



ADAPTATION FUND

REGIONAL PROJECT PROPOSAL

RICOWAS Project

Scaling-up climate-resilient rice production in West Africa

Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo

Title of Project:	Scaling-up climate-resilient rice production in West Africa
Countries:	Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo (all countries members of ECOWAS¹)
Thematic Focal Area:	Food Security
Type of Implementing Entity:	Regional Implementing Entity (RIE)
Implementing Entity:	Sahara and Sahel Observatory (OSS)
Executing Entities:	<p>Regional level: Regional Coordination Unit based at the Regional Centre of Specialization in Rice sponsored by ECOWAS (CRS-RIZ/IER) in Mali, in partnership with Climate-Resilient Farming Systems program at Cornell University, USA</p> <p>National level: National Coordination Institutions</p> <p>Benin Secrétariat Général du Ministère de l'Agriculture, de l'Elevage et de la Pêche (SG/MAEP)</p> <p>Burkina Faso Direction générale des études et des statistiques sectorielles/Ministère de l'agriculture et des aménagements hydro-agricoles</p> <p>Côte d'Ivoire Agence Nationale d'Appui au Développement Rural (ANADER)/Ministère de l'Agriculture et du Développement Rural</p> <p>The Gambia Ministry of Agriculture</p> <p>Ghana CSIR-Savanna Agricultural Research Institute (SARI)</p> <p>Guinea Institut de Recherche Agronomique (IRAG)</p> <p>Liberia Community of Hope Agriculture Project International (CHAP)</p> <p>Mali Direction Nationale de l'Agriculture (DNA)</p> <p>Niger Institut National de la Recherche Agronomique du Niger (INRAN)</p> <p>Nigeria Agricultural Research Council of Nigeria (ARCN)</p> <p>Senegal Agence Nationale de Conseil Agricole et Rural (ANCAR)</p> <p>Sierra Leone Rokupr Rice Research Centre/Sierra Leone Agricultural Research Institute (SLARI)</p> <p>Togo Institut de Conseil et d'Appui Technique (ICAT)</p>
Amount of Financing Requested:	14,000,000 in U.S Dollars Equivalent (in U.S Dollars Equivalent)

¹ ECOWAS: Economic Community of West African States

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ACRONYMS

3N	<i>Les Nigériens Nourrissent les Nigériens - Initiative</i>
AF	Adaptation Fund
AfT	Agenda for Transformation
AGRA	Alliance for a Green Revolution in Africa
ANCAR	National Agricultural and Rural Advisory Agency - Senegal
ANR	Agriculture and Natural Resources
ARCN	Agricultural Research Council of Nigeria
BMZ	Federal Ministry for Economic Cooperation and Development of Germany
CAADP	<i>Comprehensive Africa Agriculture Development Programme</i>
CARD	Coalition for African Rice Development
CARI	Competitive African Rice Initiative
CC	Climate Change
CHAP International	Christian Humanitarian Assistance Program - Liberia
CILSS	Permanent Interstate Committee for drought control in the Sahel
CNS-Riz	National Rice Specialization Centre
COP	UN Climate Change Conference
COVID19	coronavirus disease of 2019.
CRCOPR/ROPPA	<i>Network of Farmers and Producers of West Africa</i>
CRRP	climate-resilient rice production
CRS-RIZ	Regional Rice Specialization Centre
DNA	National Directorate for Agriculture - Mali
ECOWAP	Regional Agricultural Policy for West Africa
ECOWAS	Economic Community of West African States
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
ESP	Environmental and Social Policy of the Adaptation Fund
FAO	Food and Agriculture Organization of the United Nations
FCIAD/FIRCA	Competitive Fund for Sustainable Agricultural Innovation
GIC	Green Innovation Centers
GIZ	German Gesellschaft für Internationale Zusammenarbeit
ICTs	Information and communication technologies
IE	Implementing Entity
IER	Mali's Institute of Rural Economy
IFAD	International Fund for Agricultural Development
IGA	Income Generating Activity
INDC	Intended Nationally Determined Contributions
INGO	International non-governmental organization
INRAN	<i>National Agricultural Research Institute of Niger</i>
IPCC	Intergovernmental Panel on Climate Change
IPM	integrated pest and disease management
IVS	Inland Valley Swamps
JICA	Japan International Cooperation Agency
LASIP	Liberia Agriculture Sector Investment Plan

LDCs	Least Developed Countries
LNRDS	Liberia National Rice Development Strategy
LuxDev	Luxembourg Agency for Development Cooperation
M&E	Monitoring and Evaluation
NAIP	National Agricultural Investment Plan
NAP	National Adaptation Plan
NAP	National Adaptation Plan
NAPA	National Adaptation Programmes of Action
NASPA-CCN	National Adaptation Strategy and Plan of Action on Climate Change for Nigeria
NDAs	National Designated Authorities
NDC	Nationally Determined Contributions
NEE	National Executing Entities
NEPAD	New Partnership for Africa's Development
NFs	National Facilitators
NGOs	Non-Governmental Organisations
NRDS	National Rice Development Strategies
NRDS/SNDR	Nation Rice Development Strategy
OSS	Sahara and Sahel Observatory – <i>Observatoire du Sahara et du Sahel</i>
PAPD	<i>Pro-Poor Agenda for Prosperity and Development</i>
PASANDAD	<i>Accelerated Food Security and Nutrition for Sustainable Agricultural Development Plan</i>
PDA	agricultural development policy
PNAR	National Rice Self-Sufficiency Program
PNCC	National Climate Change Program
PNCC	National Climate Change Policy
PNIASAN	<i>National Agricultural Investment and Food Security and Nutrition Plan</i>
PPP	public-private partnerships
PRACAS	Senegalese Agriculture Cadence Acceleration Program
PRODAM	Agricultural Development Project in Matam -Senegal
RAIPFNS	Regional Agriculture Investment Plan and Food Security and Nutrition
RCoS-Rice	Regional Center of Specialization in Rice - Mali
REE	Regional Executing Entity
RICOWAS	Scaling-up climate-resilient rice production in West Africa
RIE	Regional Implementing Entity
RSC	Regional Steering Committee
RTA-AP	Rice Transformation Agenda- Action Plan
SARI/ CSIR	Savanna Agricultural Research Institute - Ghana
SDDCI	Sustainable Development and Inclusive Growth Strategy
SG/MAEP	General Secretariat - Ministry of Agriculture Livestock and Fisheries -Benin
SLARI	Rokupr Rice Research Centre/Sierra Leone Agricultural Research Institute
SLWM	sustainable land and water management
SRI	System of Rice Intensification
SRI-WAAPP	Improving and Scaling up the System of Rice Intensification in West Africa - Project
UEMOA	West African Economic and Monetary Union
USAID	United States Agency for International Development
WAAPP	West Africa Agriculture Productivity Program
WECARD/CORAF	West and Central African Council for Agricultural Research and Development

PART I PROJECT INFORMATION

1. Project Background and Context

1.1 Importance of rice in West Africa

1. West Africa is the rice basket of Sub-Saharan Africa, producing over two-thirds of its rice. Rice is a staple crop that has been grown in West Africa for more than 3500 years since the domestication of African rice (*Oryza glaberrima*). Produced by low-income smallholders across the entire region, rice plays a key role in regional food security for rural and urban populations. In recent years, increasing demand stemming from population growth and steady increases in annual per capita consumption (combined at 5.93% per year from 2010-2017; with per capita consumption in 2017 as high as 164 kg in Sierra Leone and 150 kg in Guinea) has outpaced production (4.1% per year for the same time period), leading to ever-increasing rice imports from Asia, accounting for 46% of total rice consumption in 2017. This places a heavy burden on government budgets and exposes the region to the volatility of world market prices. This became apparent in 2008, when world market prices tripled in less than four months, resulting in riots (e.g. Liberia, Senegal) over a staple food that the majority of population could not afford anymore.² In response, the Economic Community of West African States (ECOWAS) launched a regional Rice Offensive in 2013 with the goal to achieve rice self-sufficiency by 2025. The regional Rice Offensive is supported by the National Rice Development Strategies (NRDS), which detail plans to increase rice production on the path to national rice self-sufficiency. It is predicted that between 2017 and 2025 rice consumption in West Africa will continue to increase overall by 32% (from 18.2 million tons to 24.1 million tons of milled rice) based on the population growth in West Africa from 366 million people in 2017 to 450 million in 2025, combined with an estimated increase in per capita consumption from 50 to 54 kilograms during the same time period^{3 4}. This creates a challenge, but the untapped potential to increase rice production is high in West Africa. Yields have remained low at 2.1 t/ha, the availability of under-utilized land is still relatively extensive and climate-resilient rice production techniques are available but not yet widely disseminated and adopted.
2. By using the climate-resilient rice production (CRRP) approach (see below for more details), the Rice Offensive can address several critical challenges simultaneously: respond to increasing rice consumption needs, strengthen livelihoods of rice farming communities, allow for diversification of economic activities along the rice value chain, improve the overall national economic well-being, free up hard currency – previously used for rice imports - for other national needs, and contribute to political stability. All in all, this will allow adaptation to the imminent climate change threats to this key economic sector, and free human, environmental, and financial capital to tackle other pressing adaptation priorities. **West Africa has been identified to be particularly vulnerable to climate change** due to the combination of naturally high levels of climate variability, high reliance on rainfed agriculture, and limited economic and institutional capacity to cope with climate change.⁵

1.2 Bioclimatic zones of West Africa

3. The West African climate is characterized by a strong latitudinal rainfall gradient, separating the region into the humid tropical rainforest zone in the south (Guineo-Congolian region), to humid semi-deciduous forest zone (Guinean region), changing into sub-humid savanna zones (Sudanian Region) and the semi-arid short grass savanna zones (Sahelian region). As climate bands extend from east to west, each country in West Africa (except for The Gambia, Liberia and Sierra Leone) includes two to three climate zones, and even four in Nigeria (Figure 1).⁶
4. Each climate zone crosses several of the 13 countries participating in the RICOWAS project:
 - Sahelian zone crosses 5 countries: Senegal, Mali, Burkina Faso, Niger and Northern Nigeria
 - Sudanian zone crosses 10 countries: The Gambia, Senegal, Mali, Northern Guinea, Côte d'Ivoire, Burkina Faso, Northern Ghana, Togo and Benin and large parts of Nigeria.
 - Guinean zone crosses 6 countries: Guinea, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria
 - Guineo-Congolian zone crosses 6 countries: Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Ghana and Nigeria

² Styger and Traoré, 2018. 50,000 Farmers in 13 countries; Results from Scaling-up SRI in West Africa. CORAF, Dakar, Senegal.

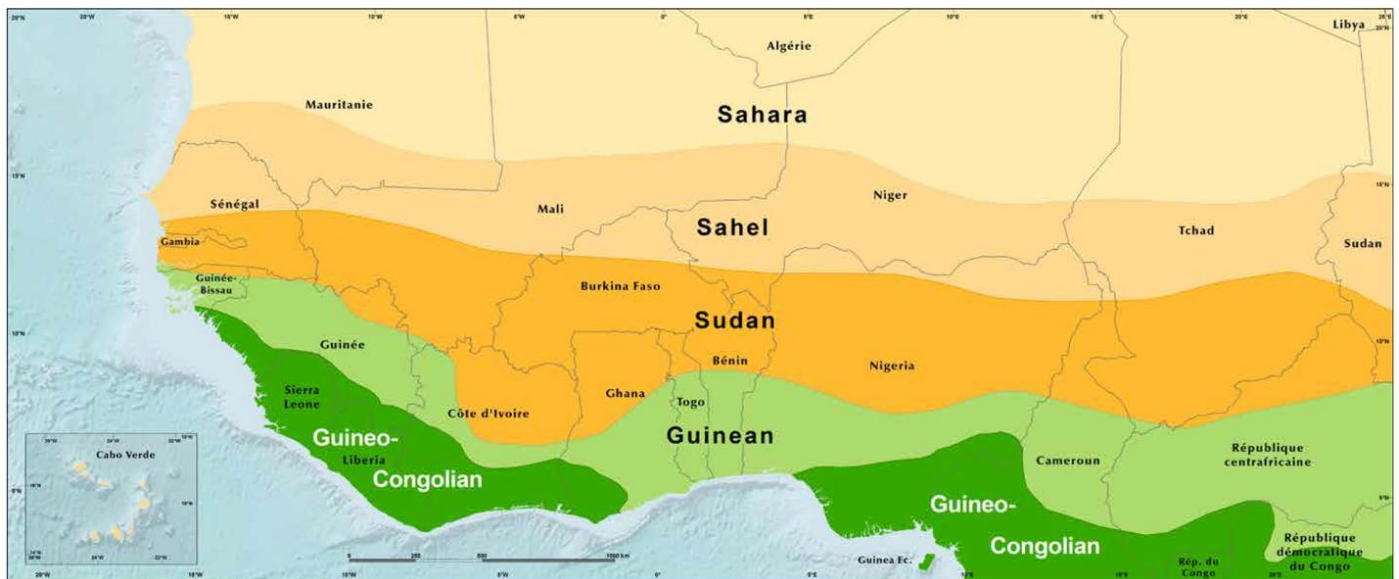
³ FAOSTAT Online Database; <http://www.fao.org/faostat/en/#home>;

⁴ Fofana et al, 2014. Impact simulation of ECOWAS rice self-sufficiency policy. IFPRI discussion paper 1405, Washington DC.

⁵ Sultan and Gaetani, 2016. Agriculture in West Africa in the 21 Century: Climate Change and Impacts Scenarios, and Potential for Adaptation. Frontiers in Plant Science (7), Article 1262, 1-20.

⁶ CILSS, 2016. Landscapes of West Africa. A window on a changing world. Geological Survey EROS, Garretson, SD.

Figure 1: Bioclimatic regions of West Africa (CILSS, 2016; Landscapes of West Africa)



Bioclimatic regions of West Africa

- The Sahara, or Saharan Region, stretches across the whole northern extent of West Africa formed by the Sahara Desert. It is an arid landscape with average annual rainfall between 0 to 150 mm per year. Vegetation is sparse or absent.
- The Sahel, or Sahelian Region is a broad semiarid belt about 350 km wide. Average annual rainfall is between 150 and 600 mm, with a rainy season ranging from one to five months (June-October). It has a dry season of 8 to 9 months. Vegetation is of herbaceous types (steppe and short grass savanna) often mixed with woody plants.
- The Sudan, or Sudanian Region lies immediately south of the Sahel. Average annual rainfall lies between 600 and 1,200 mm with one rainy season (May-October) and a dry season of 5 to 7 months. The vegetation domain is of the savanna (including open tree savannas, wooded savannas, open woodlands)
- The Guinean Region lies immediately south of the Sudanian Region, with an average annual rainfall between 1,200 and 2,200 mm. It has two rainy seasons (April-July and September – October). 75% of the rain falls between April and July. The vegetation is seasonally wet-and-dry deciduous or semi-deciduous forest.
- The Guineo-Congolian Region is the wettest in West Africa, with average annual rainfall between 2,200 and 5,000 mm. There are two rainy seasons (April – July and September-October) or year-round rainfall with short drier periods between the rains.

1.3 Major rice systems in West Africa

5. Each of the climate zones harbors a diversity of mostly subsistence-based rice systems. In the Guineo-Congolian and Guinean zones, the rainfed lowland and upland rice systems dominate. Mangrove rice systems are developed in the coastal region of Senegal, The Gambia, Guinea, Sierra Leone, Liberia and somewhat in Nigeria. In the Sudanian zone, a mix of upland and lowland rainfed as well as irrigated systems can be found. Irrigation becomes more prevalent moving north into the drier zones of the Sahel. Additionally, rainfed lowland systems are quite common. A few specialty rice systems contribute substantially to local food security and they are well adapted to climate-variability. They include deep water rice and recession rice systems, especially along the Niger River.

Three major rice systems explained

- For the irrigated systems, irrigation water is either added to supplement rainfall (irrigated wet season system) or is essential when rainfall is very low (irrigated dry season systems).
- For upland rice systems, rainfall is the only water source and rice is grown under non-flooded dryland conditions on freely draining aerobic soils. Retaining water in these systems is of ultimate importance.
- The rainfed lowland systems are characterized by non-continuous flooding of rice fields of variable depth and length. The flooding either occurs from rainfall, from surface runoff, or from seasonally rising rivers or other water bodies.

In rainfed rice landscapes, farmers often use more than one rice system simultaneously, situated on different locations along the toposequence.

6. In 2017, West African farmers produced rice on 7.3 million hectares. For the 13 RICOWAS countries, upland rice systems occupy 43% of West Africa's rice-growing area, but only account for 37% of total production. Rainfed lowland systems cover 40% of the total area and account for 42% of total production.
7. Average yields for these two systems are 1.38 t/ha and 1.65 t/ha respectively. Irrigated production occupies only 11.6% of the rice land area, but accounts for about 17% of total production with average yields of 2.32 t/ha. A fourth category

includes some distinctive systems such as mangrove and recession systems. They cover about 5% of the area and account for 4% of total production.⁷ Irrigated and rainfed lowland systems are the most productive, but they are also significant greenhouse gas emitters as a result of flooded fields.

1.4 Climate change in West Africa⁸

8. West Africa has been identified to be particularly vulnerable to climate change due to the combination of a highly variable climate – which is among the most variable in the world on intra-seasonal to inter-decadal timescales - the high reliance on rainfed agriculture, and the limited economic and institutional capacity to cope with climate change.
9. A graphic presentation of observed trends and forecasts under different climate change scenarios for annual temperature change and annual precipitation change for Africa is shown in Figure 2.
10. Over the past 50 years, annual average temperatures increased significantly, from +0.5 to +0.8 °C between 1970 and 2010 over West Africa, with an increase in the number of warm days and warm nights and a decrease in number of cold days and nights. Warming was slightly higher than the global average. In the Sahel, warming was even more pronounced between +1.5-2.0°C between 1950 and 2010, with greater warming in April, May and June. The interpretation of precipitation observations is more complex than those in temperature, exhibiting higher seasonal and spatial variations. The 5th IPCC assessment report points out that the lack of sufficient observational long term data series does not allow for clear conclusions to be drawn about trends in annual precipitation over the past century for West Africa. What could be observed was a growing climate divide between the eastern and western part of the Sahel, with less rainfall in the west and higher rainfall in the east. During the last two decades, precipitation experienced higher interannual variability over the region with delayed onsets and early retreats of the rainy seasons. Additionally, increased frequency of heavy rainfall events was observed. Sea levels have also been rising by +8.4 cm from 1942 to 2012 in Dakar, Senegal and to a greater extent of about 25 cm since the 1930s in Takoradi, Ghana.

1.5 Climate change forecasts⁸

11. Africa's exposition and huge land mass makes it more likely that temperatures will rise faster than the global average during the 21st Century. Projections indicate that temperatures in West Africa will rise between +1.5°C to 3°C by 2050, and between 3°C and 6°C by the end of the 21st century, with the greatest warming in the Sahel. There is also a highly likely increase of frequency of hot days, as well as long-lasting heat waves (of +6 to 28 days) with higher increase in the eastern part of West Africa by 2050.

⁷ Diagne et al, 2013. Estimation of cultivated area, number of farming households and yield for major rice-growing environments in Africa. In: Eds Wopereis et al, Realizing Africa's Rice Promise: 35-45.

⁸ Riede et al, 2016. What's on the 5th IPCC Report for West Africa? In: Eds Yaro and Hesselberg, Adaptation to Climate change and variability in rural West Africa. Springer International Publishing, Switzerland. 7-24.

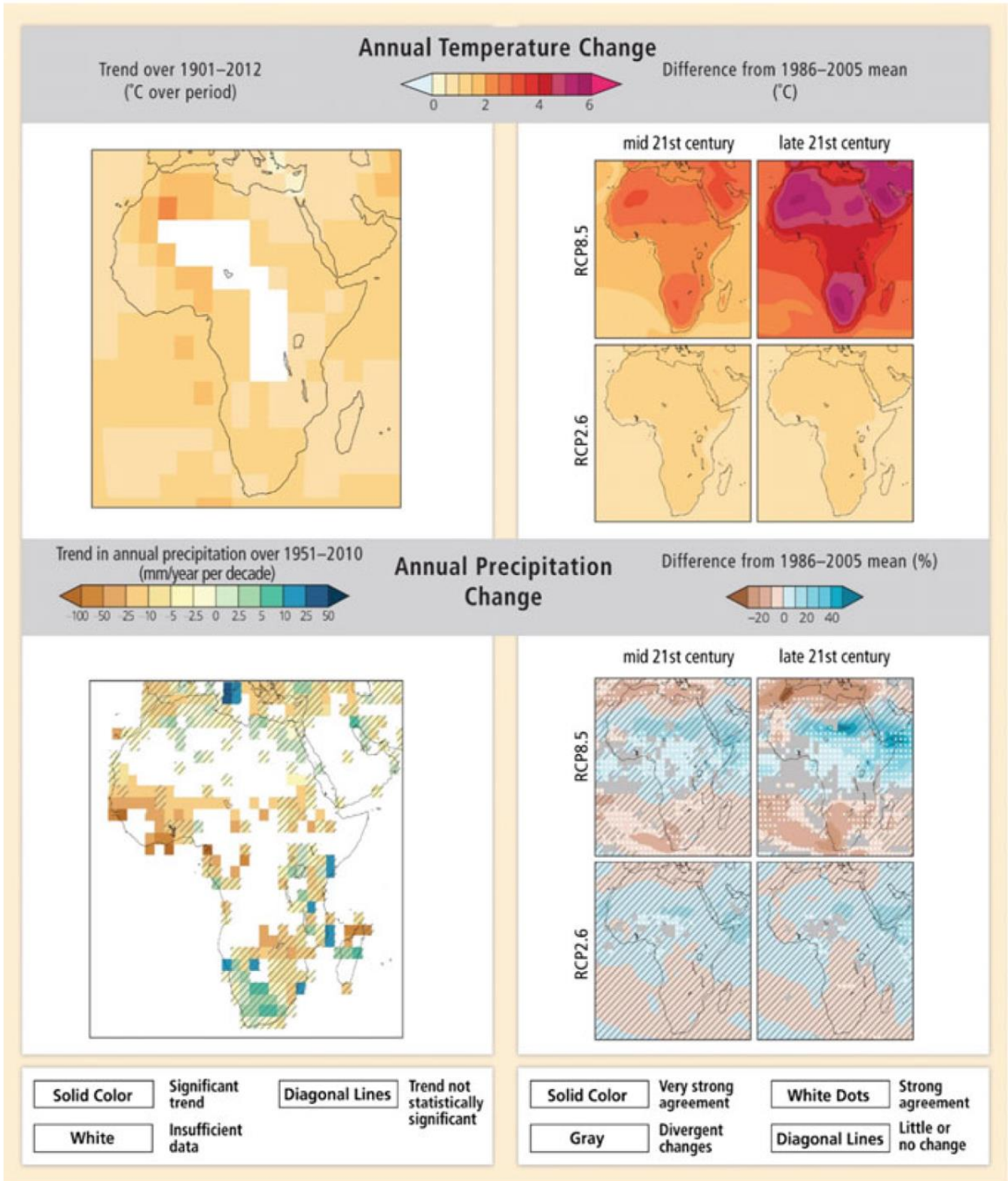
- Sylla et al, 2016. Climate change over West Africa: recent trends and future projections. In: Eds Yaro and Hesselberg, Adaptation to Climate change and variability in rural West Africa. Springer International Publishing, Switzerland. 25-40.

