15% of GDP), with continuing efforts required, through additional revenue and expenditure measures, to reign in the fiscal deficit. While growth in previous years has increased average living standards, this has yet to tackle significant regional disparities or reach the 30% of the population that live below the poverty line. These challenges, together with volatile growth and intermittent inflationary pressures, increase the economy's vulnerability to external shocks⁴⁰ and constrain the ability of the country to invest in urgently needed preparedness and response actions to climate change.

The proposed project will address some of Kyrgyz Republic's structural, institutional and financial barriers that make it particularly vulnerable to climate change. Through improved climate services, rural livelihoods dependent on agriculture will be made more resilient. Through income strengthening and diversification, the agriculture sector will become more sustainable and resilient. By building its knowledge base, national, regional and local administrations will be better informed, coordinated and prepared to respond to climate shocks and to plan future adaptation activities.

E.5. Country Ownership

Beneficiary country (ies) ownership of, and capacity to implement, a funded project or programme

E.5.1. Existence of a national climate strategy and coherence with existing plans and policies, including NAMAs, NAPAs and NAPs

Actions for adaptation to climate change are developed and included in the National Priorities for Adaptation to Climate Change in the Kyrgyz Republic until 2017 ("Priority Directions"). The Kyrgyz Republic has developed sectorial plans and programmes for adaptation in all vulnerable sectors, including agriculture, energy, water, emergencies, healthcare, forestry and biodiversity.

This project complements the Climate Change Adaptation Priority Areas described in the national priorities of the Kyrgyz Republic and in the Third National Communications (SNCC) by promoting research-based actions, new livelihood activities, and improved extension and other advisory services at local government level. The proposed intervention addresses the climate change-poverty-food insecurity-malnutrition nexus.

The project also complements the sub-section on capacity building in the SNCCC through strengthening of technical capacity for weather forecasting, integrated impact assessment, integrating future climate change and its impacts in government policies and mainstreaming climate change into national, sectoral, and spatial development planning. Finally, in line with national climate change policies, strategies and plans, lessons learnt throughout project implementation will be used to build understanding, competence and replication capacity among government agencies and partners.

Through component III of the project, the government and partners will be empowered to ensure that climate resilience, food security and nutrition are integrated into relevant policies and programmes. WFP has already gained substantial experience in this regard, having supported the government in developing the national social protection action plan for 2015–2017, the food security and nutrition programme for 2015–2017, and contributed to the formulation of the national climate change adaptation programme and the activities of the Scaling-up Nutrition (SUN) movement.

³⁹ <http://www.imf.org/external/np/country/notes/kyrgyzrep.htm>

⁴⁰ <http://www.imf.org/external/np/country/notes/kyrgyzrep.htm>

Extensive and detailed consultation and review of the project proposal led by NDA jointly with WFP took place from 5 October to 1 December 2016. Additional consultations with the government was carried out from May- September 2017. 16 various ministries and agencies which are the members of the Coordination Commission on Climate Change (CCCC) chaired by the Vice prime minister reviewed the project proposal two times. Feedback and comments of the ministries were integrated into the proposal.

The current FP of WFP has been also included into Strategic Programme for Climate Resilience (SPCR), as a pipeline project in alignment with the main national and sectorial priorities of the country. SPCR was developed based on the integration of key national and sectorial strategies, provides the climate resilient investment priorities and investment-planning framework ensuring a coordinated approach for adaptation to climate change in the country.

Country ownership will be guaranteed through the role of Executing Entities, the active involvement of local administrations, communities, resource user groups and associations and the engagement of the civil society and local enterprises. This will serve to develop the capacity of stakeholders, with the planned cycle of knowledge generation and use by stakeholders further improving the sustainability of overall project impacts.

In terms of country ownership at the community level, based on the results of the climate profiling of all provinces, WFP conducted community consultations in four provinces, and selected through a convergence analysis that takes into account levels of vulnerability to climate change effects and disasters, levels of poverty and needs for socio-economic stability, two zones for project intervention. They include the complete Batken province and parts of Osh and Naryn province. This was completed through a gap analysis with the NDA technical team and a market survey of the agro-meteorological needs of farmers. As a result, the main fields of intervention at national, regional and local levels were identified.

Methodology

The community consultation were conducted with representatives of the local government, technical specialists, local NGOs, community members, and representatives of the districts administrations, revealed the following issues, gaps, priorities and suggestions in addressing climate risks and livelihoods in the targeted area.

The goal of the community consultations is gathering inputs and understanding local needs, assets, and resources. Engaging key stakeholders and community members in consultations ensure that concerns of the communities regarding social and economic opportunities, environmental challenges are heard and needs are prioritized. Methodological approach to community consultation include focus group discussions, key informant interviews and secondary data review (statistics).

- **Focus group discussions** (FGD) were conducted in small groups (5-6 people) with key specialists of local government including land specialist, water management specialist, and pasture committee, specialists of economic and social development, civil protection focal points, NGO representatives and local community leaders. The guiding questions for FGD combined topics on socio-economic development and agriculture, social and rural infrastructure, poverty, disasters and climatic risks, and energy services.
- **Semi-structured interviews** were conducted with key specialists of district administration to obtain in-depth overview of challenges and needs in agriculture, land and pasture management, water management, energy and impacts of climate change on livelihood. The guiding questions were formulated prior to the interviews.
- **Secondary data** review was conducted to consolidate and analyse existing studies, government reports, development plan, and statistics for each targeted district and local government.

E.5.2. Capacity of accredited entities and executing entities to deliver

WFP in the Kyrgyz Republic. Since launching its operations in the Kyrgyz Republic in late 2008, WFP's overarching objective has been to strengthen the government's capacity to reduce food insecurity and undernutrition and to

support communities' long-term resilience. Initially operating in an emergency capacity, WFP reached nearly a million vulnerable people with food assistance following the global food crisis, harsh winters, the failed harvests of 2008 and the inter-ethnic violence in Osh and Jalal-Abad in 2010. As WFP interventions shifted to development and recovery, WFP has implemented development projects to support more than half a million people to build a more food-secure future through asset creation, income generation activities, natural resource management and disaster risk reduction and climate adaptation. WFP's current activities, which cover productive safety nets school meals optimization, women's economic empowerment and peace building, amount to ongoing financing of US\$ 45 million to end-2017 and targets more than 210,000 people each year to increase food security and nutrition and improve livelihoods in the Kyrgyz Republic. WFP also supports the country to establish policies, strategies and programmes, and related institutional capacity, in the above priority areas of intervention.

National capacity to implement projects. While climate change response planning is developing at the national level, the government's engagement with local level stakeholders and implementation of adaptation actions at the provincial and district levels have so far been limited. However, the Kyrgyz government has indicated its commitment to climate change adaptation, as evidenced in the establishment of policy frameworks at the level of national government. The government is also further engaging with key sectoral organizations and civil society groups, as well as vulnerable groups such as women. Local authorities however do not have the adequate knowledge, resources or capacity to fully engage in climate change adaptation activities.

The State Agency of Environmental Protection and Forestry of the Kyrgyz Republic is the key agency that is responsible for policy implementation and regulation in the area of environmental conservation, environmental security, and climate change policy. SAEPF is the key agency for coordinating all matters on climate change adaptation and mitigation. It houses the NDA for GCF, as well acts as Secretary to the Climate Change Coordination Commission, focal point for reporting to the UNFCCC, for formulation of national adaptation priorities and for sectorial adaptation plans.

The Ministry of Labour and Social Development is responsible for implementing state policy on labour and social protection (including vulnerable groups), which includes addressing employment-related issues of the population and labour protection, family and gender development. Since 2013, MLSLSD has been jointly implementing a programme with WFP on "Supporting National Productive Safety Nets and Longer-term Community Resilience" in five provinces reaching 140,000 direct beneficiaries. MLSLSD and WFP supported over 1,000 projects including infrastructure development, vocational training, disaster mitigation, reforestation, agro-forestry and income generating activities for the most vulnerable households.

The Ministry for Agriculture, Food Industry and Melioration of the Kyrgyz Republic. This ministry is the central governmental executive authority that implements the national policy on agriculture, land and water resources and processing industries. For the last three years, WFP has been collaborating with the MoAFIM on developing a "National Food Security and Nutrition Programme", a Food Security Atlas of the country at national level, and together with partners including FAO, providing advisory services at community level to vulnerable farmers on livelihood development.

The Ministry of Emergency Situations of the Kyrgyz Republic. This is the executive state body responsible for monitoring disaster risks, coordinating emergency responses and relief assistance, training and awareness raising of relevant government officials and populations on disaster preparedness, providing specialized information, including meteorological, agro-meteorological and hydrological information. The Hydro-meteorological Agency (Hydromet)

under the MES is responsible for undertaking activities in hydrometeorology and observations on environmental pollution as mentioned earlier.

E.5.3. Engagement with NDAs, civil society organizations and other relevant stakeholders

The project will be executed jointly by the State Agency of Environment Protection and Forestry (SAEPF), Ministry of Labour and Social Development (MLSD), Ministry of Agriculture, Food Industry and Melioration (MoAFIM), and the Ministry of Emergency Situations (MES)/Hydromet Agency.

Since the NDA and the Climate Change Coordination Commission is part of the State Agency on Environmental Protection and Forestry (SAEPF), it will also be an integral part of the project and head up the National Project Steering Committee. In addition, the project will explore linkages and synergies in areas where project sites overlap with existing or planned projects. As such, emphasis will be given to further strengthening partnerships between SAEPF and other partners as part of efforts to promote broader multi-sectoral responses to climate change.

WFP has existing field level agreements with local NGO partners “CADRI”, “Kelichek” to conduct activities identified through local level consultations, local level development planning, project monitoring, and also has contracts with “the Republican Science Methodological Center” and the “Kyrgyz Agrarian University” on development of agriculture-related teaching modules based on the short term courses, which will be used for implementation of this project Gaps, needs and relevant activities were rigorously consulted with all relevant government and civil society institutions as well as local authorities and local communities (Annex 2 and 3).

E.6. Efficiency and Effectiveness

Economic and, if appropriate, financial soundness of the project/programme

E.6.1. Cost-effectiveness and efficiency

WFP has focused mainly on disbursement-related aspects of cost-effectiveness given the relatively small level of investments envisaged for individual actions, including those undertaken at the local level. In order to leverage this funding, the structure of financing encourages co-financing arrangements at all levels, whereby direct contributions are encouraged from government and local authorities and the communities themselves. Project interventions are also designed to encourage participation and interface with a broad range of national and local partners including the private sector in order to ensure longer-term sustainability.

With regard to maintenance, agreements are signed with partners to ensure the continued functionality of assets. This includes an agreement with the Hydromet Agency for the coverage of the maintenance of automated meteorological stations (AMSs), with AMSs being delivered and installed at the specific locations under the jurisdiction of the NHMS. Agreements are also signed with district and sub-district authorities to ensure the maintenance of local level assets.

An analysis of the expected benefits of component II indicate that the implementation of adaptation activities can bring monetary and non-monetary benefits in the form of increased income through diversification and improvement of production, cost avoidance and cost savings (Annex 4 and 5). Cost savings include savings through improved nutrition, savings on energy for cooking and cost avoidance related to disaster risk reduction. Other non-monetary benefits include social cohesion, protection, reduced losses of productivity (poor cognitive development), gender equality and improved access to services.

E.6.2. Co-financing, leveraging and mobilized long-term investments (mitigation only)

As noted earlier, schemes, such as asset creation, repairing irrigation systems, addressing land degradation and setting up of community granaries, would also benefit the mobilization of resources from the community, local administrations and relevant state organizations, as well as interested development partners and the private sector, to achieve set goals. The co-financing covers provision of equipment and materials and other inputs and amount to US\$ 1.06 million.

E.6.3. Financial viability

The proposed project does not envisage any large-scale investments in infrastructural objects and technologies. Rather, WFP will develop and implement a mix of approaches and tools to be applied at the micro-scale in various locations within project areas to strengthen the climate resilience of communities, taking into consideration local contexts. The project also does not envisage a major recovery of project costs during and after project implementation, although the cost recovery for climate services is envisaged after an initial grace period. The readiness and needs of farmers to pay fee for accurate, timely and tailor made weather forecast has been already identified and assessed by the WB supported project. During the first year, the project will start with sensitization of the farmers/end users and during the second year the project will produce, deliver and support the use of the weather forecast by farmers/end users. During these first two years of project, end users will be also sensitized about fee-based subscription and have the time and possibility to test the advantages of receiving and using specialized weather forecasts. Starting from the third year, farmers/end users will subscribe for fee-based specialized weather services, which will be mutually agreed between Hydromet and subscribers.

The project also envisages the complementary involvement of partners, including private donors, with many projects being realized in conjunction with activities of other international partners (e.g. rural works, market linkages, etc.). A range of benefits of activities are provided in more detail in the section on economic and financial analysis in Annex 4.

E.6.4. Application of best practices

WFP's approach to strengthening the access of vulnerable communities to reliable climate and weather information will be tailored to specific contexts and use multiple tools and channels of dissemination including radio and ICTs, as determined through local community level consultations. In addition, one of the tools that WFP will pilot in the Kyrgyz Republic is the Participatory Integrated Climate Services for Agriculture (PICSA) that has already been successfully implemented by WFP and partners in Malawi, Tanzania and Zambia. The PICSA couples climate crop, livestock and livelihood information with tools that farmers can use to decide the best options for them. The PICSA approach has been developed by the University of Reading and is implemented jointly with National Meteorological agencies, government extension services, and NGOs.

In addition, the project will apply international approaches and methodologies for vulnerability and risk assessment as well as traditional methods and improved agricultural practices used in Central Asia (reduction of post-harvest losses, collection and storage of rainwater, efficient water management technologies, alternative energy sources etc.). The project will also adopt a combination of successful community level adaptation measures that have already been tried and tested by other organizations and also seek to bring new innovations to the problems associated with climate change. This will include practices of local level planning, on and off-farm income diversification and climate services, with the focus on the most vulnerable segments of rural population.

Local residents, specifically vulnerable groups, will be able to strengthen their capacity and develop their practical skills by attending short-term courses organized through the state system of short-term courses (SKaP). Training will

cover a wide range of topics, more than 60, including vocational skills to support income generation as well as adaptation to climate change.

** The information can be drawn from the project/programme appraisal document.*

F.1. Economic and Financial Analysis

Given the project's objective of public goods development, an economic cost benefit analysis was conducted to evaluate its financial viability (Annex 4 and 5). The analysis is based on available baseline data (Post Activity Monitoring- PDM and Food Security Outcome Monitoring - FSOM) of projects similar in nature to the suggested adaptation measures in proposal made to GCF, market rates of produce (National Statistics Committee), value-added to agriculture of produce (WFP project on installation of 10 processing facilities and their economic and financial benefits) and asset base creation and rehabilitation through productive safety net instruments (WFP Productive Safety Net project information).

The benefits identified in this project are the individual benefits that would accrue from GCF investments into locally targeted livelihoods (yield growth, income earned for produce sold at the time of harvest and after processing), community level benefits (improved asset base, improved use of natural resources) and national level (saving and avoidance costs) if livelihood management in the agriculture sector is more adapted to the climate change risks as proposed under this GCF proposal.

Cost structure: The cost structure for the is exclusively derived from the budgeted costs of the project which include PMC, component implementation, government engagement, capacity building, personnel and equipment.

Project benefits: In line with the theory of change all benefits are assumed to occur at the beneficiary household level through the means of increased income generation from:

- a) Use of climate adapted agricultural practices;
- b) Improved access to better processing;
- c) Increase income from less climate sensitive livelihoods;
- d) Cost-savings from energy efficient practices;
- e) Cost avoided by means of DRR infrastructure.

Assets creation and livelihood strengthening activities contribute the most to this increase in household income thorough increased agricultural yield of main crops such as potato, vegetables and fruits. A secondary benefit of the project occurs through an increase in the household asset base, thanks to a more diversified portfolio of activities, including off-farm income generating activities and processing. Taking a very conservative approach, benefits per unit are assumed to remain constant throughout the time horizon. It should be noted that many benefits, whose dollar value is hard to identify have not been included in this analysis, but are broadly described across the proposal and in Annex 4 (section 4.6). These include for example the increase solidarity in the community, the increased importance of women's role in the household, the benefits from knowledge sharing and replication.

Scale: The increase in number of participants is in line with the project proposal.