- USAID, 2018. Climate Risk Profiles, fact sheets for different West African countries.

- IPCC, 2014. The IPCC's Fifth Assessment Report, Cambridge UK and New York, USA.

- Sultan and Gaetani, 2016. Agriculture in West Africa in the 21 Century: Climate Change and Impacts Scenarios, and Potential for Adaptation. Frontiers in Plant Science (7), Article 1262, 1-20.

Figure 2: Riede et al, 2016: Modified graphic from the IPCC chapter AR5 WG2 Chapter 22 (2014), show observed and projected changes in annual average temperature and precipitation



12. The patterns in precipitation change is less clear, and predictions are not consistent and at times contradicting across the different climate models. IPCC noted that precipitation uncertainty ranges as wide as – 30% to +30% for the West African region, but with most models suggesting decreasing rainfall for the Western Sahel. (USAID, 2018)
13. More specifically: For the Western Sahel: Most models show decreased rainfall with a range of -16 to +6 percent (Senegal, The Gambia). Remainder of the region: Most models show increased rainfall with a range of 0 to +38 percent (Niger), -1 to +12 percent (Nigeria), -2 to +7 percent (Côte d'Ivoire, Ghana, Togo, Benin), and -3 to +11 percent (Burkina Faso, Mali).
14. Heavy rainfall is predicted to intensify and become more frequent by 2050.
15. More specifically: Increased frequency (+1 to 43 percent) and intensity (+1 to 12 percent) of heavy rainfall events in much of the region (i.e., Nigeria, Ghana, Benin, Togo, Côte d'Ivoire, Burkina Faso, Mali); Increased frequency (+16 to 75 percent) and uncertain trends for intensity (-4 to +21 percent in Niger; Uncertain trends in frequency of (-10 to +31 percent) and intensity (-2 to +14 percent) in Senegal and The Gambia.
16. The forecasts seem to agree better for the last three decades of the 21st century. They show significant decreases in mean precipitation, and most countries in West Africa will have to cope with a longer dry spells, increase in frequency and intensity of extreme precipitation, and shorter rainy season and growing seasons. Sea levels along the coast of West Africa will continue to rise between 13cm and 56cm over the course of the century.

1.6 Impact of climate change⁹

17. The impacts of climate change on the region are expected to be widespread, complex, and geographically and temporally variable.
18. Regional impacts of climate change are expected to be felt in new ways and to expand. While much of the climate impact on agriculture may be local, impacts can extend beyond national borders. Decreased and more variable crop and livestock production and changes in livestock movements and fish stocks can have transnational implications for food availability and quality in addition to exacerbating conflict over land and water resources. Weather-induced disruption of transportation networks in one area can also constrain access to agricultural inputs and markets across borders. Impacts might be also felt with an increase in cost for food, health care and basic infrastructural provisions. Climate risks to agriculture combined with rapid population growth may threaten the food security and economies of individual countries.
19. Impact on agriculture: Weather-related crop and livestock losses that already cause economic losses and undermine food security in the region are expected to increase. Rising temperatures and evaporation rates are likely to increase water stress, particularly during the dry season. Increased rainfall is projected in some areas, although temperature and evaporation trends may counter the rainfall effect such that by the 2050s, water availability in the dry season is decreased compared to the present climate. Changes in rainfall distribution and intensity will potentially disrupt the growing season calendars and crop production due to increased dry spells, droughts, and heat waves as well as greater likelihood of floods, which will damage agricultural production.
20. Impact on rice production: Without adaptation measures, estimated reductions in rice yield across West Africa range from 5-25% and up to 80% depending on location and rice system. Without adaptation, rainfed rice production might soon become too risky in the Sahel, and growing rice will become more and more dependent on irrigation schemes. They currently occupy less than 1 % of the agricultural area in Senegal, Burkina Faso and Niger. In the Sudanian and Guinean climate zone, where rainfed systems dominate, rice yields will especially be affected. In the coastal areas, rice will be highly sensitive to the combination of increased temperature, humidity and rainfall intensity. It will become more vulnerable to pests and disease that thrive in warmer, wetter conditions, such as the rice gall midge, rice weevil, and bacterial leaf blight. In low-lying coastal areas, a relatively small rise in sea level can result in rice land inundation, followed by salinization of the land and the freshwater.
21. The widespread and common rice production practices in West Africa are either traditional, marked by low yields, or those that depend on agrochemical inputs, which are often neither affordable for smallholders nor environmentally sustainable. Both systems are highly susceptible to climate change. With farmers trying to cope, it can be expected that pressure on natural resources will increase, be it on vegetation, soils or water, leading to overuse, degradation, potential conflicts, rural exodus and international emigration. To mitigate these effects, introducing adaptation measures and strengthening resilience is a necessity.

⁹ Riede et al, 2016. What's on the 5th IPCC Report for West Africa? In: Eds Yaro and Hesselberg, Adaptation to Climate change and variability in rural West Africa. Springer International Publishing, Switzerland. 7-24.

- Sylla et al, 2016. Climate change over West Africa: recent trends and future projections. In: Eds Yaro and Hesselberg, Adaptation to Climate change and variability in rural West Africa. Springer International Publishing, Switzerland. 25-40.

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-Jalloh et al, 2012. West African Agriculture and Climate Change, IFPRI, Washington DC

-Van Ort and Zwart, 2018. Impacts of climate change on rice production in African causes of simulated yield changes. Glob. Change Biol. 24: 1029-1045.

1.7 Adaptation measures and project approach

22. To manage the inevitable impacts of climate change, adaptation is needed. The IPCC emphasizes that adaptation and development approaches can go together and reinforce each other. To adopt climate-smart agriculture can address many of the constraints and needs cited above. This approach strives for a triple-win. It not only targets adaptation but also the increase in crop productivity and the mitigation of greenhouse gases. In rice production, a highly efficient method that has been successfully introduced to the different climate and agroecological zones of West Africa is called the System of Rice Intensification, or SRI.
23. The System of Rice Intensification is an agro-ecological and low-input methodology to increase rice productivity. It allows yields to increase by 20-50% and more, while using 90% less seed, 30-50% less water and 30-100% less agro-chemicals. Based on the principles of early plant establishment, reduced competition among plants, enriching soils with organic matter, and reduced water use, rice plants grow more vigorously and can better express their genetic potential than under conventional approaches. Healthier and stronger plants with deeper roots can better withstand weather calamities such as drought, floods, and strong winds, and assure (some) production, while conventionally planted crops succumb more easily to these forces, often leaving farmers without harvests¹⁰.
24. SRI is a knowledge-based methodology and allows farmers to improve rice production and the fertility of the soils with the resources available on their farms. As an agronomic approach, any variety improves its productivity when planted with SRI, be it a high-yielding or a traditional variety. Once farmers have learned the technique, they can improve their farming outputs within one cropping season. This makes SRI a very effective method, especially for the more vulnerable groups of the population. Hence, demand from the rice farmers across the region to obtain proper training and adapting the method to their specific farming environments has been increasing steadily over the last years.
25. SRI trials in West Africa began in 2000. These confirmed the cited advantages but remained known only at the local level, and it was only after 2010 based on successful experiences in Mali that the SRI method became better known in the region. With interest in SRI increasing across the region, a regional project “Improving and Scaling up the System of Rice Intensification in West Africa” (SRI-WAAPP) was commissioned and supervised by CORAF/WECARD, as part of the West Africa Agriculture Productivity Program (WAAPP), supported by the World Bank under the institutional umbrella of ECOWAS (Styger and Traoré, 2018). The SRI-WAAPP project ran from January 2014 to June 2016 in 13 ECOWAS countries: Benin, Burkina Faso, Côte d’Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. In only two years, the project directly benefited more than 50,000 farmers, of whom 34% were women. Yields for rainfed lowland and irrigated rice increased by more than 50%. However, the project reached only 1.1% of the estimated 4.5 million rice farmers in West Africa.¹¹
26. This project to the Adaptation Fund is conceived not only in response to the strong demand from rice farmers across West Africa to scale-up SRI, but will also to include the more medium-term and underlying remedies for developing sustainable and resilient rice systems that can better withstand adverse effects of climate change.
27. The Climate-Resilient Rice Production (CRRP) approach used in this project is based on the System of Rice Intensification (SRI) methodology in combination with location-specific sustainable land and water management practices (SLWM), and if indicated with integrated pest and disease management (or IPM).
28. The foundation for climate-resilient rice systems lies in the integrated soil and water management, keeping soils structurally intact and improving them with organic matter, both key to developing healthy soils. Storing water within a plot or the landscape and being able to add or remove water from rice fields as needed are key to developing improved water management approaches. The technical methods used will vary depending on the constraints and opportunities, and on the different climate zones and rice production systems. To be able to respond efficiently to the different conditions, the project will use a modular approach for capacity strengthening and field implementation.
29. The RICOWAS project does not start from zero, but will build directly on the strong institutional buy-in and human capacity in each of the 13 countries developed during SRI-WAAPP. The project will focus on scaling-up CRRP as adaptation measure to different and location specific climate threats. It will also contribute directly to the objectives of the Rice Offensive as specified in the Regional Agricultural Policy for West Africa (ECOWAP) of the Economic Community of West African States (ECOWAS).¹²

1.8 Selection of the project zones

30. Rice is grown in all the climate zones of West Africa, and rice production can be found in most and sometimes all of the sub-national regions and districts in each of the 13 countries. It could therefore be stated that the larger project zone for scaling-up climate-resilient rice production is the entire region of West Africa. Total production, consumption and imports vary quite significantly for the different countries, as do the per capita consumption – which is higher in the western parts of West Africa – as well as the self-sufficiency rate. In the following table, these parameters and the total population numbers are shown for the year 2016/2017 as well as for the predictions for 2025, representing the ECOWAS goal for reaching self-sufficiency by then.¹³

¹⁰ Styger and Uphoff, 2016. The System of Rice Intensification (SRI): Revisiting Agronomy for a Changing Climate. Climate-Smart Agriculture Practice Brief. CCAFS, Copenhagen, Denmark.

¹¹ Styger and Traoré, 2018. 50,000 Farmers in 13 countries; Results from Scaling-up SRI in West Africa. CORAF, Dakar, Senegal.

¹² ECOWAS (2008). Regional Agricultural Policy for West Africa: ECOWAP: Make agriculture a lever of regional integration, ECOWAS, published in France.

¹³ Styger and Traoré, 2018. 50,000 Farmers in 13 countries; Results from Scaling-up SRI in West Africa. CORAF, Dakar, Senegal.

Table 1: Rice production, consumption, imports, population, yearly per capita consumption, and self-sufficiency rate for 13 ECOWAS countries in 2016/2017 and as estimated for 2025*

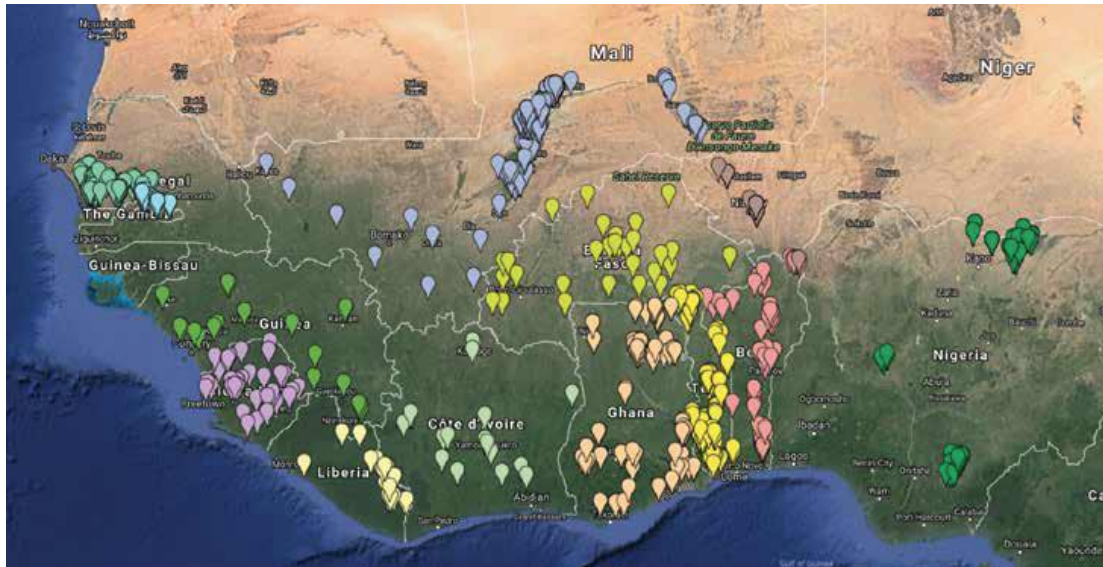
2016/2017	Production	Production	Consumed	Imported	Population	Per Capita	% Self
	Paddy (t)	Milled (t)	Milled (t)	Milled (t)	(million)	Cons (kg/y)	Sufficiency
Benin	235,001	151,000	626,000	475,000	11.46	55	24
Burkina Faso	381,000	244,000	619,000	375,000	19.17	32	39
Côte d'Ivoire	2,234,375	1,430,000	2,930,000	1,500,000	23.82	122	49
The Gambia	56,250	36,000	201,000	165,000	2.12	94	18
Ghana	609,375	390,000	1,065,000	675,000	28.66	37	37
Guinea	2,165,625	1,386,000	2,086,000	700,000	13.29	150	66
Liberia	261,538	170,000	430,000	260,000	4.73	91	40
Mali	2,710,938	1,735,000	1,835,000	100,000	18.69	102	95
Niger	117,188	75,000	395,000	320,000	21.56	18	19
Nigeria	4,331,000	2,772,000	4,972,000	2,200,000	191.84	26	56
Senegal	1,062,001	680,000	1,730,000	1,050,000	16.05	108	39
Sierra Leone	1,181,000	756,000	1,106,000	350,000	6.73	164	68
Togo	125,000	80,000	230,000	150,000	7.69	30	35
Total/Average	15,470,291	9,905,000	18,225,000	8,320,000	365.81	50	54

2025 estimated	Production	Production	Consumed	Imported	Population	Per Capita	% Self
	Paddy (t)	Milled (t)	Milled (t)	Milled (t)	(million)	Cons (kg/y)	Sufficiency
Benin	1,166,626	746,641	746,641	0	13.94	54	100
Burkina Faso	1,155,771	739,693	739,693	0	23.90	31	100
Côte d'Ivoire	4,558,034	2,917,142	2,917,142	0	28.72	102	100
The Gambia	518,854	332,067	332,067	0	2.70	123	100
Ghana	1,772,390	1,134,329	1,134,329	0	33.68	34	100
Guinea	3,327,119	2,129,356	2,129,356	0	16.25	131	100
Liberia	1,073,998	687,359	687,359	0	5.73	120	100
Mali	4,249,466	2,719,658	2,719,658	0	23.70	115	100
Niger	926,393	592,892	592,892	0	29.64	20	100
Nigeria	13,226,936	8,465,239	8,465,239	0	233.56	36	100
Senegal	3,059,480	1,958,067	1,958,067	0	20.04	98	100
Sierra Leone	2,111,327	1,351,249	1,351,249	0	7.87	172	100
Togo	438,370	280,557	280,557	0	9.35	30	100
Total/Average	37,584,763	24,054,249	24,054,249	0	449.07	54	100

* Data compiled by authors from FAOSTAT database for 2010 (63% milling rate), Index Mundi database for 2016/2017 (64% milling rate) and Fofana et al (2014), estimated for 2025 (64% milling rate)

31. When the SRI-WAAPP project got underway, the level of introduction of SRI varied considerably for the different countries. Most countries adopted the strategy to introduce SRI to the many rice areas in their countries, where the performance of SRI fields was directly observed together with the farming communities. A total of 1088 sites were monitored across the region, which are shown in the following map (Figure 3). This map can be used as a starting point and baseline for the RICOWAS project.

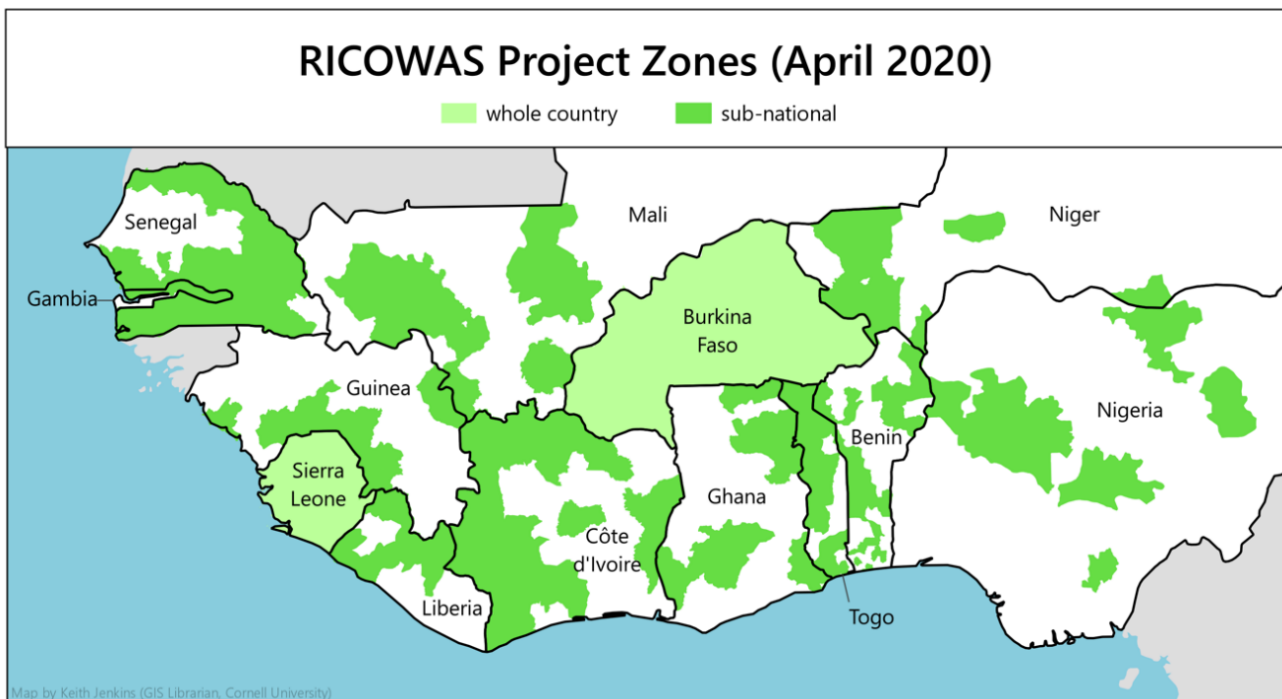
Figure 3: 1088 SRI-WAAP sites in 13 West African countries, June 2016 (not including SRI sites of partner organizations)



1.9 Proposed RICOWAS project zones

32. The process adopted to identify the project zones in each country was for the National Executing Entities (NEE) to propose the zones based on the i) national priorities for rice production, ii) the climate change threats to those zones, and iii) the identified adaptation strategies to be implemented and scaled-up. The following are the summary findings of this consultative process. The selected project zones and associated rice systems for all countries are also summarized in Table 2. The locations of the selected project zones are highlighted on the following map (Figure 4) based on the first and second administrative level for most countries. During proposal preparation, the project zones will be further refined at the commune levels.

Figure 4: Proposed project zones for the RICOWAS project, based on first and second administrative levels. The project zones will be determined at the third administrative level during project proposal development.