Viability: According to the performed economic analysis, the project presents a > 1 benefit-cost ratio both within 10 and 20 years of project start date. Considering a discount rate of 12%, IRR is 24% in the 10 year scenario and 29% in the 20 years scenario, which indicates cost-effectiveness.

Furthermore, benefits from activities already implemented by WFP and other partners, and which are similar to the ones proposed in this project, are described below:

Climate services: The use of weather and seasonal climate information by farmers, and those undertaking crop and livestock management activities, will lead to better decisions related to crop and other activities, including planting, irrigation, harvesting, production of fodder and protection of plants and animals, and minimize losses (Annex 2). Recent studies show a cost-benefit ratio of 4:1 to 36:1⁴¹, highlighting a how climate services that support more effective decision-making is one of the most cost-efficient adaptation measures available.

Enhanced community infrastructure: WFP monitoring data⁴² shows that current field-level project activities were key to communities enhancing infrastructure that support livelihoods that are more resilient to climate shocks. In 2015, after one year of project implementation (small-scale infrastructure for disaster risk reduction, irrigation, drinking water, community roads and bridges), 27 % of all community infrastructure in targeted areas was fully functional, which is a twofold increase, compared to 13 % prior to the start of the project in 2014. Subsequently, in 2016 and 2017 share of fully functional infrastructure has further increased to 45% and 48% respectively. Approximately 98% of beneficiaries reported to be using the created/rehabilitated asset to meet their livelihood needs. As a result of rural infrastructure (roads/bridges) rehabilitation, households reported better access to markets (92%), schools (68%), medical centers (67%) and pastures (6%). In drinking water asset improvement projects, households reported that quality of water consumed by their households had improved (79%), prevalence of diseases associated with access to clean water decreased (41%), time to obtain clean water decreased (26%) and expenses to deliver water decreased (11%). As a result of improved irrigation infrastructure, the number of households lacking irrigation water for their land plots decreased by four times before and after the project (from 40 to 10%).

Moreover, households noted changes within and between the communities in terms of significantly lower likelihood of tensions as a result of improved access to irrigation, drinking water and key livelihood activities. The level of mutual dependence in cross-border communities around the natural resources (water, land, pasture) decreased 5 times (from 57% to 12%), according to the perceptions of project-targeted households.

Improved agricultural outputs: Household participants benefited from improved functionality of physical assets and enhanced knowledge and collected better harvests: 44% stated that their harvest amount increased, and 39% reported increases in number and types of crops planted. Based on assessment of the various projects, it was found that an average household in targeted communities harvested 2.4 types of crops, mainly potatoes, vegetables and fruits. After implementation of the project, this increased to 2.8⁴³.

⁴¹ Clements and Ray 2013, Value of climate services across economic and public sectors, report to USAID

⁴² WFP project annual report, 2017, https://docs.wfp.org/api/documents/WFP-0000070018/download/?_ga=2.92948765.1489683575.1527133313-996090696.1525333228

⁴³ WFP's Post-project monitoring report, 2016 Support for National Productive Safety Nets and Long-Term Community Resilience

	Planted area (Hectares)			Total harvest (kg)			Crop productivity (kg/Sotka)		Share of harvest sold (%)			
	2014	2015		2014	2015		2014	2015	2014	2015		
Potato	0.11	0.16	↑	1,125	1,313	↑	119	119	↑	31%	42%	↑
Onion	0.03	0.04	↑	345	502	↑	53	79	↑	3%	7%	↑
Carrot	0.02	0.02	→	222	263	↑	70	56	↓	11%	5%	↓
Cabbage	0.01	0.01	→	74	80	↑	42	42	↑	3%	5%	↑
Tomato	0.02	0.02	→	159	173	↑	77	76	↓	6%	4%	↓
Fruits	0.07	0.04	↓	596	738	↑	85	86	↑	38%	44%	↑
Berries	0.43	0.51	↑	242	181	↓	30	25	↓	63%	57%	↓

Post-project monitoring findings confirm that crop productivity and the share of crops sold increased for potato, vegetables and fruits. Based on the pre-assessment of various projects, it was found that that only 8% of households in targeted communities had income from vegetables and fruits, while 37% of households had income from cereals and potatoes. After implementation of the project, the proportion of households who had income from vegetables and fruits increased to 42% and the proportion of households with income from cereals and potatoes increased to 51%.

More frequent consumption of potatoes, meat, vegetables and dairy products was the main determinants of observed food security and nutrition benefits, which was measured through a food consumption score (FCS).⁴⁴The outputs that resulted in better food consumption are attributed to the ability of beneficiaries to collect more harvests and plant more diverse crops, as well as to save money that would normally have been spent on basic food commodities.

Better income opportunities: Based on an assessment of WFP ongoing project activities throughout the country, it was found that the average number of income sources in targeted communities was 2.1, while after one year of project implementation, it increased to 3.4. The average household in targeted communities spent 42% of their monthly budget to purchase food items, which reduced to 30% during the follow-up survey in October 2015. Half of participants of projects providing professional courses on skills development reported already being employed after only a few months of project completion, with around half of employed participants having opened their own business.

F.2. Technical Evaluation

The project aims to improve local rural communities' adaptive capacity and resilience to short-term weather phenomena and long-term climate change through timely climate services, livelihood development and training and public awareness raising on climate change and adaptation measures.

In preparation of the funding proposal, the draft was submitted to the Executing Entities in order to obtain a technical evaluation from Kyrgyz experts on climate services, rural development, small business promotion and value chain improvement, climate-smart agriculture and agroforestry and environmental education and knowledge management. The funding proposal was carefully evaluated by all relevant sector experts.

Under component I on climate services, the project will support the preparation and dissemination of the necessary climate-related information, which is based on a detailed technical review that has been conducted together with

⁴⁴ Food consumption score is a proxy indicator of household of household current for security. It measures consumption patterns (frequency and diversity) of households over a seven-day recall period.

NHMS, WMO Geneva and with technical inputs from the World Bank. Climate services activities envisage the procurement and delivery of a limited number of Automated Weather Stations, in close consultation with the World Bank project and NHMS. These stations will be purchased based on priorities and specifications agreed with NHMS and will be transferred to their jurisdiction for further use and maintenance. Special attention will be given to their compatibility with the relevant WMO and national standards and existing stations.

The proposed activities of component II and III have already been proven successful in other parts of the country, in conjunction with technical support from national partners such as Ministry of Agriculture, Food Industry and Melioration, the State Agency of Environmental and Forestry and development partners, such as GIZ, FAO and IFAD. A recent operational evaluation of these activities confirmed their technical suitability. Local level committees comprised of technicians from various sectoral ministries will provide technical expertise in their concerned areas, and where necessary, work with other technical partners including the FAO, GIZ, and the World Bank.

Equipment for the processing of agricultural products will be selected in accordance with guidelines established by a World Bank project on manufacturing processes and HACCP standards, in collaboration with the Kyrgyz Technical University.

F.3. Environmental, Social Assessment, including Gender Considerations

Involuntary Resettlement: There will be no resettlement of people under the project. Adaptation actions will target the most vulnerable communities and agricultural areas.

Core Labour Rights: Farmers will have opportunities to produce small-scale agricultural and rural infrastructure that benefit their communities and reverse land degradation. The participation and contribution of farmers in the works will be voluntary and will be carried out during the lean season when farmers lack incomes and spare time. The work schemes will be designed and executed jointly with local governments and implementing partners/community based organizations, adhering to the criteria of Decent Work Agenda (DWA)

Human Rights: The project will respect and reinforce human rights, especially with regard to those related to access and equity, right to food, prioritization of marginalized and vulnerable groups, gender equity and women's empowerment.

Marginalized and Vulnerable Groups: The project gives a specific emphasis to disadvantaged and most vulnerable communities, who are affected disproportionately by the impacts of climate change.

Access and Equity: Over the course of the project, a thorough and inclusive community participatory process will be used to ensure that there is common understanding and agreement among stakeholders, and that adaptation actions (under Component II) do not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. A mobile telephone-based beneficiary feedback mechanism is already operation in WFP project areas.

Gender Equity and Women's Empowerment: In terms of formal labour, agriculture remains the largest sector of employment for both women and men. Around a third of all working people are employed in agriculture (34.5 % of all employed women and 29.6 % of all employed men, or the equivalent of 323,500 women and 403,800 men). Women have significant involvement in crop production, while males are occupied in livestock. Women are engaged in work such as milking, milk processing and selling dairy products, preparing (cleaning, dying) and making handicrafts from wool. Both women and men are involved in collecting fodder and feeding livestock. Other types of small-scale animal husbandry, such as rabbit or poultry rearing, should be accessible to women as income-generating

opportunities⁴⁵. Women farmers are also more vulnerable than men to the adverse effects of climate change, due to their poor access to information and resources, and their inadequate participation in the decision-making process. There is also a significant gender imbalance of women in local government structures responsible for natural resource management. The exclusion of women leads to poor knowledge in areas such as agricultural practices and climate change adaptation measures. On the other hand, women have the potential to play a key role as agents of change as they are more open to the use of new livelihood strategies and farming technologies⁴⁶.

The results of a recent GSPS gender survey suggest that men are twice as likely as women to start a business. Obstacles to the opening of businesses by women are the lack of finance and knowledge on management, business planning, negotiation and agricultural skills. A significant portion of women (74%) are engaged in wholesale and retail trade, 7% are engaged in the garment industry, 6% engaged in personal services and 13% in other services including food processing where two thirds are men and only one third women⁴⁷. Off-farm livelihoods, in particular SMEs, are one of the areas proposed for women to help them respond to the impacts of climate change.

According to studies, women often cite a lack of knowledge on how to respond to emergencies and on climate change adaptation practices⁴⁸, and are also more likely to suffer the health and nutrition consequences of climate-induced phenomena, such as reduced food production, natural disasters, land degradation and poorer irrigation. In the Kyrgyz Republic, some 43% of children aged 6-59 months and 35 % of women age 15-49 suffer from anemia⁴⁹, while the rate of intestinal infections due to the lack of clean water systems is also consistently high, with levels ranging from 332 (2001) to 612 per 100,000 (2012). Disaster preparedness and nutrition-related trainings should therefore ensure a priority focus on women and children.

With regard to energy use, children and women spend longer periods in poorly heated rooms than their male counterparts and are therefore more likely to have health problems. According to studies, farmers predominantly use charcoal and firewood for heating and cooking. Poor knowledge and use of alternative energy resources and lack of access to technologies, such as energy efficient heaters and safe cooking stoves increase greenhouse gas emissions, lead to an inefficient use of scarce natural resources and contribute to poor health outcomes and poverty⁵⁰. Thus, increasing the knowledge and use of such technologies would significantly improve the wellbeing of villagers, especially for women and children.

The project will take into account issues/challenges related to gender relations to ensure that the design of activities is gender sensitive. Activities should, at the very least, not have a negative effect on gender relations and contribute to improved gender equity.

Environmental risks: Specific environmental impact assessments (EIA) are generally not required for small-scale community-based projects. However, EIA may be required in specific areas where there are complex terrains. Annex 4 and Annex 18 provide a list of risk and mitigation measures that will be implemented as required. In addition to the low probability of negative environmental impacts from implemented activities, the project will not operate in protected areas, or sanctuaries, or other ecological sensitive areas with special high levels of biodiversity. Because of the large number of planned micro-investments and local activities, it is not possible at this stage to identify any specific impacts on the environment; the project will regularly consult and work with technical units at provincial,

⁴⁵ "National Gender Profile of Agricultural And Rural Livelihoods - Kyrgyz Republic", FAO, 2016.

⁴⁶ "Gender, Environment And Climate Change" study, UN Women, 2013

⁴⁷ GSPS survey, UN Women, 2016

⁴⁸ "Gender, Environment And Climate Change" study, UN Women, 2013

⁴⁹ DHS, 2012

⁵⁰ "Gender, Environment And Climate Change" study, UN Women, 2013

district and sub-district local level authorities, follow WFP guidelines and adhere to Kyrgyz laws and regulations to ensure consistency with environmental standards. Environmental impacts will also be closely monitored by the project implementation unit. Environmental and social screening will be integrated in the participatory planning approaches used at community level to determine and assess risk levels and mitigation measures. This will be done together with the government technical staff from relevant institutions (MoAFIM, SAEPP, State Agency for Local Self-Government and Inter-Ethnic Relations of Kyrgyz Republic (SALSGIER) who will provide the expertise related to potential environmental and social risks of the specific assets in the communities. For those assets, where any negative environmental or social outcomes were identified, mitigation measures will be put in place. If any asset improvement project is considered as 'high risk' during the screening process, such assets will be rejected to be included in the rehabilitation plan through the project (Annex 4).

F.4. Financial Management and Procurement

The financial management and procurement of this project will be guided by WFP financial rules and regulations as per Annex 14 in-line with the AE accreditation. All financial management and procurement, including financial accounting, disbursement methods and auditing will be specified under the Funded Activity Agreement (FAA) and will be aligned with the process and method agreed in the accreditation master agreement (AMA).

WFP HQ and WFP Regional Bureau in Cairo will be performing AE duties and WFP Country Office in the Kyrgyz Republic will be performing co-Executing entity duties together with the listed co-EEs partners. All funds will be received by WFP HQs and WFP Country Office will be responsible for any disbursement for goods and services.

The GCF will transfer funds to WFP on the basis of a disbursement schedule (annually) as outlined in the project proposal and relevant agreements. WFP's Finance and Treasury Division at Head Quarters level certifies annual financial statements of relevant expenditures. WFP will be responsible for ensuring that project funds are spent according to the funding project proposal and the above mentioned agreements that will be entered with the GCF. Internal reviews or audits will take place at the end of project implementation in accordance with established WFP guidelines. WFP's financial accounting, disbursement methods and auditing are compliant with UN rules and regulation as well as with the requirements of all major donor agencies worldwide.

The activity agreements with these partners will leverage complementarities and synergies between the GCF project and the partners' on-going projects. Partners engaged in the project implementation will be covering own expense from the institutional budgets allocated from the state budget or local self-governance budgets, or other sources availed by donors. This is reflected in the MoU with the Government for the period of 2018-2022

G.1. Risk Assessment Summary

The main risk factors that might affect or cause difficulties for successful implementation of the project are political volatility and civil unrest, poor coordination, constraints in capacities of partners and the occurrence of natural disasters. These risks will be considered in advance of and over the course of the project.

The implementation process will be designed to reduce these risks by establishing operational partnerships with various national organizations, partnerships with a broad range of organizations to ensure quality capacity building, the support provided by key ministries to establish disaster preparedness and response systems and by ensuring business-continuity planning.

Moreover, since the concept stage, the NDA and its technical advisors have been involved in project planning to consider potential risks. This information will be broadly shared to identify synergies and opportunities for cooperation, including through multi-stakeholder discussions to identify pathways towards common goals and actions that reduce such risks.

G.2. Risk Factors and Mitigation Measures

Please describe financial, technical and operational, social and environmental and other risks that might prevent the project/programme objectives from being achieved. Also describe the proposed risk mitigation measures.

Selected Risk Factor 1

Description	Risk category	Level of impact	Probability of risk occurring
Political risk ⁵¹	Other	Medium (5.1-20% of project value)	Low

Mitigation Measure(s)

In view of the risk that political volatility and civil unrest could interrupt the project, WFP will seek to reduce the effects by establishing strong operational partnerships with a broad range of national organizations and in a number of geographical areas in both the north and south of the country. WFP will also strive to establish full ownership amongst a range of government stakeholders, so that the likelihood of disruptions is reduced.