Map by Keith Jenkins (GIS Librarian, Cornell University)

33. More specifically, the project zones for all **13 countries** are listed hereby:
34. **Benin:** Project zone will include the four rice production basins of the country: i) Malanville, in the Northeast, irrigated and lowland rice systems, 5 communes, ii) Materi, in the Northwest, rainfed lowland and upland systems, 4 communes, iii) Glazoue, in the Center, rainfed lowland and upland systems, 6 communes, and iv) Dangbo, in the South, irrigated and lowland rice systems, 8 communes.
35. **Burkina Faso:** Project will work in all 13 regions. Rice is grown and SRI was introduced in all of them. Communes in each region will be selected during project proposal development. In eight regions both irrigated and lowland systems are practiced. In five regions only lowland systems can be found.
36. **Côte d'Ivoire:** Project will scale-up to 20 departments, located in 10 regions in the northern and western parts of country, representing the main rice producing areas. In all the regions, a combination of rainfed lowland and upland systems, seasonally flooded rice without water control, and irrigated rice exist.
37. **The Gambia:** Scaling-up will be done in four regions covering the entire eastern part of the country (Upper River Region), central part (Central River Regions North and South) and the northern part (North Bank Region), which together represent the rice food basket of the country. The dominant rice systems are rainfed lowland followed irrigated systems.
38. **Ghana:** Although rice is produced in all 16 regions in Ghana, the RICOWAS project will work in five: Northern, Upper East (in the North), Volta (in the Southeast), Ashanti (in the Center) and Western region (in the West). The first three account for 77% of national rice production, the other two are located in the Center and West, thus well distributed and chosen to become hubs for dissemination.
39. **Guinea:** The project will work in seven prefectures in the four regions of Guinea: Upper Guinea (Faranah, and Mandiana prefectures), Middle Guinea (Mamou prefecture), Maritime Guinea (Boffa and Kindia prefectures) and Forested Guinea (Kissidougou and Gueckedou prefectures). The project will work in irrigated and non-irrigated lowland rice systems (Kindia, Mamou, Guekedou), in irrigated and non-irrigated dryland plains (Faranah, Kissidougou, Mandiana) and in irrigated and non-irrigated mangrove rice systems (Boffa). Adaptation of SRI to these other systems will be an innovation.
40. **Liberia:** The project will be implemented in the eight regions of Lofa, Nimba, Bong, Bomi, Magibi, Grand Gedeh, Montserrado, and Grand Cape Mount, located in the western and northern part of the country. The northern region is among the most productive rice zones, with mostly rainfed lowland and some irrigated systems.
41. **Mali:** The RICOWAS project will work in all the rice producing regions, except for Mopti, Tomboctou and Gao, due to security reasons. It includes the regions of i) Kayes (Kobri and Mahina communes), ii) Sikasso (Kléla, Baya and Kourouba communes), iii) Koulikoro (Baguinéda commune) and iv) Ségou (Niono, Sirifila Boundy Siribala, Farako-massa and Konodimini communes). The rice systems include irrigated areas, rainfed lowlands, rainfed uplands and seasonally flooded plains.
42. **Niger:** Project zone will cover 15 communes. In the Tillabéri region it will include irrigated systems (communes of Libora, Toula, Narigoungou et Karma) and rainfed rice systems (Say, Ouallam, Tillabéri), while in the Dosso (Gaya, Karakara, Dioundiou, Boboye), Tahoua (Kalfou, Karofane) and Zinder region (Doungas, Wacha), rice is planted in rainfed lowland systems.
43. **Nigeria:** The RICOWAS project will be implemented in five States: i) Jigawa (Auyo, Miga and Jahun Local Government Areas), ii) Niger (Lavun, Wushishi, Katcha Local Government Areas), iii) Nasarawa (Doma, Obi, Awe Local Government Areas), iv) Gombe (Yamaltu-Deba, Balanga and Kaltungo Local Government Areas), and v) Ebonyi (Ikwo, Afikpo-North, Ohaukwu Local Government Areas). In the four States Niger, Jigawa, Gombe and Nasarawa, the rice systems are irrigated and rainfed lowland, while in Ebonyi State rainfed upland and lowland dominate.
44. **Senegal:** The RICOWAS will be implemented in four project zones: i) Senegal River Valley: regions of Matam and Saint-Louis (15 communes, irrigated system), ii) Peanut basin (Center of Senegal) regions of Kafrine, Kaolack and Fatick, (29 communes, mostly rainfed lowland systems and some rainfed upland systems), iii) Upper Casamance: regions of Tambacounda (upland and lowland systems) and Kedougou (only lowland systems), total of 20 communes, iv) Lower Casamance, regions of Ziguinchor, Sedhiou and Kolda (65 communes), rainfed lowland systems in all communes, five communes close to ocean, plant rice in the mangrove system.
45. **Sierra Leone:** Project will work in the four large Northern, Western, Eastern and Southern regions and in all 16 districts of the country, where CRRP hubs for dissemination will be established. SRI will be adapted to rainfed lowland (also called Inland Valley Swamps or IVS), rainfed upland, large plains (also called Boli land) and Mangrove systems.
46. **Togo:** Project will scale-up in all five regions of Togo: Maritime region, Plateaux region, Centrale region, Kara region, and the Savanes Region, covering the four agro-ecological zones: littoral, forest, humid savanna and dry savanna zones. The project will focus on irrigated and rainfed lowland systems, the communes will be selected during proposal preparation.

47. The association of project zones with the rice production systems the RICOWAS project plans to work with is show in Table 2.

Table 2: Project zones and associated rice systems for the 13 RICOWAS countries

Country	Project Zones	Irrigated	Lowland	Upland	Mangrove	Country	Project Zones	Irrigated	Lowland	Upland	Mangrove		
Benin	Malanville	Blue				Guinea	Faranah			Yellow			
	Materi		Green	Yellow			Mandiana	Blue			Yellow		
	Glazoue		Green	Yellow			Mamou	Blue					
	Dangbo		Green				Boffa					Purple	
Burkina Faso	Boucle du Mouhoun	Blue	Green				Kindia	Blue	Green				
	Cascades	Blue	Green				Kissidougou				Yellow		
	Centre		Green				Gueckedou	Blue	Green				
	Centre-Est	Blue	Green				Liberia	Lofa	Blue	Green			
	Centre-Nord		Green					Nimba	Blue	Green			
	Centre-Ouest	Blue	Green					Bong	Blue	Green			
	Centre-Sud		Green					Bomi		Green			
	Est	Blue	Green					Magibi		Green			
	Hauts-Bassins	Blue	Green			Montserrado		Blue	Green				
	Nord		Green			Grand Cape Mount			Green				
	Plateau-Central	Blue	Green			Grand Gedeh	Blue	Green					
	Sahel		Green			Mali	Kayes	Blue	Green				
	Sud-Ouest	Blue	Green				Koulikoro	Blue					
	Côte d'Ivoire	Korhogo	Blue	Green				Sikasso	Blue	Green			
Boundiali		Blue	Green				Segou	Blue					
Ferkéssédougou		Blue	Green			Niger	Tillabéri	Blue	Green				
Odiénné			Green				Tahoua		Green				
Minignan		Blue	Green				Zinder		Green				
Touba		Blue	Green				Dosso		Green				
Man		Blue	Green			Nigeria	Jigawa	Blue	Green				
Guiglo		Blue	Green				Niger	Blue	Green				
Duékoué		Blue	Green				Nasarawa	Blue	Green				
Zouan Hounien		Blue	Green				Gombe	Blue	Green				
Daloa		Blue	Green				Ebonyi		Green		Yellow		
Issia		Blue	Green			Senegal	Senegal River	Blue					
San pédro		Blue	Green				Peanut Basin		Green		Yellow		
Soubré		Blue	Green				Upper Casamance		Green		Yellow		
Gagnoa		Blue	Green				Lower Casamance		Green			Purple	
Divo		Blue	Green				Sierra Leone	Northern Province		Green		Yellow	Purple
Abengourou	Blue	Green			Western Province			Green		Yellow			
Bouaké	Blue	Green			Eastern Province			Green		Yellow			
Bondoukou	Blue	Green			Southern Province			Green		Yellow	Purple		
The Gambia	Upper River Region	Blue	Green			Togo	Maritime region	Blue	Green				
	North Bank Region		Green				Plateaux region	Blue	Green				
	Central River Region South	Blue	Green				Central region	Blue	Green				
	Central River Region North	Blue	Green				Kara region	Blue	Green				
Ghana	Northern Region	Blue	Green			Savanes region	Blue	Green					
	Upper East Region	Blue	Green										
	Volta Region	Blue	Green										
	Ashanti Region		Green										
	Western Region		Green										

(note: not all irrigation systems can manage water properly, which creates conditions more closely related to rainfed lowland systems)

1.10 Vulnerability assessment and adaptation measures

48. The national facilitators in each country undertook a vulnerability assessment in regards to climate change threats to the national rice sectors. They also considered other (non-climate change) associated constraints and risks. The results are too voluminous to fully treat in this concept note, but will be further detailed in the full proposal. Given the large number of countries involved in the project, the number of pages required for a more in-depth description would surpass that allowed for this document. The assessment presented in the following tables identifies only the leading

priority issues as identified by each country. If an issue is not indicated in the tables, it does not mean that it is not present in a given country, but only that it has not been identified as a top priority.

49. The most pressing constraints (Table 3) relate to the erratic rainfall experienced across the entire region, which can lead to drought, flooding, and disruption of the planting calendars, leading to yield decline or even crop failures. Lack of equipment for soil preparation, sowing or transplanting, weeding, and harvesting means low labor productivity. Available labor may be too costly, insufficient for land area to be cultivated, or simply not available, and thus impacts the profitability of rice production, which can be very low in the region. Soil degradation, very widespread in these countries, leads to low yields and higher pressure from weeds, pests and diseases. Finally, poor water management can also lead to too little water or excessive water for the crop at a given time, resulting in low crop performance.

Table 3: Priority concerns and vulnerabilities for the rice sector in the 13 countries

Countries	1	2	3	4	5	6	7	8	9	10	11	12	13	sum
	Ben	BF	CDI	Gam	Gha	Gui	Lib	Mal	Nig	Nga	Sen	SL	Tog	
Erratic rainfall (leads to droughts/floods)	x	x		x	x	x	x	x	x	x	x	x	x	12
Insufficient access to equipment	x	x	x	x	x	x	x	x	x		x			10
Poor water mgmt (leads to droughts/floods)	x	x	x	x			x	x			x	x	x	9
Soil degradation/low soil fertility	x	x	x			x		x			x	x	x	8
High weed, pest and disease pressure	x		x			x	x		x	x		x	x	8
Low yields	x		x		x				x	x	x	x		7
Low return on rice production	x	x	x			x						x		5
Young farmers discouraged	x	x			x	x					x			5
Low technical capacity (extension service)			x			x	x		x					5
Weak access to agriculture financing		x			x	x	x					x		5
Non-respect crop calendar	x			x							x		x	4
Insecure land tenure		x			x		x			x				4
Weak access to processing facilities				x	x	x						x		4
Political instability/insecurity							x	x	x					3
Weak access to market		x							x					2
High input costs (fertilizers)/shortage			x							x				2

50. The greatest opportunities (Table 4) to improve the rice sector lie in making labour-saving equipment available, which reduces drudgery and provides higher returns through more efficient use of human labor. Soil fertility restoration and integrated soil and water management have been identified as key opportunities, not only to increase rice production, but also to develop sustainable systems that are more resilient to the threats of climate change. Political support for the rice sector is widespread, and successful project results can be expected to attract broad attention.

Table 4: Adaptation measures and opportunities proposed for rice sector interventions for the 13 countries

Countries	1	2	3	4	5	6	7	8	9	10	11	12	13	sum
	Ben	BF	CDI	Gam	Gha	Gui	Lib	Mal	Nig	Nga	Sen	SL	Tog	
Use equipment for labor saving	x	x	x	x	x	x	x			x	x	x	x	11
Integrated soil and water mgmt	x			x		x		x	x	x	x	x	x	9
Restore soil fertility	x	x	x	x		x			x	x		x		8
Political support (rice/nat strategies)		x				x	x	x	x		x	x	x	8
Land areas for expansion available		x		x		x	x		x			x	x	7
Local markets exist		x		x		x	x				x	x	x	7
Rice farmers organizations ready	x	x		x		x		x		x	x			7
Technical capacity strengthening			x	x	x		x					x		5
direct processing				x	x		x			x		x		5
Higher returns with SRI		x	x		x		x							4
Strengthen youth rice growers				x		x		x	x					4
Strengthen women rice growers				x		x		x						3
Integrated Pest Management									x	x		x		3
Farmer seed production with SRI						x						x		2
Diversification of agriculture						x								1

2. Project Objectives

51. The global objective of the project is to improve climate resilience and increase rice system productivity of smallholder rice farmers across West Africa using a climate-resilient rice production approach. More specifically the project will:

- Strengthen the resilience and capacity of smallholder rice farmers and other rice stakeholders in the region to use agro-ecological and sustainable land and water management strategies that respond to the climate change threats in their respective localities.
- Assist farmers to implement and scale-up Climate-Resilient Rice Production (CRRP), and to participate in other economic activities of the rice-value chain.
- Support a communication platform and engage in advocacy to promote efficient exchange of knowledge and expertise among diverse stakeholder groups in West Africa and beyond.
- Facilitate the establishment of a coalition of partners at national and regional levels for the scaling-up of CRRP.

3. Project Components and Financing

Table 5: Project components, expected outcomes, outputs and financing

Project Components	Expected Outcomes	Expected Outputs	Countries	Amount (US\$)
C1: Strengthen human and institutional capacity in CRRP	1.1. Climate change dimension in the regional Rice Offensive strategy and the National Rice Development Strategies integrated	1.1.1. Climate change dimension and proposed actions integrated in the regional and national rice strategy documents	All 13 Countries	2% or 300,000
	1.2. Key stakeholders operating in different climate zones and rice systems gained tools, knowledge and skills to successfully address climate-threats and implement CRRP in a sustainable way	1.2.1. Capacity of national and regional research centers strengthened	All 13 Countries	5% or 583,000
		1.2.2. Institutional capacity of the regional and national executing entities for project implementation strengthened	All 13 Countries	5% or 583,000
		1.2.3. Extension institutions involved in the development and dissemination of SRI and CRRP strengthened	All 13 Countries	5% or 583,000
C2: Assist farmers to scale-up CRRP	2.1. The smallholder rice farmers in the project zones have successfully adapted to climate threats for rice production, achieved higher rice productivity, and improved their incomes and livelihoods	2.1.1. Smallholder rice farmers in the project zones strengthened their livelihoods by reducing production costs and improving rice yields through the adoption of SRI and CRRP	All 13 Countries	40% or 5,200,000
		2.1.2. SRI and CRRP practices - adopted by smallholders in the project zones - monitored, analyzed and the results widely shared	All 13 Countries	8% or 1,000,000
	2.2. Rice value chain strengthened through public-private partnerships (PPP) and agricultural associations and cooperatives, and thus improved the	2.2.1. Rice production and post-harvest components in the rice value-chain strengthened	All 13 Countries	9% or 1,125,000
		2.2.2. Agricultural associations and cooperatives the rice	All 13 Countries	9% or 1,125,000

	resilience of smallholder rice farmers to the harmful effects of climate change	value chain strengthened in their operations		
C3: Strengthen communication, advocacy and partnerships to scale-up CRRP	3.1. Awareness and knowledge of CRRP in West Africa greatly increased	3.1.1. Knowledge and awareness materials developed and widely disseminated, in response to the demand and needs of different stakeholder groups	All 13 Countries	5% or 650,000
	3.2. Partnerships and coordination strengthened to enable the mainstreaming of CRRP in West Africa.	3.2.1. Synergies among partners established to mainstream CRRP in West Africa	All 13 Countries	5% or 650,000
4. Project Execution cost (9,4%)				1,107,730
5. Total Project Cost (100%)				12,906,730
6. Project Cycle Management Fee charged by the Implementing Entity (8,4%)				1,093,270
Amount of Financing Requested				14,000,000

4. Projected Calendar

Milestones	Expected Dates
Start of Project Implementation	February 2021
Mid-term Review (if planned)	February 2023
Project Closing	January 2025
Terminal Evaluation	June 2025

PART II PROJECT JUSTIFICATION

A. Description of the Project components

52. The RICOWAS project will adopt a comprehensive approach known as the **Climate-Resilient Rice Production or CRRP**, which is uniquely developed with and for this project. CRRP will be based on the SRI methodology as the core element, but it will simultaneously integrate critical practices of sustainable soil and water management, and include integrated pest management. This allows a more holistic and sustainable approach to the climate change challenges that threaten rice production, while improving farmers' livelihoods and contributing to national food security.

53. West Africa contains four agricultural climate zones which run in east-west horizontal bands across the region. Each of the climate zones crosses five to ten of the 13 countries participating in this project. There are three rice production systems (irrigated, rainfed lowland and rainfed upland) found in most or all of the countries, and some specialty systems (e.g., mangrove, recessional, and deep-water) found in only a few. As most countries cross more than one climate zone, it makes sense to use a regional approach to develop and implement the best practices of CRRP based on climate zones and rice systems, and not be limited by national boundaries. Experience and innovations developed in one country can be easily shared with other countries crossing the same climate zone and/or rice system. Additionally, a single operational framework can pool expertise from across the region, work with a common understanding and share lessons learned. The groundwork for such regional collaboration was laid during the SRI-WAAPP project, which set up an institutional support network and a community of practice for SRI common to all 13 countries. The RICOWAS project can build directly on this. It would be much more expensive and cumbersome, if not impossible, to implement this project under 13 separate national programs. Finally, this project will directly contribute to the implementation of the ECOWAS' Regional Agricultural Policy for West Africa (ECOWAP) initiative of the "Rice Offensive" that targets rice self-sufficiency for West Africa by 2025.

COMPONENT 1. Strengthen human and institutional capacity in climate-resilient rice production (CRRP)

54. The objective for this component is to strengthen the resilience and capacity of smallholder rice farmers and other rice stakeholders in the region to use agro-ecological and sustainable land and water management strategies that respond to the climate change threats in their respective localities. Based on the expertise mobilized and the knowledge gained by the project, it is planned to engage in a policy dialogue to strengthen regional and national rice strategies. Inputs will consider the current and predicted impacts of climate change on the rice sector, and identify, enumerate, and discuss practical means to implement successful adaptation strategies and CRRP activities. CRRP is an agro-ecological and climate-smart approach to agriculture, best described as a principle-based and knowledge-intensive approach to develop adaptation solutions at the local level. Emphasis is therefore put on strengthening the capacity of research and

extension services, and also that of the regional and national executing entities. The project is targeting around 1,500 researchers and extension workers in the region.

Outcome 1.1. Climate change dimension in the regional Rice Offensive strategy and the National Rice Development Strategies integrated

55. The project will analyze the impact of climate change on the rice sector in West Africa, both currently occurring and as predicted for the future. The results will be shared and validated through a regional workshop and widely distributed in the region, using the project communication channels (Component 3). These include the website, printed documents, oral presentations, radio shows, blog stories, and posters for farming communities. The project will also develop a document to identify pathways for the rice sector to adapt to climate change as an annex to the Regional Rice Offensive strategy. The same process, with similar outputs, will be undertaken at the national levels to reinforce the National Rice Development Strategies. As with the climate change impact analysis, validation workshops will be held and documents and information widely disseminated at the regional and national levels.

Output 1.1.1. Climate change dimension and proposed actions integrated in the regional and national rice strategy documents

- Activity 1.1.1.1. Analysis of the impacts of climate change on rice production in West Africa
- Activity 1.1.1.2. Regional validation workshop and dissemination of analysis
- Activity 1.1.1.3. Development of document for sector adaptation to climate change to be annexed to the Rice Offensive strategy, including a methodology to adjust the strategy to the national contexts
- Activity 1.1.1.4. Regional validation workshop and dissemination of document
- Activity 1.1.1.5. Development and dissemination of technical document and methodology to integrate climate change adaptation to rice value chain stakeholders at national level

Outcome 1.2. Key stakeholders operating in different climate zones and rice systems gained tools, knowledge and skills to successfully address climate-threats and implement CRRP in a sustainable way

56. The project will carry out a capacity needs assessment in each country for the key project stakeholders: the research and extension services, and the regional and the national executing entities. Capacity strengthening will be carried out through trainings, consultative workshops, field and exchange visits and by making training materials and modules available. Researchers will be supported to develop, test, and share CRRP innovations and to assemble best practices for each of the climate zones. From this they will develop training materials and modules, to be adjusted as new findings and best practices emerge. Extension services will be engaged in training of trainers' workshops and in technical capacity strengthening to provide them the tools to provide SRI and CRRP technical assistance to farming communities. Capacity strengthening for the regional and national executing entities will aim to create a common understanding of technical issues and to support effective participatory approaches for harmonious project implementation across the region. For executing entities to lead at the regional and national levels - thus supporting institutional sustainability - additional organizational support will be provided based on identified needs. One such support is the development of a regional hub for communication, and dissemination of CRRP information.

Output 1.2.1. Capacity of national and regional research centers strengthened

- Activity 1.2.1.1. Support researchers in the development of adapted SRI and CRRP practices to the project's climatic zones at national and regional level
- Activity 1.2.1.2. Development, testing and sharing of technical rice production and CRRP innovations
- Activity 1.2.1.3. Support for the development of SRI adapted rice growing equipment and tools (e.g. seeders, weeders, transplanters and mini-combines) in a research and private sector partnership.
- Activity 1.2.1.4. Consultative and knowledge exchange meetings at national and regional levels
- Activity 1.2.1.5. Support the development of training materials adapted to the local conditions of the countries (technical sheets and manuals)

Output 1.2.2. Institutional capacity of the regional and national executing entities for project implementation strengthened

- Activity 1.2.2.1. Capacity needs assessment of the project stakeholders
- Activity 1.2.2.2. Identification of best practices for different climate zones and rice systems (across several countries), and adjustment of training modules accordingly (iterative approach, annually or bi-annually)
- Activity 1.2.2.3. Development of new or revision of existing training modules on technical aspects such as SRI, integrated soil and water management and others as linked to climate change adaptation
- Activity 1.2.2.4. Organization of national and regional training-of-trainer's workshops on SRI, CRRP and on participatory extension and dissemination approaches, such as farmer field schools and others
- Activity 1.2.2.5. Organization of field visits to share and exchange good practices for the different climatic zones of the project
- Activity 1.2.2.6. Establishment of a regional hub for communication, information sharing, dissemination of technical information

Output 1.2.3. Extension institutions involved in the development and dissemination of SRI and CRRP strengthened

- Activity 1.2.3.1. Development of new or revision of existing training modules on participatory extension and dissemination approaches, such as farmer field schools and others.

- Activity 1.2.3.2. Support to extension institutions for the training of rice farmers' groups and other technical support activities
- Activity 1.2.3.3. Organization of national's extension agent's training workshops
- Activity 1.2.3.4. Acquisition of the necessary extension materials (tablets, etc.)

COMPONENT 2. Assist farmers to scale-up CRRP

57. The objective of this component is to assist farmers to implement and scale-up Climate-Resilient Rice Production (CRRP) and to participate in other economic activities of the rice-value chain. This component is where the expected and concrete impact of the project will happen. 72% of the component funding is allocated to maximize impact. The two other components support it. Rice farmers in 13 countries, across all climate zones and rice systems will be the direct project beneficiaries, implement and adopt CRRP practices in their fields, and benefit in multiple ways from doing so (see sections B and C below).

58. The direct project beneficiaries will be rice farmers in the 13 West African countries. They will be selected under the responsibility of the National Executing Entities. However, the selection process will be based on regional guidelines that will take into consideration procedures implemented during the SRI-WAAPP project. The selection criteria will be developed and agreed with national executing entities, producer organizations and communities during the full proposal designing stage to avoid discrimination and to ensure involvement of the marginalized and vulnerable groups. These include among others: to be a rice farmer expressing interest to practice SRI and CRRP, and have shown initiative and leadership in improving their rice production systems. When selecting farming communities, special emphasis will be placed on vulnerable communities and the vulnerable segments of the population (Women and girls, the elderly, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS) within those communities, which will be identified through participatory assessments. Gender roles in rice production vary considerably in the 13 countries. Gender roles will be assessed in each of the communities the project will be intervening. The selection of beneficiaries will be adjusted to location-specific gender considerations and marginalized and vulnerable groups status, especially in regards to participating in the various value-chain project activities. The vulnerability and the gender focus will directly contribute to equitability. Rice production will be more climate resilient, better withstand droughts and floods, yields will increase, the need for irrigation water and chemical inputs will be reduced, and rice grain quality will be improved. Beyond production, the project will support farmer groups, especially women and youth, to access production factors and post-harvest technologies, which will create employment and allow farmers to obtain higher profits while supplying the national market with good quality rice. Based on the SRI/WAAPP project results, the RICOWAS project will target to reach 250,000 farmers or more as direct beneficiaries. Although this is a scaling-up project, the project will have to re-engage with the farming communities and from there create a scaling-up approach where the spill-over effect to other farmers is expected to be generated. In addition, by mobilizing partners and by developing the national networks, RICOWAS will target to reach 1,000,000 to 1,500,000 farmers as indirect beneficiaries. These farmers will have access to new techniques and new opportunities created through the RICOWAS scaling-up approach. The number of direct and indirect beneficiaries will be further discussed during proposal development in a participatory process, which will include rice farmers. The goal is that CRRP becomes sustainably entrenched in West Africa.

Outcome 2.1. Smallholder rice farmers in the project zones have successfully adapted to climate threats for rice production, achieved higher rice productivity, and improved their incomes and livelihoods

59. The project will train and assist farmers to implement best CRRP practices in their fields, and work with them to develop innovative, adapted practices. This will be done for each climate-zone and rice system. Farmers, extension technicians and researchers will collaborate in an iterative and participatory process. A monitoring system will be set in place to document and evaluate field activities, to analyze data and disseminate the results and lessons learned.

Output 2.1.1. Smallholder rice farmers in the project zones strengthened their livelihoods by reducing production costs and improving rice yields through the adoption of SRI and CRRP

- Activity 2.1.1.1. Roll-out of training of farmers in the project intervention zones on the best SRI and CRRP practices for their climate zones (by trained trainers).
- Activity 2.1.1.2. Intensification of communication, aimed at smallholder rice farmers and various extension services, on SRI and CRRP practices emphasizing their benefits and importance for adaptation.
- Activity 2.1.1.3. Provision of technical field assistance to smallholder rice farmers who adopted SRI and CRRP practices according to the local specificities.
- Activity 2.1.1.4. Organization of regular regional technical groups meetings to review advancement of identified and tested best practices and innovations according to climate zones and rice systems.
- Activity 2.1.1.5. Acquisition of necessary logistics material for the national execution entities.

Output 2.1.2. SRI and CRRP practices - adopted by smallholders in the project zones - monitored, analyzed and the results widely shared

- Activity 2.1.2.1. Development of a data tracking methodology and mechanism on the implementation of SRI and CRRP
- Activity 2.1.2.2. Implementation of baseline study of rice production and value-chain aspects

- Activity 2.1.2.3. Development and test of data collection tools and training of national institutions, extension services, researchers and smallholder rice farmers in the use of these tools
- Activity 2.1.2.4. Updating of data analysis and CRRP tracking database half-yearly and publication of its key performance indicators and results on the project website.

Outcome 2.2. Rice value chain strengthened through public-private partnerships (PPP) and agricultural associations and cooperatives, and thus improved the resilience of smallholder rice farmers to the harmful effects of climate change

60. Based on both need and potential opportunities, the project will work to develop public-private partnerships to support sustainable development of the rice value chain in each country. Although SRI and CRRP will significantly increase sustainable rice productivity, farming communities can also benefit from additional economic opportunities along the rice value-chain. The aim is to diversify income by adding value at the community level. This will strengthen smallholder farmers' resilience to both climate change and economic impacts. The project will work to increase farmer access to production factors, including labor-saving equipment, and assist farmers to produce quality rice seed and organic fertilizer. Having grown rice, farmers can gain much financial benefit from carrying out post-harvest processing, including milling, parboiling, packaging, and direct marketing. As funding is limited, the project will connect farming communities with advisory services to help them acquire new skills, to strengthen farmer associations and cooperatives, and to facilitate access to loans. Linking farming communities to the private sector can create new channels for cooperation, as exemplified by the successful models developed by the GLZ-funded Green Innovation Centers. The WAAPP also supported SRI farmer associations' expansion into processing. To cite one example from Togo, the women's cooperative Les Femmes Vaillantes d'Anié tripled their income over a few years. Starting out by producing SRI rice, the cooperative later acquired an upgraded parboiler through the project, which enabled them to produce a higher quality end product. Sold in their own packaging, the cooperative's rice soon found a lucrative market from selling to urban consumers, even at a slightly higher price. The cooperative bought two hectares of land with the profits to expand production. The project will work to facilitate opportunities and help farmers, especially woman and youth, who are the most vulnerable groups in the West Africa rice sector, to overcome critical constraints in developing new sources of income.

Output 2.2.1. Rice production and post-harvest components in the rice value-chain strengthened

- Activity 2.2.1.1. Establishment of networks between private companies, producer cooperatives and producers to meet needs
- Activity 2.2.1.2. Public private sector partnerships (PPPs) support for the supply of organic fertilizers and seeds (produced by smallholder farmers).
- Activity 2.2.1.3. PPP support for the development and supply of innovative agricultural equipment, and provision to farmers.
- Activity 2.2.1.4. PPP support for threshing, milling, parboiling and marketing of climate-resistant rice (to obtain a premium price).
- Activity 2.2.1.5. PPP support in the access to credit facilities by smallholder farmers
- Activity 2.2.1.6. PPP support to women and youth groups in processing, packaging and marketing of rice

Output 2.2.2. Agricultural associations and cooperatives the rice value chain strengthened in their operations

- Activity 2.2.2.1. Training and support in the formalization of agricultural associations and cooperatives, and facilitation to create connections with private companies for processing, storing and marketing of rice.
- Activity 2.2.2.2. Reinforcement and advisory services to agricultural associations and cooperatives in their first years of operations.
- Activity 2.2.2.3. Strengthen agricultural associations and cooperatives to implement best practices for the storage and management of crops and crop residues after harvest.
- Activity 2.2.2.4. Assistance to agricultural associations and cooperative in accessing and managing agricultural credits and subsidies for the benefit of the smallholder rice farmers.

COMPONENT 3. Strengthen communication, advocacy and partnerships to scale-up CRRP

61. The objectives for this component are i) to support a communication platform and to engage in advocacy to promote efficient exchange of knowledge and expertise among diverse stakeholder groups in West Africa and beyond, and ii) to facilitate establishment of coalitions of partners at national and regional levels for the scaling-up of CRRP.

62. Component 3 complements the other two as it aims to create awareness, share solutions, and mobilize partnerships for scaling-up CRRP, thus ensuring long-term sustainability of project activities. As project achievements become known across a large network of partners and key stakeholders, it will become easier to take full advantage of the successes of the RICOWAS project and further spread CRRP in West Africa and beyond.

Outcome 3.1. Awareness and knowledge of CRRP in West Africa greatly increased

63. Effective communication is vital to scale-up CRRP. The project will develop innovative knowledge management mechanisms for information exchange, experiential learning, knowledge creation and analysis, and dissemination and uptake of knowledge. This can be done through a web-based platform, published documents, videos, radio shows, posters, exchange visits, personal outreach and more. Knowledge products can include updates on project progress, farmer stories, lessons learned, technical fact sheets and manuals, and background materials to explain and illustrate

climate change issues as they affect the rice sector. Presentation formats can be tailored to different audiences: farmers, policy makers, program developers, research and technical staff, and the public.

64. Personal interaction and exchange is an important instrument for knowledge-sharing and knowledge-creation, be it via technical working groups, field visits, workshops, or conferences. The project will organize such exchanges for farmers and partners from different countries but working in the same climate zones, for specific interest or technical groups, and for women and youth responding to their specific interests along the rice value-chain.

Output 3.1.1. Knowledge and awareness materials developed and widely disseminated, in response to the demand and needs of different stakeholder groups

- Activity 3.1.1.1. Development of a communication strategy and plan for the project.
- Activity 3.1.1.2. Production of documents, videos, radio shows, maps, blog stories.
- Activity 3.1.1.3. Development of a user-friendly web-based platform for sharing and exchanging knowledge about SRI and CRRP techniques and their role in enabling communities and agriculture to adapt to climate change
- Activity 3.1.1.4. Organization of knowledge-sharing events and exchange of visits at local, national, regional and global level (with Asia, Latin America and other parts of Africa).
- Activity 3.1.1.5. Writing, dissemination and presentation of policy and advocacy briefs on climate adaptation strategies and project impact for rice production and its role in adapting to climate change.

Outcome 3.2. Partnerships and coordination strengthened to enable the mainstreaming of CRRP in West Africa.

65. The project will network and share information with stakeholders along the rice value chain, including policy-makers, donors, and development and research initiative leaders. An operational mechanism will be set up to build a coalition of partners for the sustainable scaling up of CRRP in West Africa. It will allow partners to be informed about current and planned initiatives, to coordinate efficiently among the different initiatives, and create new synergies and avoid duplication. Partners can include multi-lateral, bi-lateral and private sector rice stakeholders and civil society such as farmer organizations and NGOs. Participation in global rice fora and climate change meetings such as the International Rice Congress, Sustainable Rice Platform meetings, and the UN Climate Change Conference (COP), can strengthen alliances and create new partnerships. At the country level, national networks will be created and annual meetings and field visits organized to share results, learn from each other, and develop integrated work plans for the scaling-up of SRI and CRRP. This activity will gain in importance as scaling-up progresses and more partners become active with CRRP.

Output 3.2.1. Synergies among partners established to mainstream CRRP in West Africa

- Activity 3.2.1.1. Networking, meeting and information sharing with policy-makers, donors, development and research initiative leaders on the mainstreaming and scaling-up of CRRP.
- Activity 3.2.1.2. Setting up of operational mechanisms to build a coalition of partners for sustainable scaling-up of CRRP in West Africa.
- Activity 3.2.1.3. Sharing the project outcomes during, regional and international rice events.
- Activity 3.2.1.4. Development of national networks that integrate all SRI and CRRP activities.
- Activity 3.2.1.5. Organization of annual national events on rice and its linkage with climate change in West Africa (technical exchange, progress evaluation and activity planning for upcoming year).

B. Promotion of new and innovative solutions to climate change adaptation

66. The RICOWAS project brings together a number of innovative approaches, technologies and mechanisms that complement each other to create a highly unique project. The most important are:

67. The climate zone and regional approach: Each of the four climate zones of West Africa crosses more than five of the 13 countries, and most countries are spread across more than one climate zones. The adoption of a regional and climate zone approach for scaling- up of climate-resilient rice production has multiple advantages: i) a larger group of people from several countries can collaborate on the same topics, ii) the innovation process can be accelerated, and iii) locally adapted innovations developed in one country can easily be shared with other countries working in the same climate zone and/or rice systems. The map of the project zones (Part 1) clearly depicts how smaller project zones at the border of one country can fuse into larger zones when combined with the border zones of their neighboring countries.

68. The RICOWAS project will adopt a new comprehensive approach titled **Climate-Resilient Rice Production or CRRP, which has been developed uniquely for this project.** The CRRP approach is based on the System of Rice Intensification (SRI) methodology in combination with location-specific sustainable land and water management practices and, if indicated, integrated pest and diseases management. SRI is an agro-ecological methodology, and as such relies on the management of ecological processes in rice production to improve biological efficiencies and rice productivity. The SRI method strives to create an optimal growing environment that enables the rice plants to express their genetic potential, while at the same time conserve and regenerate the natural resource base (including soils, water and biodiversity). More specifically, SRI is based on four crop management principles: (1) early plant establishment, (2) reduced competition among plants, (3) improved soil fertility management, and (4) reduced use of irrigation water. When these principles are followed, the rice plants grow more vigorously, develop higher tiller and panicle numbers. and put down much deeper and larger root system. These improved phenotypes can withstand adverse weather conditions such as drought, floods, and strong winds much better than rice planted using conventional methods, where older seedlings are planted closely spaced in flooded rice paddies, and where fertilizers and pesticides are used as crop management inputs. Compared to the conventional method, SRI rice yields increase by 20-50% and more, while using 90% less seed,

30-50% less water and 30-100% less agro-chemicals. As such, SRI displays the triple-win of the climate-smart agricultural method, which is based on three pillars: crop productivity improvement, adaptation to climate change, and mitigation of greenhouse gases. By 2020, SRI has been successfully adopted in 55 countries in Asia, Africa and Latin America.

69. Technical approach for implementing CRRP: It is important for this large regional project, where project participants will come together from very different environments and climate zones, to share a common understanding of CRRP. The technical approach adopted by the RICOWAS project will be built on a conceptual framework based on implementing consistent crop, soil and water management principles across the region. At the national or implementation level these principles will be translated into the specific practices adapted to local conditions. As an example, the principle of improving soils with organic matter can be translated into different practices, such as applying animal manure to the field, adding compost, or incorporating crop residues instead of burning them. The practice chosen to implement the principle will therefore be determined by the specificities of the rice system. Findings from these local experiences can then be pooled and best practices synthesized for the different climate zones and rice systems. Using an iterative and circular approach, these best practices can be improved upon and fine-tuned over the lifespan of the project. This highly participatory process integrates inputs from farmers, researchers, technicians, and brings in successful ideas and experiences from other parts of the world. The RICOWAS project will use a modular approach for trainings and technical manuals, covering CRRP topics as adapted to different climate zones and rice systems. This approach allows a common and shared understanding of CRRP at the regional level while developing and adapting innovations at the local level. This approach is often followed with agro-ecological methods (e.g. conservation agriculture). It was also used by the SRI-WAAPP project, and has been shown to work very well.
70. The project will build on current institutions, and strengthen their institutional and human capacity according to opportunities and needs. It will also rely on national decision-making and leadership in the implementation of the project. CRRP champions – including farmers, technicians or others – will be encouraged to participate in the project, based on their engagement and commitment to implement CRRP. RICOWAS will promote national networks and build on the regional community of practice for CRRP that already existed under the SRI-WAAPP project.
71. The CRRP approach is easily accessible for vulnerable groups, as it relies on simple agronomic changes, and is not dependent on outside resources or inputs to improve rice productivity. It provides people with new opportunities to improve their livelihoods based on their own resources, which is truly empowering. Capacity strengthening of vulnerable groups will therefore be priority for RICOWAS.

C. Economic, social and environmental benefits

72. CRRP, as applied by the project, is a “triple win” with environmental, social and economic benefits. The benefits in all categories will occur at the individual plot or family level, the community or landscape level, and the sub-national, national, climate-zone, and regional levels. The project design promotes activities that are both compliant and compatible with the Environmental and Social Policy of the Adaptation Fund.
73. CRRP as a methodology protects, improves, and regenerates the natural resources while at the same time reducing negative environmental impacts. Project implementation will result in a multitude of environmental benefits, including improved soil health, water-saving, reduced emissions in greenhouse gases, reduced use of chemical fertilizers and pesticides, and improved biodiversity. Through organic matter-enriched soils, nutrient and water holding capacity in soils is improved, more carbon is stored, and beneficial soil biota support crop nutrient uptake and protect against disease. This all builds the resilience of the rice cropping systems to climate change. By reducing the use of irrigation water by up to 50%, soil aeration is supported, which stimulates the root growth of the rice plants. It also results in a 30-50% reduction in methane gas emissions. Because SRI plants are healthier and stronger and the humidity in the plant canopy is reduced (unlike in permanently flooded fields), pest and disease attacks decline and pesticide use can be limited or omitted entirely. In case of a specific pest or disease problem, the project will implement the integrated pest management (IPM) approach. Biodiversity is also expected to increase. This includes i) beneficial soil biodiversity, thriving due to organic matter additions and reduced flooding, ii) rice diversity, as all rice varieties - including traditional ones - respond well to SRI methods, iii) crop diversity, as crop rotations are easier to implement following non-flooded rice, and iv) natural diversity, based on reduced pesticide use, and on less land area converted to rice production thanks to sustainable intensification.
74. Significant social and economic benefits are expected to occur from this project, as already witnessed by farmers in all 13 countries during the SRI-WAAPP project. With increased rice productivity of more than 50%, more rice was available for home consumption and marketing. The RICOWAS project will prioritize work with vulnerable groups. Most of the small-scale rice farmers – women and men - in West Africa constitute a large percentage of the poor. Among them, women and youth have been identified to be most vulnerable. Because SRI and CRRP are knowledge-based approaches, these vulnerable farmers - who often have limited access to financial resources - will be able to improve rice yields without having to buy inputs. Instead they can rely on their own resources. Thus, once farmers have learned the methods, they can improve rice yields independently and on their own terms. This results in higher self-reliance and empowerment of the most vulnerable farmers. Farmers have used the SRI knowledge to further experiment and innovate, as have done the SRI farmers of Timbuktu, Mali as well as farmers in India growing wheat, doubling the wheat yield in turn.¹⁴ Once farmers achieve self-sufficiency in rice, they can free up land for other crops, or grow more rice for

¹⁴ SRI-Rice, 2014. System of Crop Intensification (SCI). Agro-ecological innovations for improving agricultural production, food security and resilience to climate change. Cornell University.

the market. The increased income can be used for other household needs such as schooling the children, accessing health care, and/or investing in other economic activities. These trends have been recorded during the SRI-WAAPP project and many success stories were witnessed, especially involving women and young farmers. The entire rice value chain will benefit economically from increased production based on CRRP. This includes equipment sellers, seed producers and organic fertilizer providers. Additionally, it can benefit community-based rice processing operations, including parboiling and milling, as well as marketing CRRP rice directly to end consumers. RICOWAS will actively support the creation of linkages and opportunities, especially for women and youth, to participate in these downstream and upstream economic opportunities and increase income and profit margin for the rice producing communities. At the national and regional level, the increased rice production will reduce dependency on rice imports, currently a large burden for governmental budgets. It is predicted that CRRP will take a permanent foothold in the project zones and be further disseminated through community-driven efforts.

D. Cost-effectiveness of the proposed project

75. A regional approach will be the most cost-effective way to quickly create a long-lasting and significant impact for West African rice farmers as they adapt to climate change while increasing rice productivity. The groundwork has already been laid through the SRI-WAAPP, which established institutional support in all 13 countries and developed a regional community of practice for SRI. The partners' commitment to regional scaling-up of SRI and CRRP with the RICOWAS project was quickly confirmed from all 13 countries during the preparation of both the pre-concept note and concept note for the RICOWAS project (see workshop report for concept note validation in the attachment). Rice is grown in all the climate zones of West Africa, and rice production can be found in most sub-national regions in each of the 13 countries. Each of the four rice-growing climate zones in West Africa cross between 5-10 countries. It has been shown to be highly efficient to use the regional approach and work with a single operational framework, pooling expertise from across the region and working on adaptation solutions for different agro-ecological and climate zones.
76. The SRI method has proved to be highly profitable for West African smallholder farmers, as reported for multiple countries in the final SRI-WAAPP project report.¹⁵ Average SRI yield across all sites of the 13 countries was for irrigated rice 6.6 t/ha compared to 4.23 t/ha for conventionally grown rice (N=292) representing a 56% yield increase for SRI. For rainfed lowland systems, SRI yields averaged 4.71 t/ha compared to 2.53 t/ha for conventional rice (N=441), a 86% yield increase for SRI. By June 2016, 1,088 SRI-WAAPP sites had been geo-tagged. At these sites, 50,048 farmers were growing rice using SRI on 13,944 hectares across the 13 countries. Calculating the difference of rice produced for this area between SRI and conventionally grown rice, the additional quantity of rice produced during one rainy season was estimated at 31,458 tons of paddy or 20,113 tons of milled rice, valued at 10.07 million US dollars. It can therefore be expected that given the planned SRI scaling-up efforts of RICOWAS, the value of additional rice produced in one season will already significantly surpass the total project cost. The CRRP approach, as applied by the RICOWAS project - combining SRI with additional climate-resilient soil and water management practices – will create additional benefits and improve the cost-effectiveness even further.
77. The cost-benefit analysis for individual farmers in the four countries of Benin, The Gambia, Nigeria and Togo during the SRI-WAAPP project showed similar results. Production costs were slightly higher with SRI compared to conventional methods (between 5-35%), but with doubling of yields in these four countries, the net return from SRI was several times higher than under conventional farming, between 700 – 775 USD /ha compared to 86 - 270 USD/ha respectively. Most farmers indicated that it was for the first time they obtained such a benefit from their rice farming. They were able to invest money in additional businesses, access health care or pay school fees. More details on economic analysis in the four countries and examples of farmer success stories are reported in Styger and Traoré, 2018.
78. Water savings of 30-50% is another critical benefit, especially for the Western Sahelian countries, where rainfall is predicted to decline with climate change. How many kilos of rice can be produced for each cubic meter of water used (or water productivity) becomes a highly important parameter. Several research studies have shown that in respect to water productivity, SRI is the most efficient agronomic method with 0.43-1.02 kg of rice produced/m³, compared to the alternate wetting and drying irrigation method alone, resulting in 0.39 – 0.54 kg/m³, and compared to flooded rice with 0.25-0.44 kg/m³.¹⁶
79. In addition to the above, this regional project will directly contribute to the objectives of the Rice Offensive as specified in the Regional Agricultural Policy for West Africa (ECOWAP) of the Economic Community of West African States (ECOWAS), contribute to improve rice self-sufficiency for the region, and reduce dependency on rice imports, which amounted to 4.16 billion USD for the 13 countries participating in RICOWAS in 2017.¹⁷

E. Consistency with development strategies

80. The proposed project will contribute to achieving the respective national adaptation priorities. For all the thirteen selected countries, rice self-sufficiency is a priority for food security. Consequently, the project is in alignment with

¹⁵ Styger and Traoré, 2018. 50,000 Farmers in 13 countries; Results from Scaling-up SRI in West Africa. CORAF, Dakar, Senegal.