Selected Risk Factor 2

Description	Risk category	Level of impact	Probability of risk occurring
Environmental risk	Social and environmental	Low (<5% of project value)	Low

Mitigation Measure(s)

Localized and/or temporary risks during assets rehabilitation phases are site-specific and will be addressed through the effective engagement of national and local level government technical experts and through strict adherence to national and WFP's established policies and procedures. Furthermore, this project will only engage in small-scale assets creation at

⁵¹ Presidential Elections are scheduled for November 2017.

community level with negligible environmental risks. A periodic review of environmental risks will be integrated into the terms of reference of the project structures, including the Project Steering Committee.			
Selected Risk Factor 3			
Description	Risk category	Level of impact	Probability of risk occurring
Technical capacity of government partners	Technical and operational	High (>20% of project value)	Medium
Mitigation Measure(s)			
Because unexpected constraints relating to the capacities of national partners could result in delays in implementation, WFP will continue to focus on capacity development support and also develop partnerships with a broad range of development organizations to ensure timely implementation and limit risks.			
Selected Risk Factor 4			
Description	Risk category	Level of impact	Probability of risk occurring
Natural disasters, in particular landslides, floods and drought in project sites	Social and environmental	Medium (5.1-20% of project value)	Medium
Mitigation Measure(s)			
National levels of disaster preparedness has improved but substantial work is needed to upgrade preparedness and early-warning systems and to increase capacities to respond to large-scale disasters. To address these risks, WFP will continue to support the Ministry of Emergency Situations and the Ministry of Labour and Social Development to establish preparedness and response systems, and will participate in regular contingency and business-continuity planning. Small and medium sized disasters will occur more frequently.			
Selected Risk Factor 5			
Description	Risk category	Level of impact	Probability of risk occurring
Coordination among government agencies will be ineffective due to the large number of government institutes involved, capture by sectoral interests, and multiple reporting lines	Other	Medium (5.1-20% of project value)	Medium
Mitigation Measure(s)			
This risk will be mitigated by strong leadership from senior government officials and through the multi-sectoral coordination structures and mechanisms set up and operated under the project. Since the concept stage, the NDA and its technical advisors, as well as partner ministries, have been involved in project planning. Information has been broadly shared to identify synergies and opportunities for cooperation and to minimize the risks of competition and duplication. Further multi-stakeholder discussions will focus on picking up any additional common issues, and to finding pathways towards common goals and actions.			
Other Potential Risks in the Horizon			
NA			

H.1. Logic Framework.

H.1.1. Paradigm Shift Objectives and Impacts at the Fund level ⁵²						
Paradigm shift objectives						
	<p>The proposed project contributes to climate-resilient development through a coordinated and multi-sectoral intervention, consisting of a combination of climate services, adaptation measures and capacity building. Livelihoods are diversified and climate-resilient, food insecure are better adapted to climate shocks, and institutional management of climate risks and shocks is strengthened.</p> <p>Government of the Kyrgyz Republic will be supported to reduce its vulnerability to climate change and to increase the adaptive capacity and resilience of rural communities in Osh, Batken and Naryn, which are increasingly affected by climate change impacts and low adaptive capacity.</p> <p>i) Vulnerable communities will be empowered to make informed decisions about their livelihoods, respond to climate risks and opportunities, and adapt to climate-related changes;</p> <p>ii) Livelihoods will be diversified and made climate resilient for vulnerable smallholder farmers and rural communities;</p> <p>iii) Knowledge, skills and ownership by local communities and government improved to manage climate risks and adaptation measures.</p>					
Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term (if applicable)	Final	
Fund-level impacts						
	Total Number of direct and indirect beneficiaries; Number of beneficiaries relative to total population	WFP project records (project and beneficiary database) National Statistics Committee	0	Direct: 51,000 (50%) Indirect: 210,000 (30%) 4% of population	Direct: 102,000 Indirect: 700,000 12% of population ⁵³	No major political, economic shocks or outbreak of conflicts occur; Partners share the same programmatic vision as WFP
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	A1.2 Number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options	WFP project records (project and beneficiary database) ⁵⁴	0	51,000 (50%) (25,500 males and 25,500 females)	102,000 (51,000 males and 51,000 females)	No major political or economic shocks, outbreak of conflicts or major natural disasters occur
A2.0 Increased resilience of health and well-being, and food and water security	A2.2 Number of food-secure households (in areas/periods at risk of climate change impacts), by sex of household head	FSOM -HH with acceptable FCS.	94%	97%	100%	No major political or economic shocks, outbreak of conflicts or major natural disasters occur
A3.0 Increased resilience of Infrastructure and the built Environment to climate change threats	A3.1a Number of physical assets constructed or modified to increase resilience to climate variability and change	FSOM, WFP project records	N/A	300	620	No major political or economic shocks, outbreak of conflicts or major natural disasters occur

⁵² Information on the Fund's expected results and indicators can be found in its Performance Measurement Frameworks available at the following link (Please note that some indicators are under refinement):

http://www.gcfund.org/fileadmin/00_customer/documents/Operations/5.3_Initial_PMF.pdf

⁵³ Total population as of 1 January 2018 is 6,256,730 people

⁵⁴ Additional means for triangulation: Food Security Outcome Monitoring (FSOM) in targeted/non-targeted panel communities; Post-project monitoring

H.1.2. Outcomes, Outputs, Activities and Inputs at Project/Programme level						
Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term (if applicable)	Final	
Project/programme outcomes	Outcomes that contribute to Fund-level impacts					
A6.0 Increased generation and use of climate information in decision-making	1.1 Use of climate information products/services in decision-making in climate-sensitive sectors by stakeholders (A6.2)	Project reports containing information from consultations with decision-makers at central level	0	30 local advisors trained	50 local advisors trained	Partners share the same programmatic vision as WFP; Service delivery systems nationally adopted; Relevant information reaches all beneficiaries
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	2.1 Use by vulnerable households, communities, businesses and public-sector services of Fund-supported tools, instruments, strategies and activities to respond to climate change and variability (A7.1)	1. Household-level FSOM (random household survey in targeted communities); 2. Post-project monitoring (survey among direct beneficiaries) 3. Community-level FSOM (FGDs)	0	86 community climate risk profiles developed and 4 district level workshops held and 86 sub-district community consultations held	86 community climate risk profiles developed and 7 district level workshops held and 86 sub-district community consultations held	Households invest effort to use obtained skills to generate incomes and have means (time, manpower, financial) to use obtained information; Food security does not fluctuate beyond acceptable parameters
	2.2 Proportion of targeted communities where there is evidence of improved capacity to manage climate shocks and risks	1. Community-level FSOM (FGDs) (% of communities) 2. FSOM (household survey) (average capacity score)	0	60%	80%	Technical expertise mobilized, interests/ commitments of government and communities assured
	2.3 Proportion of the population in targeted communities reporting benefits from an enhanced livelihoods asset base	Household-level FSOM (household survey)	N/A	60%	80%	Political, economic and climate shocks and disasters do not result in vulnerable households resorting to drastic coping strategies or in damaged community assets
	2.4 Level of crop diversity (number of planted crop types) and productivity of planted crops (potato, vegetables, fruits)	Household-level FSOM (household survey), Post-project monitoring	Av 2.7 crop types planted	More than av 2.7 and increased crop productivity	More than av 3.0 and increased crop productivity	HHS have enough means (manpower, time, financial) to apply better practices
A5.0 Strengthened institutional and regulatory systems for	A5.1 Institutional and regulatory systems that improve incentives for	Project reports, containing results of consultations at	Based on baseli	Awareness raising and learning	Relevant governm ent	Conducive political/ economic environment; Partners share same

climate-responsive planning and development	climate resilience and their effective Implementation.	central and decentralized level and site visits (narrative-based indicator)	ne report (1 st 3 months after project start)	tools for local authorities are developed, delivered and results reflected in the local and district development plans	bodies at central and decentralized levels are equipped and use the gained knowledge and improved tools	programmatic vision as WFP; Service delivery systems nationally adopted
Project/programme outputs	Outputs that contribute to outcomes					
A6.0 Increased generation and use of climate information in decision-making						
1.1 Enhanced capacity of National Meteorological Hydromet Services to produce tailored climate information for end-users.	1.1.1 National Inception validation workshop conducted	Workshop report	No	Yes	Yes	Partners share same vision as WFP
	1.1.2 # of Automatic Weather Stations installed	Project reports	No	8	8	Technical expertise mobilized for assistance
	1.1.3 # of types of training, workshops on using new tools and models provided for climate service providers (GIS, ECM)	Workshop reports	0	2 types of training conducted	2 types of training conducted	Technical expertise mobilized for assistance
1.2 Sustainable collaborative partnerships established between climate services providers and users, intermediaries, regional and national government institutions and the private sector to improve climate services	1.2.1 # of local advisors trained on PICSA tool, disaggregated by sex	Training reports	No	30 local advisors trained	50 local advisors trained	Technical expertise mobilized for assistance
	1.2.2 # of Workshop on establishing the co-production of agromet advisories held	Project reports	No	Yes	Yes	Technical expertise mobilized
1.3 Effective delivery of climate information to vulnerable communities.	1.3.1 Number of suitable channels for dissemination of information to women and men are established (TV/radio, sms)	Project reports	No	1 TV and 1 radio programme produced; server for SMS system purchased	3 TV and 3 radio programmes produced; server for SMS system established	Technical expertise mobilized; Interests/commitments of government and communities assured; Service delivery systems nationally adopted
	1.3.2 # of national and district level workshops on establishing a feedback system held	Project reports	No	1 national and 4 district workshops held	1 national and 8 district workshops held	
	1.3.3 # of subscribed/or climate information receivers, by sex	Project reports	No	210,000 (30%)	700,000	Service providers adopt & use provided knowledge

A7.0 Strengthened adaptive capacity and reduced exposure to climate risks							
2.1 Strengthened adaptive capacities of rural communities through improved adaptation planning and diversification of livelihoods.	2.1.1 # of gender sensitive climate risk profiles developed for long-term community adaptation planning	Project reports	0	86 profiles	86 profiles	Necessary technical expertise is mobilized; Interests/commitments of central and local governments and communities are assured; Necessary partnerships in place and functional	
	2.1.2 # of training, awareness campaigns provided (disaster preparedness) for local experts	Training reports	0	86 sub-districts	86 sub-districts		
	2.1.3 # training groups held to households (livelihoods diversification/income generating, nutrition and awareness raising to improve natural resource and livelihood management)	Training reports	0	600 groups/classes	1,360 groups/classes		
	2.1.4 Household employment / Self-employment status (income generating livelihoods)	FSOM (HH survey); Post-project monitoring	0	> 50%	> 80%		No major shocks occur affecting capacities to obtain employment
	2.1.5 # of workshops to process agriculture and non-agriculture products established	Project reports	0	20 equipment items	43 equipment items		Necessary partnerships in place and functional with shared vision
	2.1.6 # of households receiving food assistance, by type, activity, sex	Project reports	0	10,000	20,000		No WFP pipeline breaks; Planned resources are mobilized.
	2.1.7 Quantity of assistance distributed, disaggregated by type	Project reports	0	10,000 incentives	20,000 incentives		
	2.1.8 # training groups held on alternate energy use conducted	Training reports	0	600	1,360		Necessary partnerships in place and functional
	2.1.9 Number of water supply system assets built / restored by type and unit of measures		0	142	285		
2.2 Creation of small-scale climate risk reduction infrastructure at community level.	2.2.1 Number of climate risk reduction assets built / restored by type and unit of measures	Project reports	0	151	302	No political or economic impacts hinder activity implementation	
A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development							
3.1 Developing tools for awareness raising, learning and behavioral change in communities, for local authorities to	3.1.1 Training modules "Learning for adaptation" for awareness raising on adaptation developed (with gender dimension included)	Workshop reports	0	8 districts	8 districts	Technical expertise mobilized; Partners share same programmatic vision as WFP	

understand, design, incorporate climate impacts into local development plans and for monitoring and measuring the reduction of losses from community based adaptation to better manage the impacts of climate change at local level	3.1.2 short videos on adaptation measures produced (with gender dimension included)	Project records	No	Yes	Yes	
	3.1.3 # of districts adopting tools for training for authorities at village and district levels on district-level climate risk profiles and promotion of adaptation planning (with gender dimension included)	Training reports	0	Tools developed and training for 8 districts provided	Tools developed and training for 8 districts provided	
	3.1.4#of districts adopting tools for monitoring and measuring reduction of losses from community-based adaptation, risk reduction measures and cost-benefits (with gender dimension included)	Project records, MoES reports, monitoring visit reports	0	Tools developed and training for 8 districts provided	Tools developed and training for 8 districts provided	
3.2 Lessons learned and best practices documented and disseminated to support future learning and to inform policies, strategies and programmes of multiple government bodies	3.2.1 Online portal on best practices and lessons learned on climate change adaptation developed and maintained (with gender dimension included)	Project records	No	Developed and tested	Developed and nationally maintained	Technical expertise made available; Partners share same programmatic vision as WFP
	3.2.3 # of Regional workshops on lessons learned, best practices on climate services and community level adaptation and national level conference held	Project records	0	1 sun-national workshop held	2 workshop ; 1 conference	

Activities	Description	Sub-activities	Description
1.1.1. Strengthen capacities of the national Meteorological Hydromet service for data collection, translation and generation of tailored climate information.	Assessments/ consultations with information providers and end-users (women and men) will identify required climate services based on local contexts and adaptation practices. Optimal transmission channels will be established to deliver tailored services for women and men focusing on radio and ICTs and extension services.	<ul style="list-style-type: none"> -Inception workshop to validate plans -Developing sites for establishing additional Automated Weather Stations (AWS) -Installation of Automated Weather Stations (AWS) -Training National Hydromet technical staff to interpret climate information for local levels and use GIS tools to monitor agro-met parameters -Generating localized weather forecasts and information products with the government 	

<p>1.2.1. Improve information availability and capacity of users to employ climate information for climate risk management</p>	<p>Training and technical support to government, non-government organizations, which agricultural intermediaries to better translate climate information into advisories to strengthen end-user decision-making and adaptation practices</p>	<ul style="list-style-type: none"> -Adjusting and application of PICSA (Participatory, integrated climate services approach) in target areas. -Support for the generation of user tailored information with agro-met advisories -Training of end-users (farmers) using the PICSA methodology -Use of ICT integrated radio and SMS-based system to disseminate tailored weather/climate based agricultural advisories 	<p>PICSA aims at providing intermediaries and then farmers) with weather and climate data, the skills to interpret it, and a menu of livelihood, crop and livestock options that best fit user needs and expected weather patterns.</p>
<p>1.3.1. Strengthen delivery for tailored climate services to ensure vulnerable communities receive information needed for planning and decision-making.</p>	<p>Hydromet will be assisted with technical support in production, supply, and communication of the weather and climate information together with collaborating institutions</p>	<p>Establish a feedback loop to ensure a two-way dialogue between users and producers of information</p>	<p>System for feedback, national workshop with participants- district level workshops</p>
<p>2.1.1. Climate risk profiling, awareness raising and mainstreaming of climate change adaptation into community planning</p>	<p>The tools designed and developed for this activity will specifically address gaps related to the comprehensive planning of local livelihood management, which will include key factors such as seasonal variations, issues related to reduced crop production, volatile food prices, and climate risks.</p>	<ul style="list-style-type: none"> -Developing climate risk profiles to promote longer-term community adaptation planning. -Training and awareness raising on disaster preparedness for local experts. 	<p>The exercise will be supported by tools developed under component III, and will be directly informed by the outputs of component I on climate services. Based on climate risk profiles, long-term adaptation measures will be integrated into the development plans of local governments</p>
<p>2.1.2. Strengthening resilience through livelihood diversification, nutrition improvement and support for non-climate sensitive incomes</p>	<p>This activity will provide support to community members to diversify their income base through introduction of off-farm practices, rehabilitate related assets and provide necessary skills and knowledge to improve their livelihood input base.</p>	<ul style="list-style-type: none"> - Improving knowledge and skills on income generating livelihood activities - Strengthening resilience through improved crop, pasture and land management - Establish workshops to process agriculture and non-agriculture products - Improving homestead gardens and improving nutrition of rural communities - Introduction of improved practices on water use and rehabilitation of small-scale irrigation and drinking supply systems 	<p>This activity will be implemented utilizing an existing government system SKaP (Skills, Knowledge and Practice) platform that provides short-term courses for the population on sustainable use and management of the land-water resources, agro technology of crop cultivation and livestock management, and also livelihoods and diversification of their income base.</p>
<p>2.1.3. Promotion of green technology and alternative energy-based adaptation measures</p>	<p>development of skills and knowledge on generating alternative energy sources will help to improve the living conditions of the poor and vulnerable households, reduce their expenses and reduce the pressure on scarce natural resources.</p>	<ul style="list-style-type: none"> - Improving protection of homes and public infrastructure from climate extremes and encouraging use of alternative energy 	<p>This activity will be implemented using the existing SKaP- Skills, Knowledge and Practice – nationally owned platform that provides short-term courses to the population on livelihoods and diversification of income bases. The activity will also</p>

			utilize the platform initiated by WFP, MLSD and MoAFIM on small-scale processing facilities in rural areas, with technical support provided by UNIDO.
2.2.1 Strengthening community infrastructure to reduce the impact of climate risks and disasters	These efforts will strengthen the resilience of local communities to better cope with the impact of natural disasters through rehabilitation of small scale community protection assets	- Strengthening of flood protection and slopes and mudflow dams	This will protect communities and their livelihoods from landslides, rock falls and floods through strengthening of flood protections with gabion nets, constructing flood protection walls, establishing nurseries and planting trees on eroded slopes, and rehabilitation of mudflow dams and canals, which will prevent the loss of life and property caused by flooding
3.1.1. Developing awareness raising and adaptation training modules, and tools to support the district-level climate risk profiles and promotion of adaptation planning and for monitoring and measuring the reduction of losses from community-based adaptation, risk reduction measures and cost-benefits.	Set of tools will be developed and applied for promoting the adaptation at community level and strengthen local government capacities	<ul style="list-style-type: none"> - Developing and application of the interactive, participatory training modules: "Learning for adaptation to climate change and for food security" jointly with the Government. - Production of short films on adaptation measures - Posters on adaptation measures - Developing the tool for creating the sub-national climate risk profiles and for mainstreaming of climate change adaptation into local development planning for seven project areas. - Developing tools for monitoring and measuring the avoided losses and damages from implementation of the adaptation measures. 	
3.2.1. Documentation and dissemination of lessons learned and best practices to support future learning and to inform policies, strategies and programmes through regional workshops and national conference	This activity will be closely coordinated and linked with internship programs of universities such as Kyrgyz Agrarian University, American University in Central Asia and University of Central Asia in order to involve the graduate and undergraduate students into this activity, which will also contribute to training a new generation of practitioners in the area of climate change adaptation.	<ul style="list-style-type: none"> -Documentation of lessons learned and best practices to support future learning and inform policies and strategies and programmes of multiple government agencies. Annual journal on adaptation measures (national, regional and international practices) will be produced. - Two regional workshops for experience exchange on adaptation practices - National conference on grass root level adaptation practices for implementing the sectorial adaptation action plans and national adaptation priorities. 	This activity will build on the results of Component II by distilling and disseminating the outputs from the testing and implementation of field level adaptation measures, as well as the key lessons gleaned from Component I on climate services.