¹⁶ Geethalakshmi et al, 2011. Agronomic evaluation of rice cultivation systems for water and grain productivity. Archives of Agronomy and Soil Sci , 57 (2):159-166.

-Bhuvaneshwari et al, 2014. Climate change impact assessment and developing adaptation strategies for rice crop in western zone of Tamil Nadu. J of Agrometeorology 16 (1): 38-43

-Nay-Htoon et al. 2013. A water productive and economically profitable paddy rice production method to adapt water scarcity in the Vu Gia-Thu Bon river basin, Vietnam. J. of Nat Res Dev. 5: 58-65

¹⁷ Styger and Traoré, 2018. 50,000 Farmers in 13 countries; Results from Scaling-up SRI in West Africa. CORAF, Dakar, Senegal.

national or sub-national sustainable agriculture development strategies, development plans, poverty reduction strategies, and national adaptation programs of action. It is also consistent with national socio-economic priorities, national climate change priorities, and national food security priorities.

Table 6: Development strategy and project consistency for 13 RICOWAS countries

Country	Policy/Strategy/Plan	Purpose
Regional	ECOWAP/CAADP Process 2025	The overall objective of the 2025 Strategic Policy Framework is to "contribute in a sustainable way to meeting the food and nutritional needs of the population, economic and social development and poverty reduction in the Member States, and inequalities between territories, zones and countries". RICOWAS will contribute to the four specific objectives.
	Regional offensive for a sustainable rice production in West Africa	ECOWAS initiated a regional offensive to reach rice self-sufficiency by 2025. The Regional Offensive for sustainable and sustained recovery of rice production in West Africa Program was approved by the ECOWAS Council of Ministers in June 2014 and aims to reduce imports to zero by 2025.
	Regional Agriculture Investment Plan And Food Security and Nutrition (RAIPFNS)	The RAIPFNS aims to 1) contribute to increasing agro-forestry-pastoral and fisheries productivity and production through diversified and sustainable production systems, and to reducing post-production losses; 2) Promote contractual, inclusive and competitive agricultural and food value chains oriented towards regional and international demand, with a view to the regional market integration; 3) Improve access to food, nutrition and resilience for the vulnerable populations; and 4) Improve the business environment, governance and funding mechanisms of the agricultural and food sector.
Benin	Nation Rice Development Strategy (SNDR)	The overall objective is to increase rice production from 72,960 tons of paddy in 2007 to 385,000 tons of white rice per year at least from 2015. This will involve: (i) adopting rice varieties adapted to local conditions, (ii) facilitate access to good quality inputs, (iii) support producers for the development of rice sites, (iv) create post-production conditions downstream of production crops required to ensure a greater presence in our markets of better quality local rice.
	National Plan for Agricultural Investments and Food and Nutrition Security (PNIASAN, 2017 – 2021)	PNIASAN is a second-generation National Agricultural Investment Plan. It is defined as the strategic planning and coordination framework for the sector of sustainable agriculture and food and nutrition security. The rice sector is one of the sectors that should benefit from massive investments.
	NDC	Regarding adaptation measures, the objectives in the agriculture sector are, among others the diversification and promotion of high value-added agricultural sectors, as well as the modernization of resilient agricultural infrastructure in the context of climate change for food and nutritional security.
	NAPA	The NAPA aims at enabling the development of a framework for the coordination and implementation of activities to adapt to climate change in the country, capacity building and the synergy of the various programs in the field of the environment through a participatory, community and multidisciplinary approach. Within the framework of agriculture, the program envisages the improvement of food crop production systems, especially rice.
Burkina Faso	Nation Rice Development Strategy (SNDR II) 2020-2030	The SNDR II aims to: consolidate the achievements under SNDR I, achieve self-sufficiency, generate security stocks and surpluses for export as well as increase the incomes of the stockholders due to a competitive and sustainable production.
	Country Resilience Priorities (PRP) 2016-2020.	The specific objective is to structurally and sustainably reduce the food and nutritional vulnerability of 50% of the poor and very poor, or 5,500,000 vulnerable people in Burkina Faso (around 700,000 households).
	NDC	Regarding the adaptation actions under AFOLU sectors, it is planned, among other things, to develop and promote 1,000 ha per year of land by using the System of Rice Intensification (SRI)
	National Adaptation Plan (NAP)	In terms of adaptation options under the agriculture sector, the NAP promotes, among other things, the adoption of productivity systems (intensification of production systems).
Cote d'Ivoire	National Agricultural Investment Program (PNIA II, 2017-2025).	The PNIA II has three strategic objectives: the development of agro-sylvo-pastoral and fishery added value; strengthening agro-sylvo-pastoral and fishery production systems that respect the environment; and inclusive growth, which guarantees rural development and the well-being of populations.
	NDC	NDC aims at reducing GHG emissions by 28% compared to emissions for the target year (2030) in a basic scenario (Business As Usual or BAU).
	National Climate Change Program (PNCC) 2014	By prioritizing the resilience of the Ivorian population, the PNCC intends to implement concrete and coherent actions to limit the social, economic and environmental impacts caused by climate change.
	National Rice Development Strategy	The vision of the strategy is to meet all the national consumption needs for good quality and competitive rice compared to imported rice, with the opportunity to build up a safety stock and export the surplus production.

Gambia (The)	INDC	Under the Agriculture sector, two conditional mitigation options (NERICA Rice production and Rice efficiency) have been assessed and reported on in this INDC (see Figure 4 to the right). For production of NERICA upland production in place of Swamp Rice, estimated emission reductions are 124.1 GgCO ₂ e in 2020, 397.7 GgCO ₂ e in 2025 and 2030. For the promotion of efficiency in rice production, estimated emission reductions are 437.8 GgCO ₂ e in 2020, 707.0 GgCO ₂ e in 2025 and 2030.
	National Rice Development Strategy (NRDS)	The overall goal of the NRDS purpose is to enhance the enabling environment for systematic exploitation of the vast natural resource potentials, mitigation of the priority constraints in the resource base, provision of production-oriented technologies suitable for broad-based participation and adoption by the majority of rice farmers for efficient rice production
	Agriculture And Natural Resources (ANR) policy (2009 – 2015)	The ANR main objectives include improved and sustainable measurable levels of food and nutrition security in the country in general and vulnerable populations in particular.
	Gambia National Adaptation Programme of Action (NAPA) on Climate Change 2007.	NAPA provide a process for Least Developed Countries (LDCs) to identify priority activities that respond to their urgent and immediate needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage.
Ghana	National Rice Development Strategy (NRDS)	The strategy aimed at addressing the challenges of low agriculture production, by focusing on some of the bottlenecks along the rice value chain which hitherto has inhibited the growth of the rice industry.
	Coordinated Programme of Economic and Social Development Policies (2017-2024).	Under this program, agricultural development will be ensured of efficient production and post-harvest management. Productivity will be increased in agriculture, livestock and fisheries sectors. For agro-processing, state support will be given for the cultivation of selected agricultural products such as tomato, cassava, cocoa, soya beans, maize, oil palm, cashew, cotton, shea nut, selected fruits, groundnuts, and rice.
	INDC	Ghana's emission reduction goal is to unconditionally lower its GHG emissions by 15 percent relative to a business-as-usual (BAU) scenario emission of 73.95 MtCO ₂ e2 by 2030. The INDC outlines adaptation policy actions including agriculture resilience building in climate-vulnerable landscapes.
	National Seed Policy 2013	The main objective of this Policy is to support the development and establishment of a well-coordinated, comprehensive and sustainable private sector-driven seed industry through systematic and strategic approaches which would continuously create and supply new improved varieties for use by farmers and, further, support successful seed production, certification, marketing, and seed security systems which will form the basis for food security and support the overall development of the agricultural sector.
	National Climate Change Adaptation Strategy.	The main goal of the National Climate Change Adaptation Strategy is to increase Ghana's resilience to climate change impacts and reduce vulnerability in key sectors, ecosystems, districts, and regions of the country. Agricultural productivity will be increased with the transition to climate-smart agriculture, application of farming technologies and capacity building of local farmers on climate change.
Guinea	National Rice Development Strategy	The overall objective of this strategy, on the one hand, is to ensure the country's self-sufficiency in rice in the medium term; and on the other hand, to export to markets at the sub-regional and international level in the long term.
	National Action Plan for Adaptation to Climate Change (NAPA)	The purpose of the NAPA is to define the priority activities to be implemented to meet the immediate needs and urgent concerns of socio-economic groups to ensure their adaptation to the harmful effects of climate change. Within the framework productive and sustainable agriculture, NAPA included among other things, activities for the development of irrigated rice farming in Middle and Upper Guinea.
	National Agricultural Development Policy	The general objective of this policy is to increase the contribution of the agricultural sector to food security, nutrition and poverty reduction for the Guinean populations.
	Accelerated Program, Food and Nutritional Security and Sustainable Agricultural Development (PASANDAD)	PASANDAD's overall objective is to accelerate the fight against poverty and its implications in terms of availability and access to healthy food, including by the most vulnerable sections of society.
Liberia	Liberia Agriculture Sector Investment Plan II	LASIP identifies priority areas from which investment projects aligning national objectives. The program will be a public-private partnership (PPP) in which investment growth for the export sectors will be spearheaded by the private sector, while the public sector will concentrate on the promotion of small farmer growth and development.
	National Policy and Response Strategy on Climate Change of Liberia.	The strengthening of national institutions, communities, and initiatives so that they have a strong capacity for adaptation, disaster risk reduction and mitigation, which can contribute to increased resilience and achievement of national development agenda and sustainable development goals of Liberia.

	the Republic of Liberia	
	Liberia National Rice Development Strategy (LNRDS)	The LNRDS aspires to improve productivity in smallholder rice farms through a value chain approach in which the needs and issues of various subsectors will be addressed through an integrated approach.
	Pro Poor Agenda for Development and Prosperity 2018 to 2023 (PAPD)	The PAPD is the second in the series of National Development Plans anticipated under the Liberia Vision 2030 framework. It follows the Agenda for Transformation 2012-2017 (AFT). It draws heavily on the implementation experience of the AFT and incorporates lessons from the implementation of the Interim Poverty Reduction Strategy 2007 as well as the Poverty Reduction Strategy (2008-2011).
	NDC	Vulnerability and adaptation assessments conducted have revealed that Liberia is faced with climate change and variability leading to extreme events, which harm agriculture, forestry, health, energy, and other sectors.
Mali	National Rice Development Strategy (SNDR II) 2016-2025	The overall objective of the SNDR is to contribute to food security in rice and to raise Mali to the rank of emerging countries exporting quality rice.
	NDC	Regarding the mitigation measures for GHG emissions, the most appropriate concern three agricultural sectors which are irrigated rice, fertilizer management, and livestock farming. For the irrigated rice sub-sector, mitigation will focus on water management through intermittent irrigation to avoid permanent flooding of rice fields, a source of emission by fermentation.
	Agricultural development policy (PDA)	The overall objective is to contribute to making Mali, an emerging country where agricultural sector is an engine of growth of the national economy and guarantor of food sovereignty in a sustainable development logic.
	NAPA	The general objective of NAPA is to contribute to the mitigation of the harmful effects of climate variability and change on the most vulnerable populations with a view to sustainable development. To achieve this objective, the program envisages among other things the extension of improved varieties adapted to the climatic conditions of the main food crops (millet, sorghum corn, and rice).
Niger	National Rice Development Strategy 2009	The overall objective of the rice strategy is to contribute to poverty reduction and the fight against food insecurity. The strategy aims also to increase the income of rice farmers and stockholders, who contribute to the rice added value and to satisfy consumption.
	3N Initiative « les Nigériens Nourrissent les Nigériens »2012	The overall objective is to protect sustainably the Nigerian population from hunger and malnutrition and guarantee them the conditions for full participation in national production and the improvement of their incomes.
	Sustainable Development and Inclusive Growth Strategy (SDDCI) 2035	The strategy aims, among other aspects, to reduce rural poverty through the modernization of the rural world.
	National Climate Change Policy (PNCC).	The overall objective of the PNCC is to contribute to the sustainable development of the country by reducing the negative impacts of climate change.
Nigeria	National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN)	The overall objective is to take action to adapt to climate change by reducing vulnerability to climate change impacts and increasing the resilience and sustainable wellbeing of all Nigerians; and to reduce or minimize risks by improving adaptive capacity, leveraging new opportunities, and facilitating collaboration inside Nigeria and with the global community.
	National Agricultural Investment Plan (NAIP)	Its main objective is enhancing total factor productivity in the agricultural sector through the application and diffusion of knowledge and improvement in the technology base.
	Nation Rice Development Strategy	The main objective is to increase rice production in Nigeria from 3.4 million tonnes paddy in 2007 to 12.85 million tonnes by the year 2018
	Rice Transformation Agenda- Action Plan (RTA-AP)	The National Rice Development Strategy (NRDS) was transformed into the RTA-AP for alignment with the government rice policy. The RTA-AP aims at "Achieving rice self-sufficiency, import-substitution, and food security" from 2019 to 2030.
	Agricultural Policy for Nigeria.	The national agricultural policy emphasizes self-sufficiency in food production including rice. Policy review target at rice production addresses the pertinent problem of rice production, quality processing, marketing, distribution, domestic and export market in a holistic and integrated manner. In line with the policy framework of market liberalization, the Federal Government of Nigeria would seek to foster Public-Private-Partnership.
Senegal	National Rice Self-Sufficiency Program (PNAR)	The objective is to strengthen the promotion and development of the local rice sector by increasing the area; modernization of the means and methods of production and processing; and the professionalization of actors to improve food security and thus contribute to the fight against poverty.
	National Agricultural Investment Program for Food Security and Nutrition (PNIASAN, 2018-2022)	PNIASAN aims at contributing sustainably to Senegal's economic development, poverty reduction, and improvement of food security and nutrition of the Senegalese populations.

	NDC	In the rice sub-sector, the document planned to make a conditional water saving of 40% in water compared to traditional rice through the SRI.
	Senegalese Agriculture Cadence Acceleration Program (PRACAS)	The Program aims to achieve food and nutrition security and the development of agricultural exports within very short deadlines while building competitive, diversified and sustainable agriculture. Specifically, it targets self-sufficiency in rice and onions; optimizing the performance of the groundnut sector; and the development of off-season fruit and vegetable sectors.
Sierra Leone	Smallholder Commercialization Program - Investment Plan	This sectoral program main goal is to reduce rural poverty and household food insecurity on a sustainable basis and to strengthen the national economy. The program, among others, contains objectives relating to food security.
	National Sustainable Agriculture Development Plan (NSADP) 2010-2030	The NSADP is a multi-sectoral instrument with the aim to provide short, medium and long-term investment programs in the agriculture sector. The overall objective is to ensure economic growth and increased revenues to households, firms and the state so that basic services (health, education, etc.) will be provided to the population.
	Comprehensive Africa Agriculture Development Programme (CAADP)	The overall objective of the CAADP is to increase the agriculture sector's contribution to the national economy. The CAADP include a major investment sub-programmes targeting rice commercialization.
	National adaptation programmes of action (NAPA) 2007	The NAPA will serve as simplified and direct channels of communication for information relating to the urgent and immediate adaptation needs of Sierra Leone caused by climate change and extreme weather events. Increasing rice production is one of the priority actions presented in the document.
	National Rice Development Strategy	The goal of the NRDS is to lay out a framework for significant increases in rice production to contribute to the improvement of food security and economic development in Sierra Leone.
Togo	National Climate Change Adaptation Plan (PNACC), 2018.	PNACC aims at contributing to inclusive and sustainable growth in Togo through the reduction of vulnerabilities, the strengthening of adaptive capacities and the increase of resilience to climate change.
	Nation Rice Development Strategy (SNDR) 2010	The SNDR aims to increase the areas of rice production; improve yields, increase rice production, based on the following four major sectors: seeds, fertilizers, best technologies, post-harvest, and marketing.
	NDC	Togo, within the framework of adaptation measures, intends to contribute to the fight against climate change, strengthen the resilience of production systems and means by embarking on a low-carbon development trajectory.
	National Development Plan (PND) 2018-2022	The overall objective of the PND is to structurally transform the economy, for strong, sustainable, resilient, inclusive growth, creating decent jobs for all and inducing the improvement of social well-being.

F. Alignment with national technical standards

81. The project is in compliance with the Environmental and Social Policy (ESP) of the Adaptation Fund, and congruent with national environment and social regulations of all of the 13 countries. Limited adverse impacts of the project could arise from activities in Component 2, which concern improvements to field sites. But, the project will comply with all relevant standards regarding agriculture, water and soil resources, as well as with the environment and social standards. The proposed project activities have been validated by the national and regional executing entities, ensuring that they comply with the relevant technical standards in each country. As for the technical standards applicable to irrigation systems, seed production and selection, production and use of organic fertilizers, evaluations and consultations with the competent services will be carried out during the environmental and social impact study during the development phase of the full proposal. A detailed table demonstrating compliance with the Fund's environmental and social principles will be also provided. The table below identifies the relevant national laws and regulations of the concerned countries.

Table 7: Relevant technical standards that can be applied in the framework of the project

Country	Relevant standards
Benin	<ul style="list-style-type: none"> • Law No. 98-030 of February 12, 1999 on the Framework Law on the Environment in the Republic of Benin • Decree No. 2001-2035 of 12 July 2001 on the organization of environmental impact assessment procedure • Law No. 2013-01 of August 14, 2013 relating to the land and state code in the Republic of Benin • Law No. 2011-26 of 9 January 2012 on the prevention and punishment of violence against women • Law No. 98-004 of January 27, 1998 on the Labor Code • Law No. 2002-016 of 18 October 2004 on the regime of wildlife in Benin • Law No. 87-015 Act of 21 September 1987 on the Code of Public Health of the Republic of Benin with Public Hygiene Law • Decree No. 2015-014 dated 29 January 2015 relating to the conditions and methods for the development of rural land • Law No. 2010-44 of 21 November 2010 concerning water management in the Republic of Benin • Decree No. 2011-573 of August 31, 2011 establishing the master plan for water development and management
Burkina Faso	<ul style="list-style-type: none"> • Law No. 006-2013/AN on the Environment Code of Burkina Faso • Decree No. 2001-342/PRES/PM/MEE1 of 17 July 2001 on procedures of Environmental Impact Assessments and Environmental Impact Statements

	<ul style="list-style-type: none"> • Law No. 034-2012/AN on Agrarian and Land Reorganization • Law No. 23/94/ADP of 19 May 1994 on Public Health Code in Burkina Faso • Law No. 026-2017/AN of May 15, 2017 relating to the management of pesticides in Burkina Faso • Law No. 026-2007/AN of 20 November 2007 establishing fertilizer control in Burkina Faso • Law No. 010-2006 regulating vegetable seeds in Burkina Faso • Decree No. 2011-878/PRES/PM/MAH/MEDD/MEF/MICA/MRSI of 08 November 2011 determining the appeal procedures for fertilizer control • Law No. 002/2001/AN on the orientation law relating to water management • Decree No. 2003-220/PRES/PM/MAHRH approving the action plan for integrated water resources management
Côte d'Ivoire	<ul style="list-style-type: none"> • Framework Law No. 96-766 on the Environment Code • Decree No. 96-894 of 08 November 1996 determining the rules and procedures applicable to studies relating to the environmental impact of development projects • Decree No. 013-41 dated 30 January 2013 relating to the strategic environmental assessment of policies, plans and programs • Order No. 00972 of November 14, 2007, relating to the application of Decree No. 96-894 of November 8, 1996 determining the rules and procedures applicable to studies relating to the environmental impact of development projects • Law No. 2015-537 of July 20, 2015 on agricultural orientation in Côte d'Ivoire • Decree No. 2018-10 of January 10, 2018 establishing, allocating, organizing and operating the Agency for the development of the rice sector • Interministerial order No. 12 of February 15, 1999 establishing the official catalog of rice species and varieties • Decree No. 89-02 on the approval, manufacture, sale and use of pesticides • Decree No. 92-392 relating to the approval and protection of plant varieties, the production and marketing of seeds and plants • Law No. 98-755 on the Water Code
The Gambia	<ul style="list-style-type: none"> • Act No. 13 of 1994 on National Environment Management • Environmental Quality Standards Regulations, 1999 • Environmental Impact Assessment Regulations, 2014 • Act No. 12 of 1994 on Hazardous Chemicals and Pesticides Control and Management • Act No. 15 of 1993 on National Agricultural Research Board • National Agricultural Research Institute Regulations, 1993 • Plant Importation and Regulation Act. • Land Use Regulations, 1995 (L.N. No. 11 of 1995).
Ghana	<ul style="list-style-type: none"> • Environmental Assessment Regulations 1999 • The Local Government Act 1993, Labor Act 2003, • Act No. 528 of 1996 on Pesticides Control and Management • Land Planning and Soil Conservation Act of 1953 with 1957 amendments • Economic Plants Protection Act, 1979 • Grains Development Authority Act, 1970 • Act 107 of 1962 on Farm Lands (Protection) • Water Use Regulations, 2001 (L.I. 1692)
Guinea	<ul style="list-style-type: none"> • Order No. 045\PRG\87 on the Code for the protection and enhancement of the environment • Decree No. 199/PRG/SGG/89 codifying environmental impact studies • Order A/2013/474/MEEF/CAB/SGG of March 11, 2013, adopting the general guide for environmental assessment • Order A/2003/795/MATDS/CAB/SACCO creating the Association for the development of rice growing in Guinea • Order A/99/5198/MAE/CAB establishing and fixing the organic framework of the Observatory of rice and other food products in Guinea • Joint Decree A/2015/790/MA/MC/ MI-PME PSP/CAB of March 16, 2015, creating the national charter of quality of local rice by the actors of the sector
Liberia	<ul style="list-style-type: none"> • Environment Protection and Management Law • Regulation on Environmental Impact Assessment (FDA Regulation 113-08) • Public Health Law Title 33 Liberian Code of Laws Revised • Liberia Agriculture Commodity Regulatory Authority Act of 2014 • Agricultural Law (Title 3 of the Revised Liberian Code of Laws)
Mali	<ul style="list-style-type: none"> • Decree No. 09-318-P-RM of June 26, 2009 amending Decree No. 08-346-P-RM of June 26, 2008 relating to the Environmental and Social Impact Study • Decree No. 2018-0992 / P-RM of December 31, 2018 setting the rules and procedures for the strategic environmental assessment • Decree No. 2018-0991/P-RM of December 31, 2018 relating to the study and the environmental and social impact statement • Decree No. 01-397/p-rm setting the procedures for managing atmospheric pollutants. • Law No. 06-045 on the agricultural orientation law