H.2. Arrangements for Monitoring, Reporting and Evaluation

The following documents and strategies will be used to frame all monitoring and evaluation activities:

WFP Corporate Products: WFP Strategic Plan (2017-2021), Corporate Result Framework (2017-2021), Country Office Monitoring Strategy (2018-2022), Evaluation Policy and Evaluation Strategy (2016-2021) - See Annex VII.

WFP will use its M&E system to: 1) reinforce accountability (control mechanisms), 2) improve programming (beneficiary and stakeholder feedback) and 3) assess project outcomes, outputs and processes. An outcome measurement system (FSOM - Food Security Outcome Monitoring) will be conducted to measure results at household (twice a year) and community (annual) levels. Data collection will be implemented in panel communities among randomly selected community households (direct and indirect project beneficiaries)). Baseline FSOM assessment in the selected communities will be conducted in 2018. Monitoring of outcomes through FSOM will be conducted throughout the project period (a total of eight FSOM rounds will be conducted during the four years) and also will be extended for two years after project completion in order to track the sustainability of achieved results and have a complete picture of gained outcomes. Short-term project results and beneficiary feedback will be collected through a regular Post-project monitoring among direct beneficiaries twice a year after completion of field-level project activities.

All individual and household-level indicators will be disaggregated by sex. WFP will use mobile data collection for most of the monitoring exercises relying on mobile devices (tablets and smartphones) to minimize data entry errors and reduce the time needed for data processing. WFP's corporate platform 'Mobile Data Collection and Analysis' (MDCA) will be used to collect and process monitoring data.

Reporting and M&E arrangements: Overall responsibility for monitoring and evaluation will rest with WFP, the State Agency of Environmental Protection and Forestry, the Ministry of Labour and Social Development, Ministry of Agriculture, Melioration and Food Industries and the Hydromet Agency at central and decentralized level.

Outcomes and outputs will be monitored during project implementation using data compiled by the Project Support Unit (PSU), with reporting from district levels, supervised by an Implementation and Monitoring Committee. Additionally, the PSU will be responsible for preparing six-monthly monitoring and evaluation reports (semi-annual progress reports) that will be submitted to the National Project Steering Committee. The reports will contain adequate information for the Steering Committee to make necessary recommendations and decisions on project implementation.

M&E will be carried out concurrently with project execution. Quarterly technical reports will be collated from each district in a format that would enable efficient target tracking. The bi-annual technical report will consist of a review of district implementation reports by national technical agencies and their own field monitoring reports to ensure technical compatibility.

An Annual Progress Review (APR) will be coordinated and produced by the WFP Project Coordinator and National Project Manager, with inputs from the Executing Agencies. The data for monitoring will consist of financial, procurement and physical progress reports, as well as reports on compliance requirements on social and environmental assessments and management frameworks, along with financial audit reports. All M&E products will be reviewed by the project Steering Committee, which will consider criteria such as efficiency, effectiveness and sustainability for acceptance of project actions. Quantitative targets will be supplemented with narrative reports. Such reports will be made available in time for the Project Steering Committee to review and discuss during its meetings.

There will be a thematic decentralized evaluation in the first half of 2019 to evaluate the work in improving food systems and climate change adaptation. The evaluation will be managed by WFP and conducted by independent evaluation agency/experts. The results will inform WFP and government about relevance of the selected climate related activities, lessons and evidences before scaling up climate-related interventions. Preparation for this evaluation will start in second half of 2018.

The mid-term review of all activities implemented by WFP, including GCF-funded, is scheduled for mid-2020, with accountability objective to look at the relevance, appropriateness and alignment to priorities.

There will be an independent country portfolio evaluation in late 2021, managed by WFP's Office of Evaluation and covering all WFP activities, including GCF-funded. This will promote accountability for performance and results, and will inform on effectiveness, impact and future strategic programming.

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*

I. Supporting Documents for Funding Proposal

- NDA No-objection Letter (Annex 1, 17)
- Feasibility Study (Economic analysis, evaluation of alternatives, stakeholder engagement, project location/beneficiary details) (Annex 2, 3, 4)
- Integrated Financial Model that provides sensitivity analysis of critical elements (Annex 5)
- Confirmation letter or letter of commitment for co-financing commitment (If applicable) (Annex 13)
- Project/Programme Confirmation/Term Sheet (including cost/budget breakdown, disbursement schedule, etc.) (Annex 12)



- Environmental and Social Impact Assessment (ESIA) or Environmental and Social Management Plan (If applicable) (Annex 18, 19)
- Appraisal Report or Due Diligence Report with recommendations (If applicable)
- Evaluation Report of the baseline project (If applicable)
- Map indicating the location of the project/programme (Annex 8)
- Timetable of project/programme implementation (Annex 7)



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№ 07-01-28/1055
12.12.2016

To: Executive Director
The Green Climate Fund (“GCF”)

*Bishkek, Kyrgyz Republic,
December 09, 2016*

Re: Funding project proposal for the GCF by United Nations World Food Programme regarding the” Empowering food insecure and vulnerable communities through climate services and diversification of climate sensitive livelihoods in the Kyrgyz Republic”

Dear Mr. Javier Manzanares,

We refer to the project “Empowering food insecure and vulnerable communities through climate services and diversification of climate sensitive livelihoods” in the Kyrgyz Republic as included in the funding proposal submitted by the UN WFP to us on October 05, 2016.

The undersigned is the duly authorized representative of the State Agency of Environment Protection and Forestry under the Government of the Kyrgyz Republic, the National Designated Authority/focal point of the Kyrgyz Republic. Pursuant to GCF decision B.08/10, the content of which we acknowledge to have reviewed, we hereby communicate our no-objection to the project proposal as included in the funding proposal.

By communicating our no-objection, it is implied that:

- (a) The Government of the Kyrgyz Republic has no-objection to the above project proposal;
- (b) The project concept note is in conformity with Kyrgyz Republic’s national priorities, strategies and plans;

(c) In accordance with the GCF's environmental and social safeguards, the project proposal is in conformity with relevant national laws and regulations.

We also confirm that our national process for ascertaining no-objection to the project proposal has been duly followed.

We also confirm that our no-objection applies to all activities to be implemented within the scope of the project.

We acknowledge that this letter will be made publicly available on the GCF website.

Sincerely,

Abdykalyk Rustamov
NDA/Director of the State Agency of Environment Protection
and Forestry under the Government of the Kyrgyz Republic.



Environmental and social report(s) disclosure

Basic project/programme information	
Project/programme title	Climate services and diversification of climate sensitive livelihoods to empower food insecure and vulnerable communities in the Kyrgyz Republic
Accredited entity	World Food Programme (WFP)
Environmental and social safeguards (ESS) category	Category C
	<i>Note: Environmental and social report disclosure not required for Category C and Intermediation 3 projects and programmes.</i>
Environmental and social report disclosure information	
Description of report/disclosure	N/A

Secretariat’s assessment of SAP002

Proposal name:	Climate services and diversification of climate-sensitive livelihoods to empower food-insecure and vulnerable communities in Kyrgyz Republic
Accredited entity:	World Food Programme
Project/programme size	Micro

I. Overall assessment of the Secretariat

1. The funding proposal titled “Climate services and diversification of climate-sensitive livelihoods to empower food-insecure and vulnerable communities in the Kyrgyz Republic” is presented for the consideration of the Board, taking note of the remarks listed in table 1 below.

Table 1: Summary of strengths and points of caution

Strengths	Points of caution
The project responds to increased climate impacts on vulnerable communities and people, which are coupled with food insecurity and poverty	The accreditation master agreement with the World Food Programme is not signed, which may affect the implementation start date indicated in the funding proposal. The proposal was initially submitted before decision B.17/09 was taken, and subsequently channelled through the simplified approval process following decision B.18/06, as it was deemed eligible
Approximately 79% of the budget is allocated to community-level activities in three provinces of the country and eight districts, and project management costs are low (2%)	Some off-farm livelihood diversification activities are indirect responses to climate risks, but taken as a whole they generate a systemic improvement in community resilience through diversified and less climate-sensitive livelihoods
Community-based adaptation activities have potential to inform policy decision-making and for replication and scaling up within similar areas of the country.	
The project has the potential to mitigate costs of climate-related disasters, currently estimated at USD 5 million annually for the country	

2. The Board may wish to consider approving this funding proposal with the terms and conditions listed in the respective term sheet and list of conditions document, GCF/B.21/10/Add.34.

II. Summary of the Secretariat’s assessment

2.1 Project background

3. The proposal aims to increase the resilience of vulnerable households in Kyrgyzstan to climate changes, such as increasing temperatures and more variable rainfall patterns, which increase the risk of floods and mudflows in spring and severe drought in summer. These impacts are expected to pose increased uncertainty and risks for farmer households, who will

need to change their farming practices to adapt, and expose them to increased damages from extreme climate events, principally floods and mudflows. The adaptation actions proposed are (i) providing climate information services tailored to end users and technical assistance aimed at improving the effectiveness of climate services to allow for better planning by agricultural-dependent households; (ii) strengthening the resilience of agricultural systems; (iii) diversifying livelihoods; and (iv) enhancing decision-making for adaptation.

4. The direct beneficiaries of the project (12 per cent of the total population) are 20,400 households (an estimated 102,000 people, including 50 per cent women) considered climate vulnerable, food insecure and below the national poverty level. The beneficiaries will receive SMS-based climate information and participate in climate-resilient assets-building and practices. An additional 700,000 people living in the targeted areas are identified as indirect beneficiaries, as they will also be able to benefit from climate services through available information platforms (television and radio programmes) to improve their livelihoods and adapt to climate change. The target areas include eight districts in the three provinces of Osh, Batken and Naryn.

5. This approach benefits from the experience of the World Food Programme (WFP) in livelihood enhancement projects through a productive safety net approach. The proposal was developed in consultation with multiple stakeholders and will support the implementation of climate change adaptation actions in priority areas of Kyrgyzstan, as reflected in its national priorities for adaptation to climate change.

6. The project is seeking USD 8.58 million in grant financing from GCF, and the Government of Kyrgyzstan will contribute USD 1.06 million (11 per cent of total project budget). Overall 79 per cent of the total budget goes to community-level activities. The proportion of costs for overall project management (i.e. not related to a specific component) is 2 per cent.

7. GCF funding will help households and communities improve their adaptive capacity by enabling them to (1) receive targeted climate information and capacity-building to better plan each growing season; (2) diversify their income sources while creating an enabling environment for diversifying livelihoods to make them non-climate-sensitive; and (3) increase the resilience of public good assets such as slope protection against climate change and extreme weather events.

8. The project will be co-executed by the Ministry of Emergency Situations (which hosts the Hydrometeorology Agency) for Component 1, the Ministry of Labour and Social Development and the Ministry of Agriculture, Food Industries and Meliorations for Component 2, and the State Agency for Environmental Protection and Forestry for Component 3. The WFP country office is also a co-executing entity, and in this role it will be responsible for the direct implementation of project activities and for achieving the project outputs and outcomes.

2.2 Component-by-component analysis

Component 1 – Climate services (total cost: USD 1.93 million; GCF cost: USD 1.93 million)

9. The component aims to develop user-friendly climate services that provide tailored information, both in the short term and for seasonal outlooks, to support the decision-making of beneficiary households in terms of adapting their livelihoods, for example which crops to plant or whether to engage in off-farm activities. This is relevant in the face of increased climate-related variability and extreme weather events, which increase the uncertainty in the farmers' decision-making.

10. The cost recovery for climate services is envisaged after an initial grace period. The readiness and needs of farmers to pay fees for accurate, timely and tailor-made weather forecasting has been already identified and assessed by the Central Asia Hydrometeorology

Modernization Project supported by the World Bank. During the first year, the GCF project will start with the sensitization of the farmers/end users, and during the second year the project will produce, deliver and support the use of the weather forecast by farmers/end users. During these first two years, end users will be also sensitized to fee-based subscriptions and have the time and opportunity to experience the advantages of receiving and using specialized weather forecasts. Starting from the third year, farmers/end users will subscribe to fee-based specialized weather services, which will be mutually agreed between the Hydrometeorology Agency and subscribers.

11. This output will be supported by several activities, ranging from the generation of meteorological information to its dissemination and translation to actionable options for farmers, as follows:
 - (a) The capacity-building of the national Hydrometeorology Agency will focus on collecting and processing data, increasing lead times of hydrometeorological alerts, tailoring information, and improving information transmission to users (radio, smartphone, and extension services). The observation network will also be strengthened with eight new automated weather stations installed on public lands following standards of the World Meteorological Organization (WMO);
 - (b) To better translate climate information into advisories to strengthen end-user decision-making, the Participatory Integrated Climate Services for Agriculture (PICSA) tool will be used to provide intermediaries and farmers with weather and climate data, skills to interpret it, and a range of livelihood options that best fit expected weather for the season. Accompanying training and technical support will also be provided; and
 - (c) This project will also ensure the effective delivery of climate information through technical support in the production, supply, and communication of the weather and climate information. In addition to establishing the channels for dissemination, this activity aims to establish feedback loops that allow for a two-way dialogue between producers of information and users and strengthen delivery channels.

Component 2 – Strengthening and diversification of livelihoods (total cost: USD 6.83 million; GCF cost: USD 5.80 million)

12. The goal of this component is to help reduce the risks of climate change on vulnerable communities by diversifying the range of livelihood sources away from usual crops, with the help of enhanced climate information as provided under Component 1 and to reduce the impacts of extreme climate events by improving small-scale infrastructure, such as those relating to efficient irrigation and slope protection.
13. Climate-resilient asset-building activities at community level will focus on enhancing preparedness against floods and droughts and include (i) strengthening flood and slope protection by planting trees, especially fruit trees; (ii) installation of gabion nets; (iii) terracing of slopes; (iv) rehabilitation of small dams; (v) cleaning of branch ducts; (vi) concreting of internal irrigation canals; (vii) cleaning and strengthening of ground channels (rocks, plastic, etc.); (viii) use of drip irrigation systems; (ix) selection of efficient irrigation systems; (x) creation of basins to collect water; (xi) rehabilitation, clearing and strengthening of groundwater basins to collect water; (xii) rehabilitation of the basin to collect rain and melt water; and (xiii) improvement of the community water supply systems.
14. In the context of this project, conditional cash transfers are a crucial element for the most vulnerable populations to engage in climate adaptation activities. They are conditional on each household's participation in creating community-level assets under Component 2 and calculated based on food needs, the assets to be built, and the person/days needed for it. Participants will only receive transfers in years 2 and 3, after which the transfers will be completely phased out. Based on previous experience with this type of intervention, rural

populations are able to maintain and replicate the assets created. All targeted communities have already been identified, and each participant will receive a total conditional cash transfer of USD 30.50. WFP used vulnerability data to identify the beneficiaries in the eight districts. The identified 102,000 beneficiaries will directly benefit from activities under Component 1 and 2.

15. WFP proposes to increase climate resilience through the following elements, which will be delivered locally through existing platforms such as those involving extension services of ministries, existing skills and knowledge-sharing platforms, and local associations of water users, forest and land users, and farmers:

- (a) First, local climate risk profiling and community planning in order to identify, with community participation, long-term adaptation measures to be integrated into the development plans of local governments. Training in climate disaster preparedness for local experts will increase local capacity to carry out this activity and ensure the sustainability of its outcome;
- (b) Second, the following series of skills transfer activities related to livelihood diversification and strengthening:
 - (i) Supporting non-climate sensitive incomes, which encompasses a wide range of activities on-farm and off-farm. Income diversification increases resilience against all types of risks, including those related to climate change;
 - (ii) Improving crop, pasture and land management, transferring skills to farmers in consultation with government technical services to grow a wider range of crops, reducing risk and improving production, and enabling local processing;
 - (iii) Improved practices for water use and rehabilitation of small-scale irrigation and the drinking water supply, which are relevant to improve resilience in the context of seasonally more severe droughts; and
 - (iv) Improving nutrition and diets by improving knowledge, attitudes and practices;
- (c) Third, the promotion of green technology and alternative energy-based adaptation measures to reduce pressures on firewood for heating, which result from unstable electricity supplies and the high price of coal during winter. Awareness-raising on technologies such as energy-efficient stoves, solar ovens, solar panels and biogas will be supported. The linkage of this activity to other components is not apparent, but it requires only a modest amount of resources and will be implemented through existing avenues; and
- (d) Finally, the construction of small-scale climate risk reduction infrastructure at community level will be undertaken, which includes the strengthening of river banks and slopes and the construction of mudflow dams. This should have an impact on reducing exposure to floods, mudflows and landslides.

Component 3 – Capacity-building and decision-making support (total cost: USD 0.66 million; GCF cost: USD 0.66 million)

16. This Component will develop the tools to be employed in Activity 2.1.1 (district-level climate risk profiling, including geographic information system (GIS) community-level risk maps) and in Activities 2.1.2 and 2.2.1 (“learning for adaptation” training modules, which form a participatory tool for participants to share their knowledge and plan the individual and community-level adaptation actions), as well as tools to measure the reduction of losses from community-based adaptation and risk reduction measures, which are useful to better understand the costs and benefits of these interventions. This component also includes knowledge-sharing through the documentation and dissemination of lessons learned and two regional workshops.

17. There is reference to institutional capacity-building, but not on how inter-institutional coordination, which is identified as a major barrier, will be addressed.

18. The main target audience is the national level stakeholders, including the climate change coordination commission, ministries that are members of the commission, and local governments to raise their awareness and ensure wider replication. Two regional workshops held in different areas of the country will involve the participants of the project (local government representatives, advisories, implementing partners, the national government and beneficiaries) from the three targeted provinces, which have significant differences in terms of livelihood, culture and climate. These workshops will allow for participants to exchange information, knowledge and experience they gain during project implementation.

III. Assessment of performance against investment criteria

3.1 Impact potential

Scale: not applicable

19. Overall, the project is expected to contribute to climate-resilient sustainable development in Kyrgyzstan. The project will benefit 102,000 individuals (direct beneficiaries) and up to 700,000 indirect beneficiaries, who will be able to better adapt to the effects of increased temperature and rainfall variability on predominantly agriculture-dependent incomes through the provision of climate information, income generating activities, and overall capacity-building. Results are expected in the short to medium term and respond to the needs of climate-vulnerable and food-insecure people in the proposed project area.

20. The activities in Component 1 will enhance the resilience of project beneficiaries through the provision of quality, timely and comprehensible information. Diversified income generation resulting from the activities of Component 2 is expected to increase the climate resilience of agriculture in the project area. Finally, the training in Component 3 is aimed at improving capacities and providing decision-making support for adaptation to climate change.

21. Some of the activities aimed at the diversification of incomes, such as workshops to enhance skills in the production of non-agricultural goods, do not have a strong climate change linkage. Considering the communities' reliance on agriculture, however, they do result higher resilience for their economic activity in years where the weather negatively affects agricultural production. Considering the large number of beneficiaries while taking into account this caveat, impact potential is classified as Medium.

3.2 Paradigm shift potential

Scale: not applicable

22. The key pillar of the project's paradigm shift potential lies in the project addressing two key drivers of vulnerability for the predominantly agricultural communities: income variability and lack of climate information. If successful, the project has the potential to make rural livelihoods more climate resilient.

23. The rationale for scaling up includes the expected project's cost-effectiveness, its inclusion of communities throughout project implementation, and its potential alignment with national policies. The project contributes to the implementation and updating of the country's national policy on its key priorities for adaptation to climate change, its sectorial adaptation action plan in agriculture, and its "Key Directions for developing the Hydrometeorology Agency of Kyrgyz Republic by 2017". However, there is currently no clear mainstreaming mechanism.

24. The proposed project takes a multi-pronged approach to creating an enabling environment for continuous investments into the development of climate-resilient livelihoods. The project's proposed interventions are aimed at (1) provision of access to

hydrometeorological information; (2) diversification and strengthening of livelihoods; and (3) capacity-building and decision-making support.

25. The funding proposal adequately considers the transition of beneficiaries from receiving information services for free to utilizing a paid subscription service, following lessons learned from the Agricultural Productivity Assistance Project of the World Bank. The community will participate in the monitoring and maintenance of assets through the Project Commissions and land and water user associations. The operations and maintenance (O&M) of the hydrometeorological equipment will also be ensured through the Automated Weather Stations budget.

26. In terms of transfer, in Component 2 conditional cash transfer will only be used as an enabler to allow some of the most vulnerable food-insecure communities to engage and participate in the creation of adaptation assets during year 2 and 3 of the project, when the rehabilitation and improvement of the respective community's natural resource base will be more intense. In year 4, transfers will be completely phased out as, based on previous experiences, some of the expected benefits in terms of food security will have already accrued and farmers will be able to dedicate their time to their livelihoods, both the adapted agricultural ones and the non-climate-sensitive ones introduced by the project.

3.3 Sustainable development potential

Scale: not applicable

27. The project is closely aligned with the Sustainable Development Goals through its focus on building adaptive capacity and resilience. Key benefits include the increased economic well-being and food security of highly vulnerable households (including direct incomes during the lean season) and employment opportunities. This is expected to reduce the unsustainable use of natural resources, cutting down on one of the key drivers of environmental degradation. The greater socioeconomic resilience of communities can contribute to greater stability in the area.

28. Environmental co-benefits are expected as a result of reduced cropland and pasture degradation and an increased area of plantations. Some improvements in resource use efficiency may be expected as a result of the awareness-raising workshops.

29. Gender benefits are further detailed in section 4.2 below.

3.4 Needs of the recipient

Scale: not applicable

30. Kyrgyzstan is very vulnerable to the effects of climate change both due to developmental factors (e.g. poverty) and the exposure to disasters and water distress caused by climate change. The project adequately responds to the needs of the target population in terms of income generation and the provision of climate information.

31. As a result, there is strong climate change rationale for structural and non-structural measures to address the needs of the vulnerable population. The project responds to those needs with a package of measures that will enhance the climate resilience of the vulnerable populations and simultaneously provide more reliable income sources to agriculture producers.

32. Institutional needs have been adequately assessed and taken into consideration through technical assistance to support the implementation of components. Some activities are income-generating; however, the high vulnerability of households and the project's sustainability strategy can justify the grant request.

3.5 Country ownership

Scale: not applicable

33. The project shows strong alignment with Kyrgyzstan's national priorities for adaptation to climate change, and complements the climate change adaptation priority areas described in the Third National Communication to the United Nations Framework Convention on Climate Change. Kyrgyzstan's national designated authority has been involved in the design phase, particularly in the consultation and review. The national designated authority technical team participated in the gap analysis that informed the project intervention; farmers and communities inputs were sought in the design phase consultations and a market study of the agro-meteorological needs of the beneficiaries.

34. WFP has extensive experience in Kyrgyzstan. It has been implementing development projects in rural territories and projects that manage natural resources in the context of climate change. It has also gained experience in mainstreaming climate resilience, food security and nutrition into relevant policies and programmes.

35. The co-executing entities for the different components are the State Agency of Environmental Protection and Forestry, which is the entity in charge of coordinating matters on climate change adaptation and mitigation and houses the NDA, the Ministry of Labour and Social Development, responsible for implementing state policy on labour and social protection, and the Ministry for Agriculture, Food Industry and Melioration of the Kyrgyz Republic, central governmental executive authority that implements the national policy on agriculture, land and water resources and processing industries, and the Ministry of Emergency Situations of the Kyrgyz Republic.

3.6 Efficiency and effectiveness

Scale: not applicable

36. The proposed contribution by GCF, a grant of USD 8.58 million, is justified on the basis of the project working with the most climate-vulnerable and food-insecure people and communities in Kyrgyzstan. The small-scale income-generating activities are aimed at diversifying livelihoods, which is essential to build adaptive capacity to climate change. The economic benefits allow beneficiaries to modestly increase their economic security and enable the transition to paid services, which are part of the sustainability strategy. The project's economic internal rate of return is 12%; sensitivity analysis shows that the project is vulnerable if costs increase by 20% and benefits decrease by 20%.

37. In terms of the budget, a large portion (79 per cent) is allocated to community-level activities. Project management costs represent 2 per cent of total project cost. Co-financing by the Government of Kyrgyzstan represents 11 per cent of the total project budget.

IV. Assessment of consistency with GCF safeguards and policies

4.1 Environmental and social safeguards

38. The project aims to build the capacities of the government institutions and communities to implement climate change adaptation activities in the sectors relating to food security, nutrition and agriculture. The project will support activities to reduce climate change vulnerabilities and improve the adaptive capacities of the rural communities in three provinces that are increasingly affected by climate change impacts. The accredited entity (AE) has classified the project as having low environmental and social risks, equivalent to Category C of the GCF environmental and social risk categorization, taking into account the small-scale activities that will build the capacities of institutions and communities in gathering and disseminating climate information and adaptation, support community adaptation planning and livelihood diversification of poor and vulnerable families and communities, improve family and community nutrition and introduce simple processing of products in the communities where

the activities will be implemented. The project will also support small-scale rural infrastructure for improving access to water resources such as that related to the drinking water supply, small-scale irrigation and rainwater harvesting, as well as the construction and rehabilitation of protection infrastructure including flood and erosion control, mudflow dams and canals, and slope stabilization through vegetation, among other things.

39. The AE has conducted an environmental and social screening to identify the likely environmental and social risks of the project, and this formed the basis of the proposed risk category. The component activities will be subjected to the environmental and social screening once the specific areas and communities where the activities will be implemented are identified. The likely risks and impacts are expected to be benign and relatively low due to the scale of the activities which are implemented at homes/backyards of groups of houses or villages. The activities also involve capacity development such as training, demonstration of adaptation and water conservation techniques at smallholder farms, and support to community adaptation planning. The activities are not expected to lead to any physical dislocations or loss of livelihoods for communities nor should they impede access to land rights, housing, clean water and sanitation, education, energy, health services and decent working conditions. Furthermore, the activities, as part of siting requirements, will not be located in ecologically sensitive areas such as protected areas, marine sanctuaries and reserves. Some of the activities, however, particularly those involving small-scale rural infrastructure, may generate impacts related to construction and health and safety. Further assessments will be undertaken where required under national policies. Measures to manage risks will also be identified through an environmental and social code of practice as indicated in the Environmental and Social Action Plan (ESAP).

40. Extensive consultations with stakeholders in the three provinces where the activities will be implemented were undertaken as part of project design and due diligence. The stakeholders involved included key national and local government agencies, civil society and representatives of the communities. An assessment of the capacity of the country's hydrometeorological agency for climate services was also undertaken to determine needs and areas to be enhanced. Over the course of the project, a community participatory process will be used and maintained to ensure awareness, a common understanding, support and agreement with regard to the project among stakeholders. A system for feedback from beneficiaries is already in place in areas where the AE implements its projects. The project's overall strategy and process for stakeholder engagement, including project-level grievance redress and communications and outreach, will be developed as outlined in the ESAP.

4.2 Gender policy

41. The proposal contains a gender analysis and therefore complies with the operational guidelines of the GCF Gender Policy and Action Plan. The gender analysis describes the context of gender issues in Kyrgyzstan, and identifies opportunities and entry points presented by the project to promote access to project benefits and ensure equal participation of men and women in the project.

42. Furthermore, the proposal contains a project-level gender action plan (GAP) with gender responsive activities corresponding to the components and outcomes of the project, performance indicators, timelines, responsibility lines and budget allocations for the implementation of the activities. Gender-disaggregated targets have been included in the project-level GAP for some outputs and activities. For instance, the participation of men and women in activities to support the diversification of livelihoods and incomes includes the incorporation of gender-disaggregated targets in the project. In addition, targets for vulnerable groups such as female-headed households as project beneficiaries have been incorporated in the project-level GAP. This is encouraging given that female-headed households have been

identified by the gender analysis as having limited access to financial resources and agricultural implements.

43. The logic framework contains one gender-disaggregated target at the fund-level impact related to direct beneficiaries, which has also been captured under the project's impact potential. Given the project's benefits to women identified by the gender analysis and elaborated in the project-level GAP, there is scope to add gender-disaggregated targets at the level of project output and outcome in the logic framework in order to enhance monitoring and reporting of gender-related matters by the project.

44. Community consultations that were conducted through focused group discussions and key informant interviews in the provinces where the project will be implemented involved participation of both men and women. The stakeholder assessment and consultations report outlines some of the key issues raised by both men and women in relation to the project.

4.3 Risks

45. **Overall programme assessment (medium risk):**

- (a) The successful implementation of the project depends on the stability of the governance environment and the coordination between the involved institutions. The country's economic stability depends on the gold output (concentrated in one foreign-owned mine) and foreign remittances, given the country's debt burden, which was 59 per cent of the GDP in 2016, high for a small economy with the limited access to market funding.
- (b) The implementation process and design should establish operational partnerships with various national organizations in an efficient manner to ensure quality capacity-building and support to business continuity.

46. **Accredited entity/executing entity capability to execute the current programme (medium risk):**

- (a) WFP is considered adequately prepared to carry out the capacity-building activities for the national partners and avoid delays in implementation. WFP is also considered a reliable partner to support partnerships with development organizations to ensure timely implementation.
- (b) Different government agencies will execute the project under WFP supervision. These executing entities will need to show multisectoral coordination to set up efficient project operations. Lack of coordination amongst government agencies and implementing partners have been identified as gaps at different levels in the funding proposal. The AE/executing entities will be relied upon to cooperate effectively and avoid duplication of work in a multistakeholder environment.

47. **Programme-specific execution risks (medium risk):**

- (a) Long-term performance risk (high): the project has to achieve long-term sustainability of interventions (e.g. demand-driven model for climate information by the public and private sector). The process of knowledge transfer at community level may be delayed in the event of inefficient decision-making (e.g. long-term adaptation measures integrated in development plans).
- (b) Economic viability (medium): results at household, community and national level include cost savings and cost avoidance based on assumptions that may be better described with examples, as follows. The cost structure for the first four years is derived from the budgeted costs that may be affected by costs overruns in the case of inefficient coordination. The project benefits at the household level are focused on the increased incomes from climate change adaptation practices. The project expects to increase the

farmers' incomes by 20 per cent per year as a consequence of the improved agricultural yields. Additional benefits are also expected from improved access to processing facilities, diversification of income generating activities (e.g. small crafts), and cost-savings from energy-efficient practices. The project therefore is expected to achieve positive economic viability. However, benefits may be lower than those expected by the project if the commodities prices (e.g. potatoes, fruits and vegetables) fluctuate in the country or yields are lower than forecasted. The cost-benefit analysis shows a negative net present value during the project implementation (four years) and a positive internal rate of return of 27 per cent only in 10 years. In addition, there are no assumptions in the cost-benefit analysis that covers 10 years.