	<ul style="list-style-type: none"> • Order No. 2014-1985-MDR-SG of July 24, 2014 establishing the Steering Committee for the implementation of the Small Farmers' Productivity Improvement Program for Sub-Saharan Africa • Law No. 10-032 of July 12, 2010 relating to seeds of plant origin • Decree No. 10-428 P-RM of August 9, 2010 setting the procedures for applying the law on seeds of plant origin • Order No. 2018-1051/MA-SG of April 11, 2018 creating the National Committee for Concertation and Dialogue for the Promotion of Local Rice Value Chains • Law No. 02-006 on the Water Code
Niger	<ul style="list-style-type: none"> • Law No. 98-56 of 29 December 1998 framework law for the management of the environment • Order No. 97-01 of 10 January 1997 on the institutionalization of environmental impact studies • Order No. 96-067 of 9 November 1996 covering rural cooperatives • Decree No. 96-430/PRN/MAG/E determining the modalities of application of the ordinance on the regime of rural cooperatives • Order No. 93-15 March 2, 1993 on the principles of Orientation du Code Rural • Decree No. 97-006PRN/MAG/EL regulating the development of rural natural resources • Order No. 70/MDA/DEP of 10 May 2002, establishing, attributions, organization and attributions of the steering committee of the rice sector support program (CP/PAFRIZ) • Order No. 159/MDA/DEP of December 24, 2001, establishing and organizing the Rice Sector Support Program (PAFRIZ) (regularization) • Decree No. 2016-304/PRN/MAG/EL of June 29, 2016 on the modality of application of Regulation C/REG.13 / 12/12 relating to the quality control of fertilizers in the ECOWAS region • Law No. 2014-67 of 05 November 2014 supplementing regulation n° C/REG.4/05/2008 harmonizing the rules governing quality control, certification and marketing of plant seeds and plants in the ECOWAS region • Order No. 124/MAG/DGA of September 16, 2014 adopting annexed technical regulations relating to the rules governing quality control and certification of seeds of plant species and plants in Niger • Decree No. 90-55/PRN/MAG/EL on standards for the production, packaging, control and certification and marketing of seeds • Order No. 2010-09 of 1 April 2010 Water Code in Niger • Law regulating water • Law No. 98-041 modifying ordinance n° 93-014 of March 2, 1993 relating to water regime
Nigeria	<ul style="list-style-type: none"> • National Environmental (Effluent Limitation) Regulations • Act No. 25 of 2007 on National Environmental Standards and Regulations Enforcement Agency (Establishment) • Environmental Impact Assessment Act 1992. • Act No. 11 of 2002 on Environmental Health Officers (Registration, etc.) • National Environmental (Ozone Layer Protection) Regulations, 2009 (S.I. No. 32 of 2009) • National Agricultural Seeds Act • Fertilizer (Control) Act • National Agricultural Land Development Authority Act • Land Use Law • Water Resources Act • Water Resources (Amendment) Act • Water Sector Law
Senegal	<ul style="list-style-type: none"> • Law No. 2001-01 on the Environment Code • Decree No. 2001-282 implementing the Environmental Code • Decree No. 2000-73 regulating the consumption of ozone-depleting substances • Interministerial order regulating the consumption of ozone-depleting substances • Ministerial Order No. 9472 MJEHP-DEEC containing the content of the Environmental Impact Study report • Decree No. 96-1134 implementing the law transferring powers to regions, municipalities and rural communities, in matters of the environment and the management of natural resources • Ministerial Decree No. 6579 establishing the Technical Assessment Committee, for declaring natural disasters affecting rural areas and having caused disasters in agricultural, livestock, forestry and fishing activities • Decree No. 2008-1261 establishing and fixing the rules of organization and operation of the Fund of the Great Agricultural Offensive for Food and Abundance • Law No. 94-81 on the registration of varieties, production, certification and trade in seeds or plants • Decree No. 97-616 regulating the production, certification and trade of seeds and plants • Ministerial Decree No. 7026 on specific technical regulations for the production, control and certification of peanut, corn and rice seeds • Primatorial Decree No. 144 establishing a National concertation committee on the rice sector • Special technical regulations for the production, control and certification of rice seeds • Ministerial Order No. 5042 MA of June 8, 2010 establishing, organizing and operating the National Rice Self-Sufficiency Program in Senegal • Decree No. 96-345 establishing the Rice Market Management and Surveillance Unit and ministerial order No. 3600 MCAI setting the rules for the organization and operation of the Rice Market Management and Monitoring Unit • Law No. 81-13 on the Water Code

Sierra Leone	<ul style="list-style-type: none"> • Act No. 11 of 2008 on Environment Protection Agency • Ozone Depleting Substances Regulations, 2003 (L.N. No. 13 of 2010) • Act No. 7 of 1979, Torma Bum Rice Development Authority
Togo	<ul style="list-style-type: none"> • Law No. 2008-005 30 May 2008 on framework law on the environment • Decree No. 2017-040/PR laying down the procedure for environmental and social impact assessments • Order No. 12 on agricultural land reform • Labor Code of 2006 with National Policy for Equality • Law No. 2010-004 on the water code

G. Project duplication

82. The RICOWAS project is highly unique. It is the largest and only the third regional project for SRI ever implemented. The first was the SRI-WAAPP project, which ran from 2014-2016. The second was project with four countries in the Mekong region of South East Asia. Although the RICOWAS project will implement a new approach, Climate-Resilient Rice Production (CRRP), it will build on approaches and strategies pioneered by SRI-WAAPP, particularly by proactively seeking synergies, fostering cooperation, encouraging complementarities, and by avoiding duplications between and within country initiatives.
83. After the SRI-WAAPP project ended, SRI activities continued in Benin, Burkina Faso, Côte d'Ivoire, the Gambia, Liberia, Niger, Nigeria and Togo, where the larger WAAPP program was still active. To date, the leading multi-lateral donors for SRI in the region have been the International Fund for Agricultural Development (IFAD), the World Bank, and the Food and Agriculture Organization of the United Nations (FAO). Bi-lateral supporters include the German Corporation for International Cooperation (GIZ), Federal Ministry for Economic Cooperation and Development of Germany (BMZ), United States Agency for International Development (USAID), and Luxembourg Agency for Development Cooperation (LuxDev). Multi-country rice initiatives currently underway in the region include the Green Innovation Centers (GIC), funded by GIZ; the Competitive African Rice Initiative (CARI), supported by BMZ and the Bill and Melinda Gates Foundation; and the Coalition for African Rice Development (CARD), launched by NEPAD, the Alliance for a Green Revolution in Africa (AGRA), and Japan International Cooperation Agency (JICA). Although the GICs actively integrate the SRI method in their activities, CARD and CARI do not. In Mali, GIZ funded the establishment of the National Program for Scaling-up SRI. As regards to research, the West and Central African Council for Agricultural Research and Development (CORAF) has played a prominent role to support research and disseminate the SRI methodology in the region, most importantly through the WAAPP. Although the international research organization AfricaRice has not focused on studying SRI, the national research institutions have led the research into it. Scientific journal articles on these SRI studies (most of them in association with the SRI-WAAPP project) were published from the countries, Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Niger, Nigeria, Sierra Leone and Togo. As seen in multiple activities across the region, there are many international NGOs, which have acquired expertise in SRI implementation, including Africare, Care, CRS, World Vision, Welthungerhilfe, and the Red Cross. The Regional Consultation Framework of Rice Producers Organizations of West Africa /The Network of Farmer and Producer Organizations in West Africa (CRCOPR/ROPPA) has taken a leading role in the dissemination of SRI for the past 10 years. With support from LuxDev, they organized a regional workshop in 2018 with their national representatives from 13 ECOWAS countries on the scaling up of SRI. They recommended to seek funding for a regional SRI project, but to date, this has not been successful. RICOWAS offers therefore an important opportunity to build on the recommendations and work with the committed stakeholders associated with CRCOPR/ROPPA and develop complementarities and synergies with their activities and avoid any duplication. The secretariat of CRCOPR/ROPPA is also a good candidate to become a member of the regional steering committee (see organigram under institutional arrangements in Part III). At the national level, there are a number of projects and programs that specifically target the scaling-up of SRI: Fonds Compétitif pour l'Innovation Agricole Durable (FCIAD) in Côte d'Ivoire, the National Program to scale-up SRI in Mali, and the Agricultural Development Project in Matam (PRODAM) in Senegal. In most countries, SRI activities are integrated into agricultural and rice development programs implemented by governments, sponsored projects, or by civil society organizations such as NGOs and farmer organizations. As SRI has been known in most countries in the region for the past 10 years, there are many technical staff and farmers trained in previous projects, but who are not currently associated with any SRI initiative. There are many projects, organizations, and stakeholders that have obtained some expertise or which are currently involved in SRI activities, but they are often scattered and dissociated. It will be a top priority for RICOWAS to identify all human and institutional capacity in each of the countries, and to mobilize this capacity for the project. However, since the end of the SRI-WAAPP project none of the current initiatives is focusing on the regional and bioclimatic specificities of the West African countries for the SRI-CRRP and rice value chain development. The RICOWAS unlike the other projects is aiming at integrating the Climate Change in the regional strategic plans and in the SRI-CRRP techniques.
84. In addition, the responsibilities of the 13 national executing entities will go beyond implementation of project activities related to capacity strengthening and field-based activities, but include coordination of all SRI- and CRRP-related activities in each of their countries. A dialogue with CRRP stakeholders will be sought to create synergies and complementarities in order to optimize the limited resources available to address the challenges of climate change and rice production. Moreover, the second outcome of project component three (Outcome 3.2) ensures the strengthening of coordination and partnerships to mainstream CRRP in West Africa. As the scaling-up process of CRRP advances, it can be expected that the number of stakeholders and the complexity of institutional engagement will increase. It will be important to be able to track all initiatives and to partner with CRRP stakeholders. To this effect, the regional and national

executing entities will actively network and meet with policy-makers, donors, development and research initiative leaders (as identified above), support partners' coalition building, develop national networks, and organize annual national and regional meetings.

85. The national networks will be open to any interested stakeholders who wish to participate, be it representatives of farmer organizations, NGOs, private sector, other rice development or research programs, program developers and donors, or government institutions. Annual meetings at the national and regional levels will include reporting on achievements and the sharing of planned activities. This will facilitate coordination of activities, avoid duplication, and strengthen synergies. The project will also seek constructive collaborations to implement national and regional development and climate action plans, such as the National and Regional Rice Development Strategies and National Determined Contributions. RICOWAS is designed to facilitate partnerships that create synergies, avoid duplication, and enable the scaling-up process.
86. In summary, four mechanisms will be incorporated in the institutional arrangements (see Part III) to specifically avoid duplications, promote synergies and complementarities among different initiatives related to CRRP. They are:
- a. At the national level
 - i. The Annual National Workshop will adopt the RICOWAS Annual Work Program & Budget (AWPB). Representatives from partner organizations, projects and initiatives related to CRRP will be invited to the workshop and together with RICOWAS evaluate executed activities and create a complementary plan for the following year.
 - ii. A financial and technical partner's (FTP) alliance supporting CRRP scaling up (CRRP/FTP) will be established and facilitated by the national facilitators of the national executing entity. This will be a supportive mechanism for dialogue and coordination between the FTPs in favor of CRRP, and will be responsive and adapted to each country's realities.
 - b. At the regional level
 - i. The Annual Regional Workshop to adopt the RICOWAS Annual Regional Work Program & Budget (ARWPB) will regroup the national facilitators, OSS, RCoS and Cornell University, including a few invited regional key actors (such as CRCOPR/ROPPA, a few NGOs and private sector, AfricaRice) to evaluate and plan activities to complement other initiatives and create synergies. A consolidated and consensual ARWPB will be prepared for submission to the Regional Steering Committee (RSC).
 - ii. The RSC, which will be composed of policy decision making representatives from RICOWAS countries (Directors of NEE) and key partners (such as ROPPA, ECOWAS, CILSS, UEMOA, CORAF, private sector umbrella organization), will be the authority to adopt the ARWPB. Members will be invited to the Annual Regional Workshop to assist in making sure duplications are avoided and synergies strengthened.

H. Learning and knowledge management

87. Effective communication, knowledge management and learning are vital to successfully scale-up CRRP in West Africa. This important task has been integrated into the project design and is reflected throughout the project implementation approaches and activities.
88. The technical approach (see Part I, Section B for more details) will be based on guiding agronomic principles that can be adapted to practices at the local level. All project stakeholders in the region will obtain the same understanding of CRRP while having the opportunity to identify solutions and best practices for local conditions. These local practices will be systematically tracked with a harmonized data collection system and qualitatively evaluated by farmers. Data can be easily aggregated, analyzed and shared at the national, climate zone, or regional level. This iterative and participatory approach will allow farmers who live in different countries but work in the same climate zone and with the same rice system to learn from successful experiences elsewhere. Project training and capacity strengthening will be based on a modular approach, under which the number of modules can be expanded and revised according to need as the project progresses. A specific combination of knowledge modules can be offered, and modules can be adjusted by trainers to fit local conditions. All this will favor efficient information exchange, experiential learning, knowledge creation and analysis, and dissemination and uptake of new knowledge.
89. The third component of the project is: Strengthen communication, advocacy and partnerships to scale-up CRRP. The main output under communication is: (3.1.1.) Knowledge and awareness materials developed and widely disseminated, in response to the demand and needs of different stakeholder groups. There are multiple communication tools that can be creatively used for two-way communication to optimize learning and knowledge exchange among the project stakeholders. They include a web-based platform, use of social media, publishing printed documents, use of radio, shooting videos, creating posters, organizing exchange visits, and personal outreach, including presentations. Use of mass media such as radio allows for a wide reach, and information can be broadcast in local languages. This is especially useful for farmers who have limited access to other information resources. Information and communication technologies (ICTs) have also the potential to reach farmers through text messaging, voice messaging or sharing of video clips, and allows farmers to reply. Although face-to-face meetings and exchange visits are irreplaceable for their quality and depth of exchange, use of smart phones might become more important if travel is restricted due to the potential medium-term impact of the COVID19 pandemic.
90. The project will produce multiple knowledge products: updates on project progress, farmer stories, technical fact sheets, posters and manuals, and background materials to explain and illustrate climate change issues as they affect

the rice sector. The format of the shared information will be adjusted for the different audiences: farmers, policy makers and program developers, research and technical staff, and the public. Actively sharing knowledge gained from the project with policy decision-makers, donors, and program developers, will assure that project achievements and knowledge will be sustainably mainstreamed into future programs and initiatives.

I. Consultative process

91. The RICOWAS project consultative process is an original, continuous and proactive bottom-up approach, so far in three phases: i) demand-driven process from the ECOWAS SRI-WAAPP World Bank funded project (2014-2016) preceding application to the Adaptation Fund, ii) pre-concept note consultative process, and iii) concept note consultative process.
92. The ECOWAS SRI-WAAPP was a “commissioned project”, specifically requested by the 13 ECOWAS authorities, rice farmers, and other rice value chain actors. It ran for only 2.5 years but was highly successful, reaching 50,000 farmers. At the final project workshop, development of a second phase to continue the scaling-up process was included among the specific recommendations, and endorsed by all 13 countries.
93. Pre-concept note preparation process: Following the opportunity to apply for a regional project under the Adaptation Fund, a participatory process was adopted to obtain input from national and SRI-WAAPP project stakeholders from the 13 countries. Effective communication between SRI-WAAPP stakeholders and the National Designated Authorities (NDA) for the Adaptation Fund, followed by a national consultation process, resulted in endorsement of the pre-concept note by the NDAs from all 13 countries.
94. Concept-note preparation process: Once the pre-concept note was approved by the Adaptation Fund, the National Designated Authorities were asked to nominate a focal institution to serve as National Execution Entity in each of the 13 countries for the preparation of the project concept note. The focal institutions in turn designated a National Facilitator (NF) for the RICOWAS project to represent all rice stakeholders in their respective countries, and to act as the national focal point for the project preparation process. 62% of the nominated NFs for RICOWAS had previously been the NFs under the SRI-WAAPP project, indicating a desirable continuity in the scaling-up process, even four years after the SRI-WAAPP project ended. In January 2020, the OSS project preparation team began a consultative process by informing the NFs about the project preparation procedures. This was followed by sharing two consecutive questionnaires and the draft logframe with the NFs, requesting them to collect relevant information for the concept note development. It included identification of the project zones, constraints, vulnerabilities, strengths and opportunities as they relate to the rice sector impacted by climate change threats. It also addressed gender issues and identification of the most vulnerable groups. A summary of this analysis for each country is provided in Part 1, including the designation of proposed project zones. A planned two-day workshop in West Africa had to be canceled due to the COVID19 pandemic. Instead, all team members associated in the preparation of the project concept note agreed to participate in a video-conference organized by OSS on April 14, 2020. Members discussed the concept note, making sure all concerns from the 13 countries were addressed, and validated it for submission to the Adaptation Fund. The main points shared by the country representatives are summarized as follows: participants welcomed the holistic approach taken by the project, addressing climate change threats to rice production by scaling-up SRI and its associated best practices, known as CRRP. Representatives stressed the focus on scaling-up several times, as demand for assistance with SRI in the countries has been high, but has received insufficient support. They welcomed the value-chain approach, most importantly in regards to increased equipment availability for rice production and creating opportunities for post-harvest processing and marketing, especially involving youth and women. The gender approach was widely supported. Additionally, country representatives were greatly pleased that the project directly supports their national development strategies. They were in full agreement with the project concept and were looking forward to this regional collaboration. The report from this video conference is attached in Annex 1.
95. The process of interactive consultation has been highly successful, and it is planned to continue in the same spirit of collegial technical collaboration among project stakeholders and their representatives for the preparation of the proposal. Given the presence of multiple actors in the rice sector in the ECOWAS region, a multi-level consultation process will be initiated during the development phase of the full proposal. Each country will hold consultative meetings and workshops with producer associations, the private sector involved in the value chain, researchers and extension services. These consultations will be conducted in the local language providing everyone the opportunity of understanding and expressing their ideas and objections if any. The project grievance mechanism will also be presented and promoted during these consultations. This approach permits to meet the needs of the stakeholders and adjust the project activities at the national levels. The inputs from these workshops will be combined and aggregated during a regional workshop for the validation of the project document. National representatives, research centres, NGOs, producer organizations, regional institutions, representatives of civil society and international institutions will be invited to ensure broad consultation. It should be noted that vulnerable groups such as women, youth and elders will be effectively integrated into the consultative process.

J. Justification of funding request

96. The objectives of the project are fully in line with the food security thematic focal area of the Adaptation Fund. The measures, mechanisms, capacity building and public-private-partnership actions that will be developed and promoted within its framework will contribute to improve people's livelihood and contribute to food security.

Component 1: Strengthen human and institutional capacity in climate-resilient rice production CRRP (US\$ 2,050,000)

97. Current regional and national rice development strategies need to be updated and strengthened by integrating the climate change dimension as a key element to ensure the achievement of their respective objectives under current conditions. The project intends to undertake an assessment of the impacts of climate change on rice production in West Africa. The main findings will be used to improve the regional and national agricultural and rice strategies by integrating the climate change dimension and indicating possible climate adaptation solutions. These updated documents will allow decision makers to consider and address climate change risks as they affect the rice value chain. The assessment will be widely disseminated at the regional and national levels. It will be used to develop technical guidelines for adaptation opportunities along the rice value-chain at the regional and the national levels. This component aims to improve the adaptive human and institutional capacity to implement SRI/CRRP practices in the different climate zones and rice systems of West Africa. This will be done by i) undertaking a capacity needs assessment ii) developing capacity strengthening plans for the regional, national and sub-national levels, iii) developing or updating capacity strengthening curriculum and tools adapted to local conditions within the countries, and iv) undertaking exchange visits and tours for cross-learning in areas with successful CRRP implemented techniques, including best soil and water management practices. The project will strengthen the human and institutional capacities of all rice sector stakeholders. Capacity strengthening will focus on (i) national and regional research centers, (ii) regional and national implementing entities for RICOWAS, and (iii) extension institutions involved in CRRP training and dissemination. A regional hub for communication, information sharing, and dissemination of technical information will allow the project to reach a maximum number of rice stakeholders in the region.