- (c) Compliance (low): based on the information provided, there are no red flags or other concerns relating to compliance. Taking this into account, compliance risk related to this funding proposal is considered Low. As the accreditation master agreement (AMA) for the AE has not yet been finalized, the AMA and subsequent funded activity agreement (FAA) would need to include minimum standards to ensure compliance with anti-money laundering/countering the financing of terrorism requirements and policies on prohibited practices, including Know Your Customer checks and ensuring of anti-corruption risk mitigation.

48. **GCF portfolio concentration risk (low risk):** in case of approval, the impact of this proposal on the GCF portfolio risk remains non-material and within the risk appetite in terms of concentration level, results area or single proposal.

49. **Conclusion (medium risk):** it is recommended that any approval by the Board be made by considering the above points.

Summary Risk Assessment		Rationale
Overall Programme	Medium	<ul style="list-style-type: none"> The stability of the governance environment and operational partnerships for efficient coordination will be critical for the successful implementation of the project. AMA for the AE has not been finalized. Comfort is derived from WFP as an AE for the project.
AE / EE capability	Medium	
Project specific execution	Medium	
GCF's portfolio concentration	Low	
Compliance	Low	

4.4 Fiduciary

50. The executing entities for this project are the State Agency for Environmental Protection and Forestry, Ministry of Agriculture, Food Industries and Meliorations, Ministry of Emergency Situations, and the Ministry of Labour and Social Development.

51. As the AE, WFP will lead the coordination and implementation of the project through its staff in Bishkek, its sub-office in Osh and its decentralized monitors in various parts of the country. A project support unit will be created within the WFP office, comprising technical experts and support staff. The unit will liaise with focal points in each of the executing entities and with complementary partners as required for the implementation of the project.

52. The financial management and procurement of this project will be guided by WFP financial rules and regulations.

53. For activities directly implemented by government agencies, the Government of Kyrgyzstan will create dedicated project bank accounts. As per current United Nations

procedures regarding Harmonized Cash Transfers, cash transfers will be preceded by independent micro-assessments by a government counterpart agency, if required.

54. Independent project accounts will be accessible to the government and controlled under the terms outlined in a memorandum of understanding and Standard Operating Procedures. The WFP Country Office will release funds to the government on a regular basis for those activities that are directly implemented by national executing entities. The project will be audited in accordance with WFP policies and procedures on audits. The executing entities for this project are the State Agency for Environmental Protection and Forestry, Ministry of Agriculture, Food Industries and Meliorations, Ministry of Emergency Situations and Ministry of Labour and Social Development.

4.5 Results monitoring and reporting

55. As an adaptation project, in section E.1.2 the proposal reports the value of the core indicator “Expected total number of direct and indirect beneficiaries (reduced vulnerability or increased resilience), number of beneficiaries relative to total population (adaptation only).”

56. The proposal asserts that the project will directly benefit 102,000 people (20,400 households) with an equal representation of men and women and 700,000 indirect beneficiaries in the Batken, Osh and Naryn provinces in Kyrgyzstan. The direct beneficiaries consist of 12 per cent of total population of Kyrgyzstan.

57. The theory of change diagram provided in the feasibility study shows a clear causal linkage/pathway between the problem statement and strategic result area, inclusive of the assumptions and risks. The diagram is well aligned and synchronized with that in the project’s overall description in Section C.3.

58. Regarding the logical framework section, the revised proposal better aligns with the climate results and indicators of the performance measurement framework of GCF. The AE has revised the logical framework to address the issues raised during the review.

59. The arrangements for monitoring and evaluation are appropriate and detailed. However, at FAA level, it should be specified that the programme reporting system shall comply with the requirements set by the GCF monitoring and accountability framework.

4.6 Legal assessment

60. The accreditation process has not yet been completed, as the AMA has not yet been agreed between GCF and the AE. Therefore, it is difficult to adequately assess a funding proposal submitted by WFP. Although progress is being made with WFP on the AMA, the absence of an AMA will delay implementation of the proposed project.

61. The proposed project will be implemented in Kyrgyzstan, a country in which GCF is not provided with privileges and immunities. This means GCF is not protected against litigation or expropriation in this country.

62. GCF is exposed to litigation risk in Kyrgyzstan. Risk of expropriation needs to be further assessed. Furthermore, the Heads of the Independent Redress Mechanism and Independent Integrity Unit have both expressed that it would not be legally feasible to undertake their redress activities and/or investigations, as appropriate, in countries where GCF is not provided with relevant privileges and immunities. Therefore, it is recommended that disbursements by GCF are made only after GCF has obtained satisfactory protection against litigation and expropriation in the country, or has been provided with appropriate privileges and immunities.

63. In order to mitigate risk, it is recommended that any approval by the Board be made subject to the following conditions:
- (i) The execution of an AMA by the Accredited Entity, in a form and substance satisfactory to the Fund, within 120 days of Board approval;
 - (ii) Signing of the Funded Activity Agreement, in a form and substance satisfactory to the GCF Secretariat, within 180 days from the date of Board approval; and
 - (iii) The completion of legal due diligence to the satisfaction of the GCF Secretariat.

Independent Technical Advisory Panel's assessment of SAP002

Proposal name:	Climate services and diversification of climate sensitive livelihoods to empower food insecure and vulnerable communities in the Kyrgyz Republic
Accredited entity:	World Food Programme
Project/programme size	Micro

I. Assessment of the independent Technical Advisory Panel

1.1 Impact potential

Scale: N/A

Adaptation impact

1. Kyrgyzstan has been facing increased weather variability in terms of changing rainfall patterns and increased incidence of heavy rainfall, floods, mudflow and drought. In recent years, the latter caused a decline in water availability of 1.3 per cent with respect to the baseline with a simultaneous increase in the thawing of glaciers¹ due to a general rise in temperature. Over the years, due to the lack of adequate financing, management oversight and operations and maintenance (O&M) efforts, the existing water storage and distribution systems have experienced a significant decline in effective water distribution by one third with respect to installed capacity. Against the backdrop of an increase in water demand for both irrigation (i.e., compensation for moisture loss due to drought) and a variety of competing usages, the reduced water availability has been adding to the vulnerability of all water-using sectors in Kyrgyzstan.
2. The information provided in the proposal package suggests that current precipitation is exhibiting significant variability over various seasons, in terms of both rainfall and snowfall. Such variability has been adversely affecting effective decision-making regarding optimal production systems at farmers' field levels. This has in turn decreased food production and increased occasional food insecurity² at household level for smallholder producers. It is expected that with increasing variability in rainfall, the food security of smallholders will continue to be at risk in future decades. Moreover, the number of weather-related "disastrous" events are on the rise, which will likely be exacerbated in future under climate change (low confidence³). This warrants modernizing the hydro-meteorological capacity and its ability to generate and subsequently disseminate early warning systems for weather-related disasters within the country.
3. The proposal aims at delivering (a) climate services and (b) climate risk reduction solutions involving vulnerable populations. The project also aims at building the capacities of major stakeholders and managing knowledge so that good practices are documented, disseminated and eventually replicated elsewhere in the country. If approved, the project will be implemented in about four years in order to benefit a total of 102,000 people directly and an

¹ Between 1970–2000, 19.8 per cent of the glaciers have disappeared (World Bank, 2009).

² Not substantiated with data; based on standard indicators for food insecurity.

³ Low confidence in such an inference is due to lack of evidence, that is, the datasets are based on an inadequate timeline for observations on "disastrous" events as presented in technical notes and the funding proposal. Climate-related attributions are not generally supported with such minimal datasets.

estimated total of 700,000 additional people indirectly. These beneficiaries represent eight target districts, distributed proportionately to the total population in each district and the total number of poor in the target areas. It is assumed that about 50 per cent of the beneficiaries will be women, representing roughly the proportion of women in the target areas.

4. While scientific literature indicates that Kyrgyzstan is highly vulnerable to climate change, there is inadequate data on the establishment of the information base showing specific increases in values for climate-related impact parameters. The efforts taken to establish a cause-and-effect relationship for climate change is unsatisfactory. However, the project is placed under Simplified Assessment Process (SAP⁴) window, where the guidelines for producing documentation to seek GCF finance are weak and non-specific. This is why the generic statements made regarding the observed impacts of climate change are considered as proxy indicators to justify this project under a SAP window.

5. Assuming that the project will help build the resilience of poor stakeholders in the wake of climate change, the impact potential (indirect and direct) in terms of total population is commendable. The spatial targeting of the project was done using a robust methodology, which took into consideration the poor and marginalized population in the target areas. Therefore, the impacts of the project are expected to be high despite data gaps relating to the climate sensitivity of the target population.

1.2 Paradigm shift potential

Scale: N/A

Innovation

6. None of the components in the proposal are innovative as such. Rather, the project is responding to prevailing gaps by choosing suitable aspects from adaptive capacity-building approaches considered standard globally. A few such approaches are tested in pilot projects outside the target areas in Kyrgyzstan. Component 1 relies on the expansion of automated weather data collection systems and advancements in modelling and forecasting capacities. Perhaps the only innovative element relates to the potential dissemination of early warnings through advanced telecom devices, the penetration of which has already occurred in Kyrgyzstan under autonomous development in recent years.

7. The majority of the activities and finance will take place in Component 2. The accredited entity (AE), the World Food Programme (WFP), feels comfortable in dealing with such typical activities. The AE is effective at distributing food aid in food insecure areas. By committing to do so under this project, WFP will (i) offer training to promote adaptive capacities at community levels; (ii) strengthen community-level disaster risk reduction efforts; and (iii) raise awareness. Moreover, the AE will work with local-level institutions as well as a few national agencies/ministries to help local stakeholders develop local plans that are integrated with climate change adaptation. In many countries, such approaches have been applied by non-governmental organizations (NGOs) and United Nations agencies, including WFP, over the past two decades. As such, these modalities are well known and have become common. There is no major innovation in the delivery of such activities.

Potential for knowledge and learning

8. The issuance of early warning would enhance potential for learning about imminent

⁴ The SAP Pilot Scheme is endorsed by the Board of the GCF to support projects and programmes with a GCF contribution of up to USD 10 million with minimal to no environmental and social risks. Projects and programmes are eligible for SAP if they are ready for scaling up and have the potential for transformation and promote a paradigm shift to low-emission and climate-resilient development.

hazardous events. Component 3 is all about sharing learning, enhancing skills and knowledge management. Therefore, the project shows potential for knowledge and learning. However, there is an element of risk that the modernization of the hydro-meteorological system, data acquisition systems, computerized modelling and subsequent management of data for the issuance of warnings and agricultural advisories may not all be delivered within the four years of the project timeline. Since the adoption of highly advanced hydro-meteorological technologies, including capacity-building in modelling is designed, much of the stipulated time will have to be devoted to uptake of the technologies, leaving only limited time to really apply such technology in a meaningful way.

9. The other capacity-building elements in Component 2 warrant careful planning and maintenance of a high quality and standard, without which the efforts may not leave significant lasting impressions regarding new knowledge and skills. Moreover, the delivery of many such trainings fall outside the core expertise of the AE, which raises concerns regarding the realization of the learning potential.

Contribution to the creation of an enabling environment

10. The enabling environment for the issuance of early warnings will be created under Component 1. The capacity-building for the hydro-meteorological agency and the potential involvement of relevant expertise from the World Meteorological Organization (WMO) might create an enabling environment for continuously updated modelled outputs of climate scenarios and the frequent generation of advisories and warnings, which is a much needed outcome. In addition, the micro-level integration of climate change adaptation in development planning will create an enabling environment for developing participatory plans that mainstream climate change adaptation. However, there should be modalities to finance the implementation of such plans. The latter opportunity in this project is constrained due to the non-availability of financing.

Contribution to the regulatory framework and policies

11. The ambition of micro-sized project moving through the SAP is expected to be low. Therefore, the project does not envision the review and subsequent advocacy for addressing policy gaps with the aim of building the adaptive capacity of stakeholders. Therefore, the project may not make a significant contribution to the regulatory frameworks and policies in relevant fields.

Potential for scaling up and replication

12. There is potential for the replication of various project elements. However, without sufficient capacity-building, the effectiveness of addressing the nexus between food aid and community-level self-help is questionable. Against such a backdrop, despite the possibilities of replication in the approach and contents involving WFP, there may be concerns regarding the ultimate effectiveness of any replication potential.

13. A complete theory of change is not presented in the proposal. In a SAP proposal, such an omission may not be considered a major drawback. However, in the absence of a clear explanation, it may be expected that scaling up this project will follow a similar design and implementation path and most likely require additional finance from external sources. Scaling-up potential is therefore subject to the availability of climate finance, which is difficult to come by for projects that lack innovation.

14. Overall, the paradigm shift potential is considered to be medium.

1.3 Sustainable development potential

Scale: N/A

Linkages with the Sustainable Development Goals

15. The project has linkages with a number of Sustainable Development Goals (SDGs). The project will directly contribute to aspects of SDG #2 (end hunger, achieve food security and improved nutrition and promote sustainable agriculture). SDG #13 calls for taking urgent actions to combat climate change and its (adverse) impacts, which is partially addressed through the implementation of the project. The project will indirectly contribute to SDG #5 targets by addressing gender equality and women's empowerment, and to SDG #9 by building micro-scale resilient infrastructure, especially in the area of disaster risk reduction (for example, flood protection infrastructure, drought-ameliorating irrigation, etc.).

Social and economic co-benefits

16. The project places emphasis on the development of resilient rural livelihoods, targeting the most disadvantaged and vulnerable communities facing the adverse impacts of climate variability and change. The approaches to boosting resilience address the physical as well as economic aspects of vulnerability. The early warning will lead to early action and informed decisions regarding livelihoods, which are expected to deliver greater economic capacity-building and reduce loss and damage. The outputs of Component 2 are expected to create income for rural households during the lean season and employment opportunities. The same component also helps address problems relating to the unsustainable use of natural resources and resultant degradation. Increased food security will in turn generate nutritional outcomes, which will be partially delivered through the direct food support sub-programme involving the poor population. Therefore, there is some social and economic co-benefit potential in various components of the project.

Environmental co-benefits

17. The project will promote agronomic techniques for reducing the degradation of crop lands. It is anticipated that such promotional activities will lead to the increased resilience of natural resources. The short duration of the project and the fact that there will be no promotional activities beyond the third year raises concerns as to whether the stakeholders will continue following the promotional aspects of the project beyond its lifetime.

18. The project will also promote plantations⁵. It is expected that promoting the rationale for using irrigation water will be sufficient to help farmers practice integrated water resources management. It remains questionable as to how much the primary stakeholders will consistently use these methods. The short time frame between the initial mobilization phase and project completion will not allow for adequate close longitudinal monitoring, which leaves doubt as to whether such environmental co-benefits will be achieved or not.

Gender-sensitive development impact

19. It is expected that 50 per cent of the beneficiaries will be women. The proposal claims that the climate services will target women to help protect and develop their livelihoods and reduce the impacts of climate risks. However, it did not contain a specific climate information dissemination plan that targeted women as stakeholders to back up this claim.

20. It remains questionable as to how the delivery mechanism for capacity-building will select training elements that are geared towards women. However, the proponent anticipates that women will benefit from training on improved agricultural practices, including modern irrigation practices as well as marketing and business skills. There is no mention of gender-differentiated training needs assessment. It is unclear whether there will be gender-segregated

⁵ The project proposal uses the term "green plantations".

economic empowerment benefits as a direct consequence of capacity-building efforts. The proposal also claims that women will have greater access to facilities of processing of agricultural products, which will enable them to receive higher levels of income during lean season. In the absence of a specific gender-differentiated delivery plan, such claims lack credibility, especially in the apprehension of male capture of most of the facilities to be created. The food support under Component 2 might boost consumption of food in food-insecure households, thereby creating greater nutritional intake opportunities for women. The promotion of homestead gardens and nutritional education may result in the consumption of nutrition-enriched food by women. However, only a robust baseline and continuous close monitoring can provide indications of achieving such objectives.

1.4 Needs of the recipient

Scale: N/A

Vulnerability of the country

21. People of Kyrgyzstan have been facing the implications of climate variability, if not change. The impacts of the drying of streams, droughts, floods and mudslides are already occurring at greater frequency than in the past. The climate change projections also highlight the susceptibility of the nation and its population to the greater extent of such changes in the future. The gradual rise in surface temperatures will cause an escalation of drought risk, which in turn will increase crop loss and subsequent food insecurity. Greater rainfall variability will affect livelihoods based on crop agriculture and livestock management. Such adverse effects of climate change warrant planned efforts to reduce poor people's vulnerability to the effects of climate change.

22. The current efforts to generate climate information, including early warnings and agricultural advisories, are based on old and ineffective technologies and systems. People in the target areas need advanced warnings and advisories well ahead of time to improve their preparatory activities. However, issuing an advanced early warning system can only be approached and delivered if the capacities of the relevant national institution are significantly increased in terms of human resources, equipment (i.e. technological), skills and knowledge (i.e. technical), and policies (i.e. creation of an enabling environment). The current climate information service needs a thorough up-grade in all the above-mentioned aspects.

23. The institutional efforts needed to develop and disseminate an advanced early warning system must be complemented by people-centric approaches to enhance their capacities to utilise climate information. Moreover, the primary stakeholders in the mountainous terrain require capacity-building at community and household level, such as on protective structures, water-efficient irrigation, climate-smart agronomic practices, and the use of hazard-tolerant varieties, etc. Moreover, people need to be made aware of high-value crops and their niche markets as well as how access to such markets can be ensured in a value chain.

Economic and social development level

24. The economy of Kyrgyzstan republic is mostly agrarian. The agriculture sector accounts for one-third of the employment and contributes to 14 per cent of the gross domestic product (GDP). Any climate-driven hazard translates into loss of livelihoods and threatens the food security of poor people. A significant proportion of the rural population lives below the national poverty line. With increasing climate variability and resulting crop losses, the small-scale poor farmers are facing a lack of access to adequate quantities of nutritious food. Thirteen per cent of children under 5 suffer from chronic malnutrition.

25. In the last decade, Kyrgyzstan's macro-economic condition has remained vulnerable. A significant proportion of the GDP comes from remittances, a majority of which originate from

Kazakhstan and the Russian Federation. However, this external influence on the economy has been adversely affecting the Kyrgyz economy because of the slowdown in growth in these countries, which have a high remittance potential. The internal economy relies heavily on public debt, which accounts for 15 per cent of the GDP. Overall, the volatile nature of the Kyrgyz economy has been putting constraints on investing in such projects, and fully recognizing the needs of the vulnerable population.

Absence of an alternative source of financing

26. The modernization of the current early warning system is a public venture, where there is no interest from the private sector. It is also completely non-profit making. Therefore, there is no possibility for external and/or alternative financing. This demonstrates that if GCF financing is not made available, the fate of this project will depend on public-sector financing, which remains uncertain in the current volatile economic conditions in Kyrgyzstan.

27. The proposed financing is no way lock in large investments in the uncertainty of a changing climate. Rather, the finance requested as a grant will be utilized to address gaps in interventions that are mostly people-centric and micro-level.

Need for strengthening institutions and implementation capacity

28. The proposed programme will significantly strengthen the capacity of national institutions dealing with climate information and early warning. Enhancing capacities involving technical and human resources is likely to bring an institution-wide change in delivering the national mandate of relevant institutions. The local-level institutions will also be strengthened, as efforts will be made to integrate climate change adaptation in the establishment of local-level development plans. However, the question remains regarding the fact that there are no financing arrangements to implement such climate-integrated development plans by the local institutions. This aspect therefore remains unlikely against the backdrop of inadequate availability of finance for local-level development.

1.5 Country ownership

Scale: N/A

Alignment with priorities in the country's national climate strategy

29. The project is aligned with the National Priorities for Adaptation to Climate Change in the Kyrgyz Republic until 2017 ('Priority Directions')⁶. The Kyrgyz Government has demonstrated its commitment to climate change adaptation, as evidenced in the establishment of policy frameworks at the level of the national government. The project is in alignment with its third National Communication to the United Framework Convention on Climate Change. In the latter document, emphasis was placed on research-based actions, new livelihood activities and improved extension and other advisory services at local government level.

30. The same document also calls for capacity strengthening in weather forecasting, the integration of climate change in government policies and the development of national, sectoral and spatial planning, which are likely to be partially addressed by this project. It is expected that lessons learned throughout project implementation will be used under Component 3 of the project in order to build greater understanding, competence and replication capacity among government agencies and their partner organizations.

Capacity of accredited or executing entities to deliver

31. WFP is the AE and is applying for the project on behalf of the Government of Kyrgyzstan.

⁶ Mentioned in section E.5.1 of the funding proposal, page 43 of 65.

The interventions considered under the proposal address the climate change-poverty-food insecurity-mal-nutrition nexus. WFP has been working in Kyrgyzstan on issues related to food security and nutrition and has been instrumental in developing the national social protection action plan for 2015–2017 and the food security and nutrition programme for 2015–2017 for Kyrgyzstan. WFP contributed to the formulation of the national climate change adaptation programme of Kyrgyzstan.

32. Despite these supportive roles played by WFP, dealing with institutional capacity-building for climate information and early warning as well as capacity-building of primary stakeholders for greater access to value chains of high-value agricultural products would require significant efforts in coordination and partnership with other relevant actors in the country. The integration of activities with the WMO and national agriculture extension services for Component 1 and Component 2 may be extremely important in delivering all project components.

Engagement with civil society organizations and other relevant stakeholders

33. The project is a result of a detailed consultative process, involving stakeholders in target areas. The proponents ensured the active involvement of local administrations, communities, resource user groups and associations along with the engagement of civil society and local enterprises. WFP has existing field-level agreements with local NGO partners to conduct activities that are core elements of various project components. The locational targeting was achieved through an extensive analytical process, which is praiseworthy. The national designated authority (NDA) was made part of the project development process, not only to forward a no-objection letter that exhibits country ownership, but also to provide guidance by engaging an NDA technical team to develop the project since conception.

34. In view of the above facts regarding the project, the country ownership appears High.

1.6 Efficiency and effectiveness

Scale: N/A

Cost-effectiveness and efficiency

35. This is a micro project with a total estimated cost of USD 9.638 million. The cost-effectiveness analysis provided by WFP primarily deals with costs that are related to the disbursement of small amounts, which will be micro-scale investments to promote community-based micro-scale activities. In order to leverage this finance, WFP is relying on past experiences, and the unit costs are said to be in line with those project experiences. However, delivery is costly due to involvement of centrally located personnel and perhaps due to the remoteness of the target areas in mountainous terrain. It is anticipated that some unforeseen co-financing will eventually be shared by local administrations and communities alike, which are not included as such in the project budget. In absence of such information, the cost effectiveness analysis appears to be only partial.

36. The project will enhance the current efforts towards strengthening weather data acquisition and analysis for the improved generation of climate information and the issuance of warnings. The equipment likely to be procured under this project will be maintained by the national hydrology and meteorological services. It is expected that an agreement with the hydro-meteorology agency will be signed, which stipulates that the latter will maintain the data acquisition instruments. Again, costing for such important contributions has not been included in the cost-effectiveness analysis. It is also expected that district and sub-district level authorities will ensure the maintenance of local-level assets. The proposal does not indicate how such operations and maintenance costs will be covered following the project period.

Financial viability

37. Capacity-building relating to hydro-meteorological infrastructure and institutional aspects will strengthen relevant national institutional capacities. Public goods and services in the form of climate information and agricultural extension service will eventually be created. There is some potential for cost savings by safeguarding assets and livelihoods following the issuance of climate information and early warnings for extreme events. However, the analysis is inadequate in quantifying such “saved costs” in order to have a proper understanding of benefit streams. Yet, the project’s net present values for different benefit scenarios are found to be positive. More importantly, the internal rate of return appears slightly higher than the discount rates used. Despite the fact that an inclusion of all streams of potential benefits could have provided a better understanding of the viability of project financing, the available data indicates that the project is still financially viable. If one assumes that there will be other forms of economic and social benefits resulting from the project, the economic viability is expected to increase.

38. A sensitivity analysis, despite a paucity of understanding and cost-benefit estimates, indicates that if the benefit streams are shrunk by 20 per cent and costs are escalated by 20 per cent, such a worst case scenario yields an internal rate of return slightly lower than the discount rate. In the absence of a detailed and credible financial and economic analysis, one may infer that the financial risks are likely to be small in anticipation of much greater benefits likely to be accrued due to publicly available goods and services, in addition to community-based skills enhancement and services.

Amount of co-financing

39. The project offers a co-financing of USD 1.06 million, which is significant in a micro-sized project. The AE expects that additional complementary financing will be deployed to build on the investments made under the current GCF proposal. However, there is no further elaboration regarding such claims of potential co-financing. In the absence of these critically important data, the sensitivity of the cost-benefit analysis appears non-reliable and inadequate.

Application of best practices

40. If the relevant institution can master them within the first three years of project implementation, the hydro-meteorological services can be considered among the global best practices to promote knowledge-based preparedness for the vagaries of nature. There is no question as to whether such services are required. In a changing climate, communities must be empowered with early information and warnings so that they can devise locally suited plans to safeguard their assets and livelihoods. However, acquiring modern technology through extensive capacity-building can be very tricky; capacity-building must be followed up by capacity-retention efforts. The project does not yet mention a capacity-retention plan, which needs to be devised by the relevant authority. If the experiences by WMO are solicited by the relevant authority and the AE to help them build national capacity on hydro-meteorological affairs, the results will be robust and tangible.

41. The other capacity-building thrust is on organizing training sessions for enhancing the skills of stakeholders to enable them to diversify their economies. Since such efforts are aimed at enhancing capacity to such an extent that a trainee can have access to gainful employment following the training, the quality of training has to be high, and the training curricula and sessions must therefore be standardized. Since WFP does not provide much evidence of previous experience in dealing with such quality training involving rural populations, there is an element of risk as to whether the AE will be able to deliver high-quality training through a standard process. Special care is needed to make the process more effective.

42. The above mentioned analysis suggests that the effectiveness and efficiency of the project is medium to low, and it needs careful planning and delivery involving competent partners.

II. Overall remarks from the independent Technical Advisory Panel

43. The independent Technical Advisory Panel recommends the approval of the funding proposal with the following condition:

- (i) Before the second disbursement, the AE submits, in a form and substance satisfactory to the GCF Secretariat, a complete capacity-building and training plan involving all types of off-farm activities. This plan must contain annexes with training manuals developed in line with curricula for similar types of training that are generally approved by a relevant national technical institution.

Reply to the Independent Technical Advisory Panel's assessment

Proposal name: Climate services and diversification of climate sensitive livelihoods to empower food insecure and vulnerable communities in the Kyrgyz Republic

Accredited entity: World Food Programme (WFP)

Impact potential

Thanks for noting the significant impact potential of the project. With regards to the cause effect relationship between climate change and the observed impacts, as well as trends of 'disastrous events', the AE has been confronted with limited availability of research and data at government level. However, as noted, the comprehensive analysis of data from other adaptation and disaster management projects should provide sufficient proxy indicators to justify the climate rationale of this project under the SAP. WFP is committed to take into full consideration any additional studies finalized in the future to ensure adequate project implementation during project lifetime.

Paradigm shift potential

Thanks for noting the medium paradigm shift potential of the project.

On *innovation*, in compliance with SAP criteria, the project is a tested approach with a low risk profile. The combination of tools and the proposed approach to engage the most vulnerable segments of the population, which are typically excluded from such opportunities, is considered innovative by the government.

On *learning potential*, WFP partners with the government under SKaP (Skills, Knowledge and Practice) programme to provide training and learning opportunities through established and tested mechanisms.

On *contribution to an enabling environment*, each local government has a 5year plan, financed by the central and local government. The proposed adaptation mechanisms will be integrated with these plans.

On *scale up potential*, the project is among the key projects in the GoK's pipeline under the draft Strategic Program for Climate Resilience (SPCR) and associated with priority investments.

Sustainable development potential

Thanks for noting the sustainable development potential of the project, its clear link with SDG13 and several other SDGs, and its potential to deliver social and socio-economic benefits. On gender, the GAP is based on results from a gender-sensitive baseline survey on climate adaptation practices, as well as gender-disaggregated community consultations to enable tailoring of climate services for women and men. WFP has established high standards in M&E and will ensure that a robust baseline analysis is undertaken during the inception phase of the project, which will enable gender-disaggregated monitoring over the course of the project.

Needs of the recipient

Thanks for noting the eligibility of the proposed projects in addressing vulnerability and adaptation needs of the recipient population by means of people-centered, community-based actions.

Regarding *the need for strengthening institutions and implementation capacity*, as noted already the current project is listed as one of the key projects in the Government of Kyrgyzstan's project pipeline under the draft Strategic Program for Climate Resilience (SPCR) and in accordance with priority investments.

Country ownership

Thanks for noting the high country ownership of the project. We confirm that the integration of project activities with initiatives by the World Meteorological Organization (WMO) and national agriculture extension services under Component 1 and Component 2 will indeed be an integral part of the project.

Efficiency and effectiveness

Thanks for noting the significant co-financing of this micro-sized project, and recognizing the potential to leverage additional co-funding. WFP made a conscious decision to not include any claims of additional co-funding which were not confirmed at the time of project design. These opportunities were therefore not included in the cost benefit analysis of the project, providing the GCF with the minimum cost benefit ratio that can be expected. However, it was mentioned that complementarities with other investments will be sought to increase project benefits. It is expected that project evaluations will provide further data to concretize the level of benefits.

Overall remarks from the independent Technical Advisory Panel:

The AE thanks the TAP for recommending approval of this funding proposal and accepts the proposed condition.

ANNEX #

GENDER ANALYSIS AND GENDER ACTION PLAN

KYRGYZ REPUBLIC

Part I. Gender Analysis

1.1. COUNTRY CONTEXT

The Kyrgyz Republic is making progress in ensuring an equal status of women and men under the law and addressing gender gaps; the country is ranked 90th (2015) in the Gender Inequality Index. Women's economic activity is 50% compared with 75% for men. In rural areas women tend to work in lower-end value chains with less predictable incomes. Women engaged in unpaid productive work and women outside the labour force account for 72% of the total working age population living below poverty line. The following factors present structural barriers to women's participation in the labour force: the burden of unpaid care work, as women spend 3.6 times more time on housekeeping compared to men, inadequate childcare facilities and lack of affordable government social provisioning, lack of decent job opportunities, providing maternity and social protection, as well as increasing influence of the traditional stereotypes assigning women as primary caregivers. In addition, there are structural barriers that impede women from establishing their own business and transitioning from the informal to the formal private sector market. (source: UNDAF, pillar 1).

1.2. GENDER AND EMPLOYMENT

The employment rate of men is 71%, and women - 44%. The employment rate of men in all age groups is higher than that of the women, but the most significant gap is in the age group of 25-34 years old. At this age, women often leave their job due to childbirth. Women also experience income poverty due to the significant gender wage gap. In 2015, the average wage of men was 1.3 times higher than that of the women. In general, the difference in wage levels of women and men is due to structure of sectorial segregation in the context of gender. Thus, the highest proportion of women among working population is in the low-paid services sector, especially in health and social services (84%), education (79%), as well as in hotels and restaurants (59%).

The results of a recent GSPS survey suggest that men are twice more likely than women to start a business. Obstacles to the opening of businesses by women are the lack of finance and knowledge on management, business planning, negotiation and agricultural skills. The

vast majority of women are engaged in trade (74%), 7% are in the garment industry another 6% provide are engaged in personal services, 13% in other spheres. For food processors, two thirds are men and only one third are women . Off-farm livelihoods, in particular SMEs, are one of the areas proposed for women to help them respond to the impacts of climate change.

1.3. GENDER AND AGRICULTURE

Around a third of all working women and men are employed in agriculture (34.5 percent of all employed women and 29.6 percent of all working men, the equivalent of 323 500 women and 403 800 men). Women have significant involvement in crop production, while livestock is considered a male occupation, with women making important contributions by processing livestock products. Because of their role in managing livestock, men also generally control the income that results from the sale of animal products such as raw wool and dairy products. Other types of small-scale animal husbandry, such as rabbit or poultry keeping, beekeeping could be considered accessible income-generating opportunities for women¹. Female entrepreneurs are also involved in greenhouse cultivation of medicinal plants, vegetables, flowers and seedlings for sale to local households. While there is potential for growth in the fruit and vegetable industry, women are nearly absent from ownership or management of commercially viable SMEs in expanding market channels.