Component 2: Assist farmers to scale-up CRRP (US\$ 8,450,000)

98. This component is intended to improve the adaptive capacities of smallholder rice farmers in the project area by sustainably increasing rice yields, facilitating access to other economic activities of the rice-value chain, and by improving their incomes. To this end, (i) through the training-of-trainers approach smallholder farmers will be trained on best practices of SRI and CRRP as adapted to their climate zones and rice systems, (ii) awareness campaigns and exchange visits will be conducted on SRI and CRRP practices, highlighting their benefits and sharing experiences, (iii) field technical assistance will be provided to rice farmers to fully optimize the adoption of SRI and CRRP practices, and (iv) regular technical reviews of results will be convened at climate zone and rice system level to identify advancement of innovation development. In addition to technical assistance to the smallholder rice farmers, the project will increase opportunities for farmers to participate in other economic activities of the rice value-chain. For this, the project will support the establishment of private-public-partnership (PPP) networks involving private sector companies and farmer associations and cooperatives. Farmers will be able to improve cost/benefit aspects of rice production (e.g. through equipment access) and to participate in value-added post-harvesting activities. This approach to strengthen the PPP and to integrate project activities along the value-chain, will create new synergies of collaboration and ownership, which will contribute not only to the sustainability of the project results but also improve the profitability of the rice value chain.

Component 3: Strengthen communication, advocacy and partnerships to scale-up CRRP (US\$ 1,300,000)

99. Rice production in West Africa is still marked by low yields, high input use, overexploitation of water resources and soil degradation, leaving it vulnerable to climate change, and leading to food insecurity and low incomes. Creating awareness and sharing solutions with a large number of stakeholders about successful SRI/CRRP performance of RICOWAS activities, will be a vital contribution to the scaling-up of CRRP. The project will establish and implement a communication strategy at the regional and national levels. Best practices for SRI/CRRP and lessons learned from field activities will be documented and widely disseminated through technical fact sheets, manuals, documented farmer stories via blogs or videos, and by creating policy briefs and background materials. Information and knowledge will be packaged in most appropriate form, tailored for the different audiences. Communication channels most suitable for different stakeholder groups can include web-based platforms, print media, radio, video and cell-phones. National and regional CRRP networks will be created or further strengthened. Annual meetings will be held for stakeholders to share results, learn from each other, and plan for the year ahead. These networks will be open to any interested stakeholders including farmers, representatives from advisory services, the private sector, research institutions, donors, and policy makers. New partnership development will create complementarities and synergies, avoid duplication of efforts and support the successful scaling-up of CRRP in West Africa

K. Project sustainability

100. Commitment to sustainability will drive the implementation approach and activities of the project. As a CRRP scaling-up initiative at both national and regional levels, the project is designed to anchor and mainstream CRRP in policy, in knowledge and capacity, in increased partnerships and budgetary commitments, and in the development and implementation of CRRP best practices in the field. By the end of the project, it is expected that CRRP will be integrated in the multiple domains of sustainability.

101. Environmental sustainability: CRRP will lead to increased rice productivity and adaptation capacity, as rice cropping systems will be strengthened through improved soil and water management. Despite predicted increase in weather and climate variability, healthy rice systems will be more likely to exhibit resilience and resist these impacts. When faced with

extreme weather events, farmers will secure good rice production, which is critical to achieve food security and strengthen sustainability of their livelihoods. CRRP will result in water-saving, with the opportunities to use gained water for household purposes, other crops or animal husbandry. Reduced use of agro-chemicals will help keep the environment and water safe from chemical pollution, and limit damaging impacts on human, animal, and environmental health. The greater returns from implementing CRRP will pay back investments made by land users, communities or governments. Additionally, considerable secondary benefits from CRRP are expected to become an economic justification by itself.

102. **Social and economic sustainability:** Being able to secure crop yields in a time of climate change will have substantial impact on livelihoods, enabling people to develop economic opportunities in their rural communities. The project will focus on creating new opportunities for the CRRP rice producers and link them with other economic opportunities along the value-chain. Public-private partnerships will be initiated or strengthened so that farmers – especially women and youth - can engage and benefit from value-added activities, such as milling or parboiling, and/or direct marketing their own rice, and therefore multiplying the return per kilogram of rice produced. Lessons can be learned from already successful initiatives, such as i) certified seed production using SRI in Nigeria and Guinea, ii) organic fertilizer production by Elephant Vert, Mali, iii) SRI equipment development by Socafon in Mali), and iv) a number of successful milling, parboiling and marketing operations with SRI rice in Benin, Burkina Faso, Côte d'Ivoire, Guinea, Ghana, Liberia, and Togo. The project will strengthen the capacity of producer organizations, which will enable them to access credits, to enter into direct partnerships with the private sector, and to become independent of project support. It allows for ownership of these business-related processes and leads to empowerment of the farming communities well beyond the life of the project.
103. **Institutional, policy-related and financial sustainability:** The project will be implemented through already existing national and regional organizations associated with the rice sector, including government, civil society, and private sector organizations. They will be encouraged and enabled through participatory and consultative processes to take on leadership and ownership of CRRP. The project is putting much emphasis on institutional capacity strengthening of national and regional research centers, regional and national executing entities and extension institutions (Outcome 1.2), which will ensure the necessary capacity for scaling-up CRRP is developed and implementation can continue after the project has ended.
104. Awareness-raising and information-sharing about climate adaptation solutions as pursued by the project will be conveyed to all stakeholder groups, including policy and decision-making institutions. Successful project results will be widely shared as part of the advocacy effort for CRRP by the project, targeting to mobilize political will as well as budgetary commitments for CRRP. A project database will be developed and hosted by CNS-Riz, to ensure that data and information in relation to SRI and CRRP remains available and freely accessible after the project has ended. RICOWAS will actively work with governments to integrate CRRP into national policies and development strategies (for example, Mali’s National Program for the scaling-up of SRI), and to strengthen and mainstream CRRP in the Nationally Determined Contributions (NDC) implementation. The project will also connect with rice farmer umbrella organizations (such as the *Réseau des Organisations Paysannes et de Producteurs de l’Afrique de l’Ouest* or ROPPA) at national and regional level to integrate CRRP in their strategies and work plans. Additionally, RICOWAS’ national and regional leaders will harness donor and partner platforms to align their actions in the rice sector with CRRP activities in the region.
105. The scaling-up of CRRP will therefore not only allow improved food security and reduced poverty at the household and community level, but also at the national level. With the broad coverage of project zones in the region (see project zone map in Part 1), it is predicted that CRRP will take a permanent foothold in those zones and be further disseminated by the rice value chain stakeholders and through community-driven efforts.

L. Environmental and social impacts and risks

106. This project was developed in compliance with the 15 environmental and social (E&S) principles of the Environmental and Social Policy of the Adaptation Fund. A preliminary E&S assessment was conducted for the project concept note concluding that the project is likely to be classified under Category B of risk. The results are presented in the table below. A detailed E&S impact assessment, including mitigation measures and E&S management framework, will be conducted during the stage of proposal development.

Table 8: Preliminary E&S assessment results for RICOWAS Project

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law		<p>X</p> <p><i>(The proposed project has been developed in alignment with a number of national and regional priorities, policies, plans, and national technical standards for sustainable development and adaptation to climate change. It will take into account the international and national standards related to biodiversity, land conservation, water resources, ecosystem management and poverty alleviation. With regards to the Environmental and</i></p>

		<p><i>Social Assessment, detailed assessment will be done during the development of environmental and social impact framework (ESMF) for the project during full proposal development. Some activities related to public private partnerships (PPP) could require further assessment during the full proposal stage.)</i></p>
Access and Equity		<p style="text-align: center;">X</p> <p><i>(Further consultations and assessments on land tenure will be required during the development of Environmental and social impact framework (ESMF) for the proposed project.</i></p> <p><i>In general, the adoption and implementation of the CRRP/SRI technique will be done on a voluntary basis. However, this approach could lead to the exclusion of certain categories of people (women, young, elderly, displaced people, refugees, etc.) who do not have hold land or who do not have the right to dispose of land because of national regulation. In order to provide fair and equitable access to benefits for all beneficiaries without discrimination, selection criteria will be developed and agreed during the full proposal stage in a consultative manner.)</i></p>
Marginalized and Vulnerable Groups		<p style="text-align: center;">X</p> <p><i>(Many West African countries are prone to recurrent terrorist attacks and political instability leading to the displacement of people inside or outside the country specially in Burkina Faso, Mali, Niger and Nigeria. This very volatile situation in the project's intervention area risks increasing the marginalization of these people, excluding them from the benefits of the project or affecting them by certain planned activities. Aiming to provide opportunities to strengthen the resilience of local populations, the project's E&S assessment will rely on a participatory approach and include consultations with the communities to identify the best approach to reach the marginalized and vulnerable groups including women, youth,orphans, elders and disabled and HIV affected groups. Further assessment is required to agree on selection criteria and to avoid discrimination.)</i></p>
Human Rights		<p style="text-align: center;">X</p> <p><i>(The project activities are not discriminatory by tribe, age and gender or, level of education. The project design relied on the consultative approach involving various stakeholders. No activities are identified whose execution are not in line with the established international human rights. Project objectives promote basic human rights for fair and equitable access to resources and knowledge to enhance their resilience to climate change in the beneficiary countries.)</i></p>
Gender Equity and Women's Empowerment		<p style="text-align: center;">X</p> <p><i>(In general and due to traditions, women do not have the same rights as men in certain parts of the project action area (access to land, access to credit, participation in decision-making, etc. ...). Given this risk, the project has a special focus on women and youth groups especially for capacity building on SRI technique, leadership in producer organizations and adoption of the CRRP/SRI technique to ensure that they fully participate and benefit from the project. Under the component 2, specific activities targeting women have been planned for both rice production and post-harvest activities. A detailed gender analysis will be done at full proposal development stage to ensure that all gender aspects of equity, empowerment and representation are fully incorporated into the project.)</i></p>
Core Labour Rights		<p style="text-align: center;">X</p> <p><i>(In the region, inequality in remuneration between men and women as well as child labor are risks that could occur and thus have impact the proper execution of the project. During the E&S assessment a special focus on National labor laws in force will be ensured and the respective country labor laws and regulations will be followed. In addition, the project will ensure that labor laws are considered during the project implementation. In fact, no big infrastructures such as water captures are expected. The respective country labor laws and regulations will be followed. Child labor and inequity in remuneration between men and women will be forbidden.)</i></p>
Indigenous Peoples		<p style="text-align: center;">X</p> <p><i>(The project promotes the respect of the rights and responsibilities set forth in the United Nations Declaration on the Rights of Indigenous People. Indeed, In project intervention areas, no indigenous people or tribes were noted and will be affected by the project activities)</i></p>

<p>Involuntary Resettlement</p>	<p style="text-align: center;">X</p> <p><i>(The project will work with communities in their locations and on voluntary basis. Therefore, no resettlements or even displacement to new locations is expected. The project benefits will occur at the individual plot).</i></p>	
<p>Protection of Natural Habitats</p>		<p style="text-align: center;">X</p> <p><i>(The project will undertake the CRRP/SRI technique in the already existing individual farmers' fields and plots. Adopting the SRI technique is voluntary by the rice farmers and will be applied on their own lands. The gains through the adoption of the technique are so important that they could lead some people to convert other lands to rice cultivation. Consequently, the project will identify the protected areas in the project intervention area during the E&S assessment and raise awareness among the populations on the importance of safeguarding and protecting these areas. In addition, the proposed project will be undertaking commercialization of harvesting of rice and its sub-products, organization of demonstration and trainings sessions on the field, etc which may impede slight risks on the natural habitats. Degraded areas will be restored with natural vegetation in case that will happen)</i></p> <p><i>(Further assessment to identify the project risks on natural habitat is required, though a E&S assessment that will be conducted in the full proposal development stage.)</i></p>
<p>Conservation of Biological Diversity</p>		<p style="text-align: center;">X</p> <p><i>(Although, the protection of ecosystems and their biological diversity are an essential objective of the project, converting land for rice production may affected the biological diversity. The training modules will be developed in order to guide the populations in the selection of new lands for rice cultivation to avoid the negative effects on the environment. In fact, CRRP as a methodology protects, improves, and regenerates the natural resources and does not imply the introduction of a new invasive specie. The project implementation will result in a multitude of environmental benefits, including improved soil health, water-saving, reduced emissions in greenhouse gases, reduced use of chemical fertilizers and pesticides, and improved biodiversity. At full proposal design stage, deliberate efforts taken to ensure that interventions are compliant with all relevant national and international laws on conservation of biological diversity. Further consultations and assessments will be required during the development of Environmental and social impact framework (ESMF) for the proposed project.)</i></p>
<p>Climate Change</p>	<p style="text-align: center;">X</p> <p><i>(No further assessment required. Proposed project activities aim to enhance the resilience of ecosystems and populations to climate change through improving the resilience of rice production with the implementation of the CRRP/SRI technique.)</i></p>	
<p>Pollution Prevention and Resource Efficiency</p>		<p style="text-align: center;">X</p> <p><i>)Minor risks related to the rice harvesting, threshing, milling, parboiling, storing and commercialization through introduction of soil impurities, wastewater and solid waste are possible. Accordingly, a further assessment is required and an ESMF will be developed with the necessary mitigation measures and monitoring mechanism. Project activities will not generate pollution and loss of resources. It will contribute to sustainable land management, efficient water use and prevention of water pollution. Because SRI plants are healthier and stronger and the humidity in the plant canopy is reduced, pest and disease attacks decline and pesticide use can be limited or omitted entirely.)</i></p>
<p>Public Health</p>	<p style="text-align: center;">X</p> <p><i>(The project will not have negative impacts on public health. On the contrary, the increased income generated by the introduction of the SRI technique can be used for other household needs such as schooling the children, accessing health care, and/or investing in other economic activities. However, the rice farmers are usually prone to water-born diseases. This project will contribute to improve health conditions of the rice farmers and communities with the CRRP/SRI technique where water use is optimized and reduced up to 50%.)</i></p>	

Physical and Cultural Heritage	X <i>The project has no activity related to affecting physical and cultural heritages. It aims at enhancing the traditional knowledge and know-how of the rice farmers and supporting them to adopt and build on the CRRP/SRI as an innovative technique.)</i>	
Lands and Soil Conservation	X <i>No damage to soil, vegetation and land resources are expected to occur. Besides, SRI/ CRRP is an agro-ecological and climate-smart agriculture approach that promotes land and soil conservation. In fact, by reducing the use of irrigation water by up to 50%, soil aeration is supported, which stimulates the root growth of the rice plants. Additionally, through organic matter-enriched soils, nutrient and water holding capacity in soils is improved, more carbon is stored, and beneficial soil biota support crop nutrient uptake and protect against disease.</i>	

PART III IMPLEMENTATION ARRANGEMENTS

A. Project implementation and management arrangements

Regional Implementing Entity (RIE)

107. The project will be implemented by the Sahara and Sahel Observatory (OSS), which will serve as the Regional Implementing Entity (RIE). OSS will be responsible for all financial, monitoring and reporting aspects to the Adaptation Fund, and provide administrative and management support to the Executing
108. Entities at regional and national levels, and will be responsible for all reporting to the Adaptation Fund.

Executing entities

109. Project execution will involve stakeholders at the regional, national and local levels, as follows:

At the regional level: Regional Executing Entity (REE)

110. The Executing Entity at the regional level will be the ECOWAS sponsored Regional Center of Specialization in Rice (RCoS-Rice) hosted by the Institut d'Economie Rurale (IER) in Mali. The RCoS-Rice will coordinate and execute the project at the regional level and will ensure the coordination of project activities in the 13 participating countries in close collaboration with the 13 National Executing Entities (NEE).
111. The RCoS-Rice is one of nine regional centers sponsored by ECOWAS. It is designated to lead research on rice for the entire region under the scientific and technical coordination of the Central and West African Council for Agricultural Research and Development (CORAF).
112. As the Regional Executing Entity, RCoS-Rice will support the National Executing Entities for capacity building and knowledge management, creating a cross-learning environment, and strengthening regional partnership building. RCoS-Rice will provide demand-driven support and consolidate reports from the executing countries. In addition, RCoS-Rice will support monitoring interventions and ensure that the regional aspects of the project are well articulated and completed. To guarantee the regional role, the project will adopt the following rules: i) Cooperation and coordination in data and information sharing, ii) sharing available technology and expertise, iii) minimizing and /or eliminating duplication of efforts, and iv) contributing to regional frameworks in the ECOWAS region.
113. In addition, the RCoS-Rice will strengthen the RICOWAS project by mobilizing a cluster of institutions at the regional level, with complementary scientific and technical roles to support the regional execution of project activities. This cluster could build partnerships between RICOWAS partners and other regional stakeholders working on climate adaptation issues and in the rice value chain. These include, among others: CILSS, ECOWAS, UEMOA, the Niger, Mano and Senegal Rivers organizations, the regional executing entities of the West Africa Regional Climate Adaptation Action Plan, the "Rice Offensive" initiative, the West African Rice Farmers Umbrella Organization (CRCOPR/ROPPA), and Cornell University, which contributed to building the CRRP approach.

At the national level: National Executing Entities (NEE)

114. The National Executing Entities (NEE) will constitute the pillars of the project implementation led by their appointed representatives, the National Facilitators (NF). The 13 National Executing Entities were designated by the National Designated Authorities (DA) of the Adaptation Fund and their supervising institutions. Most national project activities will be the responsibility of the NEEs, which have the knowledge and facilities to carry out these tasks. Moreover, it is the NEEs that will ensure stakeholder ownership of the project and guarantee the sustainability of its results by establishing appropriate mechanisms and tools during the life of the project.

115. The NEEs will partner with strategic stakeholders in order to increase their ownership and ensure cross-fertilization of project interventions. To execute project activities, each of the NEEs has governance units established at a lower or local level. Finally, the NEEs will consolidate the results of activities undertaken in their respective countries for reporting to the REE.
116. The executing arrangements at the national level will involve all relevant national actors of the rice value chain. This includes the Ministries responsible for the Environment and Agriculture, umbrella organizations of rice value-chain stakeholders (with specific attention to gender and vulnerable groups), SRI / CRRP champions, local and international NGOs, private sector, specific public-private partnerships, and technical and financial partners. Roles and responsibilities for project activity execution by selected stakeholders will be specified in contractual agreements to be established with the NEEs.

Table 9: Designated National Executing Entities for RICOWAS

	Country	Institution
	Country	National Executing Entity (NEE)
1	Benin	Secrétariat Général du Ministère de l'Agriculture, de l'Elevage et de la Pêche (SG/MAEP)
2	Burkina Faso	Direction générale des études et des statistiques sectorielles/Ministère de l'agriculture et des aménagements hydro-agricoles
3	Côte d'Ivoire	Agence Nationale d'Appui au Développement Rural (ANADER)/Ministère de l'Agriculture et du Développement Rural
4	The Gambia	Ministry of Agriculture
5	Ghana	CSIR-Savanna Agricultural Research Institute (SARI)
6	Guinea	Institut de Recherche Agronomique (IRAG)
7	Liberia	CHAP International
8	Mali	Direction Nationale de l'Agriculture (DNA)
9	Niger	Institut National de la Recherche Agronomique du Niger (INRAN)
10	Nigeria	Agricultural Research Council of Nigeria (ARCN)
11	Senegal	Agence Nationale de Conseil Agricole et Rural (ANCAR)
12	Sierra Leone	Rokupr Rice Research Centre/Sierra Leone Agricultural Research Institute (SLARI)
13	Togo	Institut de Conseil et d'Appui Technique (ICAT)

At the local level

117. The project execution teams will closely collaborate with local government structures to carry out project activities following planning guidelines from the local authorities. It is important to recall that the RICOWAS project requires a strong involvement of local agricultural service providers to the communities (including extension, technical training and research services), which will play a crucial role in CRRP technical training and provide technical assistance to rice farmers and other stakeholders in the rice value chain.

Regional Steering Committee (RSC)

118. The overall supervisory body of the RICOWAS project is the Regional Steering Committee (RSC) in charge of monitoring and technical orientation. It will be composed of key stakeholders working on climate change and the rice value-chain, including CILSS, ECOWAS, UEMOA, the regional executing entities of the West Africa Regional Climate Adaptation Action Plan, the "Rice Offensive" initiative, the West African Rice Farmers Umbrella Organization (CROCOPR/ROPPA), the private sector, NGOs, universities (Cornell and others) and research and development organizations (CORAF etc.). It will be jointly organized by the Regional Implementing Entity and Regional Executing Entity.
119. The RSC, which will meet once a year, is the policy and oversight committee that will supervise the project at the regional level. The RSC and its national branches will examine and approve the National and Regional Annual Reports and Annual Work Plans and Budgets. The composition and operating mechanisms of these committees will be defined in writing by agreements between the different entities (OSS, REE and NEEs). Their meetings will follow the regional annual evaluation and programming workshops.