While there are no formal or legal barriers to women's property ownership, culturally and traditionally, men are the favored inheritors and owners of real property and land. Thus, most houses (62%) are registered in men's name, and only 29% – in women's name. All other assets of households are mainly registered in men's name: living premises / houses / apartments, in addition to those, where families live - 66%; commercial real estate - 61%; land - 80%; passenger vehicles - 90%; cargo transport - 93%; agricultural transport - 93%. Without full ownership, women's ability to use property (for example to sell, rent out or to offer property as collateral to secure loans) is compromised, and this puts them at risk of poverty and extreme poverty in cases of divorce, abandonment or in other situations where they are not supported by a male property owner.

The majority of individual farmers, not only female farmers, have limited financial capacity to own and operate machinery. Female farmers tend to lack ownership and control over a variety of productive inputs. Women's lack of access stems from their more limited knowledge (for example, about companies that sell fertilizers, pesticides and seeds, about processing technologies and about any available subsidies) and the high cost of resources (for example, seeds, fertilizers and fuel). Men have better access to irrigation than women, and female heads of households more often report that they have inadequate access to irrigation compared with male household heads (20 percent of FHH and 13 percent of MHH). As land owners, men consider themselves responsible for making decisions about irrigation, while the women's sphere is seen as the management of water for domestic use. Since 1996, rural water resources have been managed by Water Users Associations (WUAs), but to date, women's representation in such organizations has been minimal.

¹ "National Gender Profile of Agricultural and Rural Livelihoods - Kyrgyz Republic", FAO, 2016.

An assessment of pesticide poisoning revealed that while men are at a high risk of pesticide poisoning because they are responsible for crop spraying and the disposal of empty pesticide containers, many women and children (boys are more likely to take on these tasks than girls, especially tasks involving the direct handling of pesticides) also risk exposure when they use open water sources near sprayed crops, as bystanders when crops are sprayed and due to the gendered division of labour.

According to information provided by the Ministry of Agriculture and Melioration as of 2016, there are 454 Pasture Management Committees (PMC), approximately 11 of which are chaired by women (or 2.4 percent). Because women are under represented on PMCs, they have more limited information about, and access to, public decision-making concerning sustainable pasture management. Because only men had been elected, the PMCs prioritized road infrastructure projects. Conversely, the female pasture users had other interests, such as, “clean and safe water at the pastures for people and animal, lack of fuel for cooking, problems with animal health, investments into small scale processing for additional income generation.”

FHH, and poor households, primarily use forest resources for subsistence purposes. Women-led households undertake activities such as gathering firewood, making hay and picking fruit almost exclusively for their own consumption, and they collect nuts entirely for commercial purposes. Other activities, such as collecting berries and medicinal plants, beekeeping and livestock grazing, are carried out for a mixture of household consumption and commercial purposes. The walnut and kernel market chain generates significant employment and has the potential to benefit women and poor households. Poor households, including female-headed households, could earn higher incomes if they had more market information and could process or crack walnuts themselves during winter months.

Women and young men reported that they have very limited access to “high demand forest areas”. Young women, in particular, find it difficult to access information and participate in meetings about the distribution of forest lands that are organized by the local forestry department or community authorities, due to their domestic responsibilities and also gender stereotypes about women’s role in resource allocation and management. Women find it particularly difficult to enter negotiations with the local forestry department and they prefer male relatives to negotiate for them. In addition, women generally have less information about the rules and procedures of forest management.

Men are far better represented in the fisheries sector than women, and they also work in more diverse jobs. Women are best represented in fish production, on fish farms, and in the retail trade of fish and fish products. Looking more closely at commercial fisheries, between 80 percent and 90 percent of fish farm employees are male, and while most farms are small (from six to ten employees). Most fish farms are not engaged in fish processing, but it has been noted that women’s role in post-harvest fish processing, such as drying and smoking, in household-based, small-scale businesses has increased.

1.4. GENDER AND NUTRITION

Malnutrition remains a problem. Some 6 percent of the population face dietary energy deficiencies. Dietary habits favour starchy and monotonous food, which leads to nutrient deficiencies, especially in micronutrients. About 13 percent of children between 6 – 59 months and 18 percent of children between 18 – 23 months are stunted. Anaemia affects 43 percent of children under five years of age and 35 percent of women aged 15-49, while 32 percent of children under five years of age are also deficient in vitamin A. 61.6 percent of pregnant women and 43.1 percent of school age children show iodine deficiency. Folate deficiency among non-pregnant women is 42 percent. Undernourishment rates are higher in urban areas than in rural locations; in 2014, 45.1 percent of the rural population consumed less than 2 100 calories per day, compared with 53 percent of the urban population. The prevalence of overweight adults is almost the same for males and females, but women are more than twice as likely than men to be obese (22 percent of women and 12 percent of men). Children’s nutritional status is closely correlated with their mother’s level of education and breastfeeding practices. Unlike the situation for adults, rural children are more likely to experience nutritional problems than urban children. Indicators on child nutrition show that there are small gender differences in the levels of malnourishment among children under age five (boys are slightly more likely to be stunted than girls). Other research, however, found that girls in remittance-receiving households have statistically significantly lower heights and weights than girls in households without remittance income, suggesting that girls may be taking on more domestic work in the absence of other family members, or that there is a “cultural bias toward male children” and therefore less investment in girl’s health. Assessments have found that female-headed households in Kyrgyzstan are not more likely to be food insecure than male-headed households. Although FHH are slightly more likely to be severely insecure (ten percent of FHH and seven percent of MHH), the reverse is true for moderately food insecure households (16 percent of MHH and 12 percent of FHH). Typical coping strategies for households that are experiencing food shortages include: relying on cheaper and less preferred foods; borrowing food from friends or relatives; increasing the number of household members who migrate for work; and reducing healthcare expenditures. The decision to consume poorer quality foods could have a greater impact on the micronutrient status of women of reproductive age and children. Vulnerable farming households, which include FHH, that are already dependent on home grown products for their own consumption, may also have specific difficulties coping with climate risks that affect crop yields.

1.5. GENDER AND CLIMATE CHANGE

According to studies, women often cite a lack of knowledge on how to respond to emergencies and on climate change adaption practices , and are also more likely to suffer the health and nutrition consequences of climate-induced phenomena, such as reduced food production, natural disasters, land degradation and poorer irrigation. Disaster preparedness and nutrition-related trainings should therefore ensure a priority focus on women and children.

With regard to energy use, children and women spend longer periods in poorly heated rooms than their male counterparts and are therefore more likely to have health problems. According to studies, farmers predominantly use charcoal and firewood for heating and cooking. Poor knowledge and use of alternative energy resources and lack of access to technologies, such as energy efficient heaters

and safe cooking stoves increase greenhouse gas emissions, lead to an inefficient use of scarce natural resources and contribute to poor health outcomes and poverty. Thus, increasing the knowledge and use of such technologies would significantly improve the wellbeing of villagers, especially for women and children.

Thus, the proposed project will take into account issues/challenges related to gender relations to ensure that the design of activities is gender sensitive. Activities should, at the very least, not have a negative effect on gender relations and contribute to improved gender equity.

A particular emphasis has been given in the project proposal to gender considerations, with a number of gender specific benefits. Women farmers will be targeted to benefit from climate services to protect and develop their livelihoods and reduce the impact of climate risks. The project will engage women in risk assessment and decision making on activities related to climate change adaptation; local development planning, provide training for women on disaster preparedness and support information management.

Women will benefit from training in improved agricultural practices, including cultivating drought resistant crops, modern irrigating practices, as well as marketing and business skills, which is set to increase the income and resources at their disposal, allow women to strengthen their role in decision making within their family and community. Women will also get better access to processing of agricultural products and receiving higher income during lean season. The training of women in various off-farm income generation activities, including small business activities, sewing, bakery, etc. will improve incomes. Women of childbearing age and children will also be better able to manage their diets and improve their long- term health through consumption of micronutrient rich foods through promotion of homestead gardens and nutrition education.

Women and children will also benefit from receiving knowledge on applying house heating systems, energy-saving stoves, and other alternative energy resources as it will reduce illness rate and reduce time and domestic burden on collecting wood. Rehabilitation of rural infrastructure, dams, mudflow channels, will reduce the risks of disasters, such as floods, and its influence on women, children and men.

Part II. Gender Action Plan

	Activities	Gender activities	Indicators	Target	Responsible party	Timeframe	Budget
Component I.	Climate services to support vulnerable rural communities to plan for and manage climate risks and increased weather variability						
Outcome 1.	Vulnerable communities are empowered to make informed decisions about their livelihoods, respond to climate risks and opportunities, and adapt to climate-related changes.						
Output 1.1 Enhanced capacity of National Meteorological Hydromet Services to produce tailored climate information for end-users.	Activity 1.1.1 Strengthen capacities of Hydromet for data collection, translation and generation of tailored climate information.	<p>1.1.1.1 Conduct baseline survey with gender disaggregated data on knowledge, attitudes and practices (KAP) regarding climate change adaptation in target communities.</p> <p>1.1.1.2. Conduct assessment of channels of information used by women and men in order to effectively deliver climate services.</p> <p>1.1.1.3. Development of tailored climate services for women and men small-holders, based on the results of baseline KAP survey.</p>	<p>1.1.1.1 Recommendations from gender analysis of KAP on climate change adaptation practices</p> <p>1.1.1.2 List of channels of information recommended for women and men for deliver climate services</p> <p>1.1.1.3 Package of climate services for women and men small-holders</p>	<p>Recommendations formulated</p> <p>List of gender sensitive information channels developed</p> <p>Package of gender sensitive climate services developed</p>	Hydromet agency and other national partners	<p>1.1.1.1- 1.1.1.2 - 2018</p> <p>1.1.1.3 - 2019-2021</p>	17,100

<p>Output 1.2 Establish sustainable collaborative partnerships between climate services providers and users, intermediaries, regional and national government institutions and the private sector to improve climate services.</p>	<p>Activity 1.2.1 Improve information availability and capacity of users to employ climate information for climate risk management.</p>	<p>1.2.1.1. Conduct trainings for Hydromet, Ministry of Agriculture, Food Processing and Melioration, local self-government and other national climate services providers on considering gender aspects during data collection, analysis and delivery of agri-climate services.</p>	<p>1.2.1.1. # of trainings conducted for national stakeholders # of women and men national stakeholders trained</p>	<p>1.2.1.1. 50 local advisors trained At least 30% of women local advisors are trained.</p>		<p>2019-2021</p>	<p>93,148</p>
<p>Output 1.3 Effective delivery of climate information to vulnerable communities.</p>	<p>Activity 1.3.1 Strengthen delivery for tailored climate services to ensure vulnerable communities receive information needed for planning and decision-making.</p>	<p>1.3.1.1. Ensure that relevant channels of information are used to sensitize men and women on / provide agri-climate services based on the results of baseline assessment.</p>	<p>1.3.1.1. # of women and men beneficiaries receiving the climate services via particular information channels.</p>	<p>1.3.1.1 700,000 people are subscribed to receive climate information At least 50% of subscribers are women.</p>		<p>2019-2021</p>	<p>94,440</p>
Total for Component I							204,688

Component II.	Livelihood strengthening and diversification to increase the adaptive capacity of vulnerable groups and build community resilience						
Outcome 2:	Livelihoods diversified and made climate resilient for vulnerable smallholder farmers and rural communities.						
Output 2.1 Strengthened adaptive capacities of rural communities through improved adaptation planning and diversification of livelihoods.	Activity 2.1.1 Climate risk profiling, awareness raising and mainstreaming of climate change adaptation into community planning.	<p>2.1.1.1 Ensure participation of at least 50% of women during development of climate risk profiling, community adaptation planning, disaster preparedness exercises.</p> <p>2.1.1.2 Conduct gender analysis during climate risk profiling, community adaptation planning.</p> <p>2.1.1.3 Prepare recommendations on concrete adaptation practices for women and men small-holders based on the results of gender analysis of climate profiles and community adaptation plans.</p>	<p>2.1.1.1-2.1.1.2 # of gender sensitive climate risk profiles developed in target communities</p> <p>2.1.1.3 List of adaptation practices for women and men small-holders</p>	86 gender sensitive climate risk profiles developed	MLSD/MoAFIM, other national partners and UN Agencies	2019-2021	34,581
	Activity 2.1.2 Strengthening livelihood diversification and support for non-climate sensitive incomes.	2.1.2.1 Support non-climate sensitive small businesses for women (at least 50% of beneficiaries). Provide training in marketing, business planning for women. Provide access to food processing for women. Conduct nutrition training for women.	<p>2.1.2.1 # of women and men small-holders participated in income-generating activities, training</p> <p>2.1.2.2. # of women-headed HHs, people with disabilities participated in income-generating activities, training.</p>	<p>2.1.2.1 1,360 training groups/classes are held</p> <p>At least 50% of women small-holders participated in income-generating activities, training</p>		2019-2021	1,695,070

				2.1.2.2. At least 30% of all project HHs are women-headed HHs, at least 3% of all beneficiaries are PwD participated in income-generating activities, training.		
Activity 2.1.3 Promotion of green technology and alternative energy based adaptation measures.	2.1.3.1. Ensure that women receive knowledge and training (at least 50% of participants) on alternative energy sources such as solar energy, biogas, windmills, energy efficient stoves and etc.	2.1.3.1 # of women and men participated in alternative energy sources trainings 2.1.3.2. # of women-headed HHs, people with disabilities participated in training on alternative energy sources.	2.1.3.1. 1,360 training groups/classes held At least 50% of women are trained in alternative energy sources trainings 2.1.3.2. At least 30% of all HHs are women-headed HHs, at least 3% of all beneficiaries are PwD participated in training on alternative energy sources.		2019-2021	92,590

<p>Output 2.2 Construction of small-scale climate risk reduction infrastructure at community level.</p>	<p>Activity 2.2.1 Strengthening community infrastructure to reduce the impact of climate risks and disasters</p>	<p>2.2.1.1 Ensure that women receive knowledge and training (at least 50% of participants) on improved irrigation practices and effective water management.</p>	<p>2.2.1.1. # of women and men participated in training on improved irrigation practices and effective water management</p> <p>2.2.1.2. # of women-headed HHs, people with disabilities participated in trainings on irrigation practices and effective water management.</p>	<p>2.2.1.1. 178 training groups/classes held (training/awareness raising sessions will complement restoration/improvement of 178 water infrastructure assets)</p> <p>At least 50% of women are trained on improved irrigation practices and effective water management</p> <p>2.2.1.2. At least 30% of all HHs are women-headed HHs, at least 3% of all beneficiaries are PwD participated in training on improved irrigation practices and effective water management</p>	<p>2019-2021</p>	<p>450,168</p>
Total for Component II						2,272,409

Component III	Capacity building and decision-making support to enhance climate action using a multi-sectoral approach
Outcome 3:	Knowledge, skills and ownership of local communities and government improved to manage climate risks and adaptation measures.

<p>Output 3.1.: Developing tools for awareness raising, learning and behavioral change in communities, for local authorities to understand, design, incorporate climate impacts into local development plans and for monitoring and measuring the reduction of losses from community based adaptation to better manage the impacts of climate change at local level.</p>	<p>Activity 3.1.1.: Developing awareness raising and adaptation training modules, and tools to support the district-level climate risk profiles and promotion of adaptation planning and for monitoring and measuring the reduction of losses from community-based adaptation, risk reduction measures and cost-benefits.</p>	<p>3.1.1 - 3.3.3 Ensure that training modules, tools, documentation of best adaptation practices, experience sharing, monitoring and evaluation tools include gender dimension.</p> <p>3.2.1-3.2.2. Ensure that at least 30% of local authorities at village and district level trained to incorporate climate change impacts into local development plans and strategies are women</p>	<p># of training modules, tools, documentation of best adaptation practices, experience sharing, monitoring and evaluation tools that include gender dimension.</p> <p># of women and men from local authorities trained</p>	<p>Tools developed and training for 8 districts provided</p> <p>At least 30% of local authorities representative, participated in training, are women.</p>	<p>SAEPF and other national partners, research universities, other UN and relevant partners</p>	<p>2019-2021</p>	<p>99,929</p>
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<p>Output 3.2.: Lessons learned and best practices documented and disseminated to support future learning and to inform policies, strategies and programmes of multiple government bodies.</p>	<p>Activity 3.2.1.: Documentation and dissemination of lessons learned and best practices to support future learning and to inform policies, strategies and programmes through regional workshops and national conference</p>						
Total for Component III							99,929
GRAND TOTAL							2,577,025