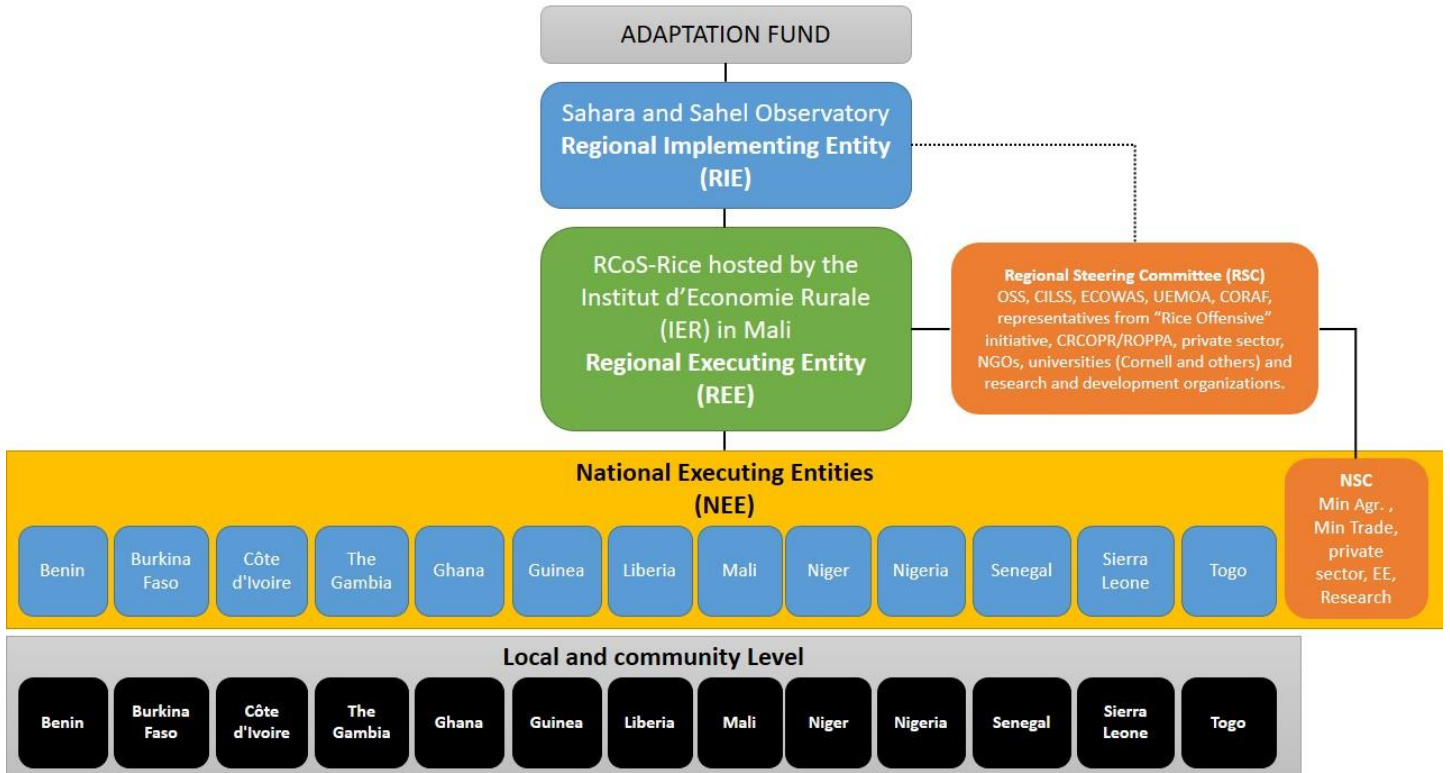
National Steering Committee (NSC)

120. At national level the project will be guided by a National Steering Committee, which will meet at least once a year. The NSC will be composed of multi-sectoral stakeholders including Ministries of Agriculture, Ministries of environment, National Environment Authorities/agencies, National Designated authorities, Climate Change Directorates, Ministries in charge of communities organization and trade. The NSC will be country driven and will be responsible for providing strategic direction for the project at country level, will approve the National Annual Workplan and Budget, will ensure compliance with the RSC's guidance, and report to it on a regular basis.
121. Depending on the available budget at least one representative of the NSC will take part in RSC meetings and act as an intermediary or messenger to ensure continuity and harmonization of project activities, to guarantee communication between the project governance bodies at regional and national levels.

Table 10:: RICOWAS Project Entities, their roles and functions

N°	Entities	Role and Functions
1	Sahara and Sahel Observatory (OSS) Regional Implementing Entity	<ul style="list-style-type: none"> • Oversee overall financial and monitoring aspects of the RICOWAS project • Reporting of project consolidated results to the Adaptation Fund • Approval of project annual work plan and budget at the regional and national level • Approval of quarterly and annual financial and technical reports • Provide administrative and management support to the executing entities • Ensure supervision and evaluation of the project activities progress and achievements
2	IER / RCoS-Rice Regional Executing Entity	<ul style="list-style-type: none"> • Project management and execution at the regional level (CORAF/ECOWAS) • Ensure compliance with the project regional dimension (link between NEEs) • Provide support and facilitation necessary for the proper implementation of the activities within a harmonized framework • Provide technical advice, guidance and support to the project • Support communication, networking and partnership building • Promote the exchange of experiences to reinforce regional cooperation, solidarity and integration in the ECOWAS region • Organize annual regional evaluation and planning workshops for the 13 NEEs (with representatives of regional rice value chain institutions) • Support executing entities during operationalization of activities at national level • Organize regional thematic technical workshops and training sessions as defined in the annual plans • Promote and support exchanges among CRRP stakeholders in the ECOWAS region (exchange visits, study tours and short-term scientific or technical trainings) • Develop the Regional Annual Workplan and Budget (taking into account the national ones) • Set up a monitoring and evaluation mechanism at the regional level and M&E data collecting from NEEs • Mobilize international expertise and establish technical and scientific partnership with relevant and key partners (e.g Climate-Resilient Farming Systems Program at Cornell University-USA) • Provide technical and financial reports to OSS based on national reports after their quality control and analysis <p>A Regional Project Management Unit (RPMU) will be established and composed of key human resources defined jointly between the RIE and the REE inter alia in the area of financial management, monitoring and evaluation etc.</p>
3	National Executing Entities (The 13 countries)	<ul style="list-style-type: none"> • Ensure the national coordination of the implementation of the project activities • Support project management and execution at the national and local level • Prepare the National Annual Work Plans & Budget (N-AWPB) to be discussed and adopted during the annual regional workshops • Ensure the project creates a positive impact for the beneficiaries • Create partnerships with the national stakeholders and partners • Consolidate results from the project sites and link with the REE • Ensure cross-fertilization of project interventions and increase their ownership at the national level • Assure the monitoring and evaluation at national level • Provide technical and financial reports to REE
4	Local governments (sub-National Level)	<ul style="list-style-type: none"> • Create a conducive environment for the program execution, especially by mobilizing communities and technical experts at the sub-national levels • Provide support for extension agents involved in the CRRP/SRI technique dissemination and training for the benefit of communities • Provide political support and advocacy • Ensure ownership and sustainability
5	Community structures / Producers organizations	<ul style="list-style-type: none"> • Key partners and implementers of the program at the local level • Labor and local material contribution for project activities (in-kind contribution to the project) • Ownership and sustainability by establishing community management structures

Figure 5: RICOWAS project, Institutionnal arrangement Organogram.



SECTIONS RESERVED FOR NEXT STAGE (PROJECT FULL DOCUMENT)

- B. Describe the measures for financial and project / programme risk management.
- C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.
- D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.
- E. Include a results framework for the project / programme proposal, including milestones, targets and indicators.
- F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s) ¹⁸	Project Objective Indicator	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)

- G. Include a detailed budget with budget notes, broken down by country as applicable, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.
- H. Include a disbursement schedule with time-bound milestones.

¹⁸ The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

PART IV Endorsement by governments and certification by the IE

A. Record of endorsement on behalf of the government

Benin Euloge Lima, <i>Adapation Fund National Designated Authority, Director of Risk Management and Adaptation to Climate Change, Ministère du Cadre de Vie et du Developpement Durable</i>	Date: July 22, 2019
Burkina Faso Ambroise Kafando, <i>Adapation Fund National Designated Authority, Ministère de l'Economie, des Finances et du Développement</i>	Date: July 22, 2019
Côte d'Ivoire Oreste Santoni Akossi, <i>Adaptation Fund National Designated Authority, Deputy Director, Climate Change Departement, Ministry of Environment and Sustainable Development</i>	Date: July 24, 2019
Gambia Mr. Bubacar ZAIDI JALLOW, <i>Adaptation Fund National Designated Authority, Ministry of Environment, Climate Change and Natural Resources</i>	Date: April 28, 2020
Ghana Fredua Agyeman, <i>Adapation Fund Designated Authority Ghana, Ministry of Environment, Science, Technology and Innovation</i>	Date: July 24, 2019
Guinea Joseph Sylla, <i>Adaptation Fund National Designated Authority, Focal Point of CCNUCC, Ministère de l'Environnement, des Eaux et Fôrets</i>	Date: July 25, 2019
Liberia Jeremiah Garwo Soka Sr, <i>National Coordinator/National Climate Change Secretariat, Designated Authority of Liberia, Environmental Protection Agency, National Climate Change Secretariat</i>	Date: July 24, 2019
Mali Dr Seydou Keita, <i>Adapation Fund National Designated Authority, Ministère de l'Environnement, de l'Assainissement et du Développement Durable</i>	Date: July 22, 2019
Niger Dr Kamaye Maazou, <i>Secrétaire Exécutif du CNEDD, Point Focal National du FA, Cabinet du Premier Ministre, Conseil National de l'Environnement pour un Développement Durable, Secrétariat Exécutif</i>	Date: July 25, 2019
Nigeria Dr Yerima Peter Tarfa, <i>Adapation Fund National Designated Authority, UNFCCC Focal Point/Director, Department of Climate Change, Federal Ministry of Environment</i>	Date: July 25, 2019
Senegal Madame Dior Alioune Sidibe, <i>Chef de la Division Gestion du Littoral, Autorité Nationale Désignée pour le Fonds d'Adaptation, Ministère de l'Environnement et du Développement Durable</i>	Date: July 29, 2019
Sierra Leone Professor Foday M. Jaward PhD, <i>Executive Chairman, EPA Sierra Leone, Adaptation Fund National Designated Authority, Environment Protection Agency, Office of the President</i>	Date: July 25, 2019
Togo Thiyu Kohoga Essobiyou, <i>Director of Environment, AF Focal Point, Ministère de l'Environnement du Développement Durable</i>	Date: July 23, 2019

⁶. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (ECOWAS, CAADP, NAP, NAPA, NDC,..) and subject to the approval by the Adaptation Fund Board, commit to implementing the project in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this regional project.

Mr. Khatim Kherraz– Executive Secretary of the Sahara and Sahel Observatory (OSS) as the Implementing Entity Coordinator




Name & Signature

Date: **April 20, 2020**

Tel.: **(+216) 71 206 633**

Email: boc@oss.org.tn

Project Contact Person: **Mr. Nabil BEN KHATRA**

Tel. and Email: **(+216) 71 206 633**; nabil.benkhatra@oss.org.tn

ENDORSEMENT LETTERS



MINISTERE DU CADRE DE VIE
ET DU DEVELOPPEMENT DURABLE
REPUBLICQUE DU BENIN

01 BP 3502 - 01 BP 3621
Cotonou
Tél. : + 229 21 31 80 45
dgec_mcvdd@cadredevie.bj

N°01/MCVDD/AND-FA

Letter of Endorsement by Government of Benin

Cotonou, 22th july, 2019

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Project "Scaling-up Climate-Resilient Rice Production in West Africa".

In my capacity as designated authority for the Adaptation Fund in Republic of Benin, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Benin.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory (OSS) and executed by Regional Centre for Specialization in Rice of ECOWAS (CRS-RIZ/IER) based in Mali, in partnership with Climate-Resilient Farming Systems Program at Cornell University, USA in collaboration with the Ministry of Agriculture, Livestock and Fishing of Benin at national level.

Sincerely,



Euloge Lima

Adaptation Fund National Designated Authority
Director of Risk Management and Adaptation
to Climate Change

Téléphone : +229 95 93 77 00

Email: limeloge@gmail.com



BURKINA FASO
Unité – Progrès - Justice

Ministère de l'Economie, des Finances et du Développement

Direction Générale de la Coopération



ADAPTATION FUND



Letter of Endorsement by Government

Ouagadougou, 22th july, 2019

To : The Adaptation Fund Board
C/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Project « Scaling-up Climate-Resilient Rice Production in West Africa ».

In my capacity as Designated Authority for the Adaptation Fund in Burkina Faso, I confirm that the above regional project proposal is in accordance with the Government's national priorities in implementing adaptation activities to reduce adverse impacts, and risks, posed by climate change in Burkina Faso.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory (OSS) and executed by Centre for Specialization in Rice of ECOWAS (CRS-RIZ/IER) in partnership with Climate-Resilient Farming Systems Program at Cornell University.

Sincerely.



Ambroise KAFANDO

Adaptation Fund National Designated Authority
03 BP 7067 Ouagadougou 03
Tel: +226 25 31 25 50/+226 70 41 98 41
Email: ambkafando@gmail.com

**MINISTRY OF ENVIRONMENT AND
SUSTAINABLE DEVELOPMENT**

**GENERAL DIRECTION OF ENVIRONMENT
AND SUSTAINABLE DEVELOPMENT**

CLIMATE CHANGE DEPARTMENT



ADAPTATION FUND

REPUBLIC OF CÔTE D'IVOIRE

Union - Discipline - Work



Abidjan, le **24 JUL 2019**

N° **0119** MINEEDD/DGEDD/DLCC/FA/aos

Letter of Endorsement by Government of Côte d'Ivoire

To: **The Adaptation Fund Board**
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Project "**Scaling-up Climate-Resilient Rice Production in West Africa**"

In my capacity as designated authority for the Adaptation Fund in Republic of Côte d'Ivoire, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Côte d'Ivoire.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory (OSS) and executed by Regional Centre for Specialization in Rice of ECOWAS (CRS-RIZ/IER) based in Mali, in partnership with Climate-Resilient Farming Systems Program at Cornell University, USA in collaboration with the Ministry of Environment and Sustainable Development, and the Ministry of Agriculture and Rural Development of Côte d'Ivoire at national level.

Sincerely,

AKOSSI Oreste Santoni

Adaptation Fund National Designated Authority, Côte d'Ivoire
Deputy Director, Climate Change Department

Téléphone : +225 08 45 43 03

Email : o.akossi@environnement.gouv.ci
akossisantoni@gmail.com



REPUBLIC OF THE GAMBIA
Ministry of Environment, Climate Change & Natural Resources (MECCNAR)
GIEPA House - 1st Floor
Kairaba Avenue
Kanifing Municipality

PB 33/200/03 PART I (40)

28th April 2020

The Adaptation Fund Board

C/o Adaptation Fund Board Secretariat

Email: Secretariat@Adaptation-Fund.org

Fax: 202 522 3240/5

**SUBJECT: ENDORSEMENT FOR SCALING-UP CLIMATE-RESILIENT RICE
PRODUCTION IN WEST AFRICA**

In my capacity as the Designated Authority for the Adaptation Fund in The Gambia, I confirm that the above regional project proposal is in accordance with the Government's national priorities in implementing adaptation activities to reduce the adverse impacts of, and risks, posed by climate change in the Gambia.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory (OSS) and executed by the Ministry of Agriculture at the National level with the support of the Regional Centre of Specialization in Rice sponsored by ECOWAS (CRS-RIZ/IER) as the regional executing entity.

Sincerely,

Bubacar Zaidi Jallow

Principal Climate Change Officer/Designated Authority for Adaptation Fund

MINISTRY OF ENVIRONMENT, SCIENCE, TECHNOLOGY & INNOVATION

Our Ref: ...
Tel: 0302 - 666 049
Fax: 0302 - 688 913/ 688 663
E-mail: info@mesti.gov.gh
Website: www.mesti.gov.gh



Post Office Box M232
Ministries, Accra
Ghana

July 24, 2019

THE ADAPTATION FUND BOARD
C/O ADATATION FUND BOARD SECRETARIAT
EMAIL: SECRETARIAT@ ADATATION FUND.ORG
FAX: 202522 3240/5

SUBJECT: ENDORSEMENT FOR PROJECT “SCALING UP CLIMATE RESILIENT RICE PRODUCTION IN WEST AFRICA

In my capacity as designated authority for the Adaptation Fund in the Republic of Ghana, I confirm that the above regional proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts and risks posed by climate change in Ghana.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory (OSS) and executed by the Regional Centre for Specialisation in Rice, ECOWAS (CRS-RIZ/IER) based in Mali, in partnership with Climate-Resilient Farming Systems Programme at Cornell University, USA and in collaboration with Savanna Agricultural Research Institute of Ghana at the national level.

Yours Sincerely,

FREDUA AGYEMAN
ADAPTATION FUND DESIGNATED AUTHORITY
GHANA



République de Guinée
Travail – Justice – Solidarité

MINISTERE DE L'ENVIRONNEMENT,
DES EAUX ET FORETS

DIRECTION NATIONALE DE L'ENVIRONNEMENT

CONVENTION CADRE DES NATIONS UNIES
SUR LES CHANGEMENTS CLIMATIQUES

Conakry, 25/07/ 2019



ADAPTATION FUND

Letter of Endorsement by the Government of Guinea

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

N°.....008.....MINEDD/DGEDD/DLCC/FA/aos

**Subject: Endorsement for the Project “ Scaling-up Climate-Resilient Rice Production
In West Africa “**

In my capacity as designated authority for the Adaptation Fund in the Republic of Guinea, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Republic of Guinea.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory (OSS) and executed by the Regional Centre for Specialization in Rice of ECOWAS (CRS-RIZ) based in Mali, in partnership with Climate-Resilient Farming Systems Program at Cornell University, USA, in collaboration with the Agricultural Research Institute of Guinea (IRAG) and with the Climate Program of the Ministry of Environment, Water and Forests.

Sincerely,



Joseph SYLLA

Adaptation Fund National Designated Authority, Guinea
Focal Point of CCNUCC



Republic of Liberia
ENVIRONMENTAL PROTECTION AGENCY
NATIONAL CLIMATE CHANGE SECRETARIAT



Office of the National Coordinator

P.O Box 4024

4th street Sinkor, Tubman Boulevard,
 1000 Monrovia, 10 Liberia



ADAPTATION FUND

Letter of Endorsement by the Government

July 24, 2019

To: The Adaptation Fund Board
 c/o Adaptation Fund Board Secretariat
 Email: Secretariat@Adaptation-Fund.org
 Fax: 202 522 3240/5

Subject: Endorsement for Scaling-up Climate Resilient Rice Production in West Africa

In my capacity as designated authority for the Adaptation Fund in Liberia, I confirm that the above regional project/programme proposal is in accordance with the government's regional priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the ECOWAS' Countries: Benin, Burkina Faso, Cote D'Ivoire, the Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone & Togo.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahel and Sahel Observatory (OSS) and executed by the Regional Center for Specialization in Rice of ECOWAS in partnership with CHAP International- Liberia.

Sincerely,

Jeremiah Garvo Sokan, Sr
 National Coordinator/National Climate Change Secretariat
 Designated Authority of Liberia



jsokansr7@yahoo.com / jsokan@epa.gov.lr

+231770775174 / 886788594



MINISTRE DE L'ENVIRONNEMENT,
DE L'ASSAINISSEMENT ET DU
DEVELOPPEMENT DURABLE
*_*_*_*_*_*_*_*_*_*



REPUBLIQUE DU MALI
Un Peuple – Un But – Une Foi
*_*_*_*_*_*_*_*_*_*

Bamako, 22 July 2019

Letter of Endorsement by Government

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for “Scaling Project Climate Resilient Rice Production in West Africa”

In my capacity as Designated Authority for the Adaptation Fund in Mali, I confirm that the above regional programme proposal is in accordance with the government's regional priorities in implementing adaptation activities to reduce adverse impacts and risks, posed by climate change in the ECOWAS countries (Benin, Burkina Faso, Côte d'Ivoire, the Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo).

Accordingly, I am pleased to endorse the above programme proposal with support from the Adaptation Fund. If approved, the programme will be implemented by the Sahara and Sahel Observatory (OSS) and executed by Regional Center for Specialization in Rice of ECOWAS (CRS-RIZ/IER) based in Mali.

Sincerely,

Dr SEYDOU KEITA,
Adaptation Fund National Designated Authority, Mali
Tel: + (223)74602403 or + (223) 64548887 Bamako/Mali
Email: keitasey37@yahoo.fr

Ministry Of Sanitation, Environment
And Sustainable Development
Dr Seydou KEITA Technical Advisor
Designated Authority For Adaptation
Fund in Mali. Bamako / Mali



ADAPTATION FUND

REPUBLIQUE DU NIGER



Fraternité – Travail – Progrès

=====

CABINET DU PREMIER MINISTRE

=====

CONSEIL NATIONAL DE L'ENVIRONNEMENT POUR UN DEVELOPPEMENT DURABLE
SECRETARIAT EXECUTIF

Niamey, le 25 juillet 2019

À: le conseil d'administration du fonds d'adaptation
c / o Secrétariat du Conseil du Fonds d'adaptation
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Objet: Approbation pour le Projet « **Mise en échelle d'une riziculture résilient au climat en Afrique de l'Ouest** »

En ma qualité d'autorité désignée du Fonds d'Adaptation au Niger, je confirme que la proposition de projet / programme ci-dessus au niveau régional est conforme aux priorités nationales du gouvernement dans la mise en œuvre d'activités d'adaptation visant à réduire les effets néfastes impacts et risques du changement climatique au Niger.

En conséquence, je suis heureux d'approuver la proposition de projet / programme susmentionnée avec l'aide du Fonds pour l'adaptation. S'il est approuvé, le projet / programme sera mis en œuvre par l'Observatoire du Sahara et du Sahel (OSS) et exécuté par le Centre Régional de Spécification en Riz de la CEDEAO basé au Mali en collaboration avec le Ministère de l'Agriculture du Niger, l'Institut National de la Recherche Agronomique du Niger (INRAN) ainsi que d'autres structures nationales clés.

Cordialement,

Dr KAMAYE MAAZOU
Secrétaire Exécutif du CNEDD
Point Focal National du FA



FEDERAL MINISTRY OF ENVIRONMENT

HEADQUARTERS, MABUSHI, ABUJA.

Ref No. FMENV/DCC/AF/15/V.1

Date: 25 July 2019

To: The Adaptation Fund Board

C/O Adaptation Fund Board Secretariat

Email: Secretariat@Adaptation-Fund.org

Fax: 202 522 3240/5

Subject: Endorsement for Project "Scaling-up Climate-Resilient Rice Production in West Africa".

In my capacity, as National Designated Authority for the Adaptation Fund in Nigeria, I confirm that the above regional project proposal is in accordance with the Nigerian government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Nigeria.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory (OSS) and executed by Regional Centre for Specialization in Rice of ECOWAS (CRS-RIZ/IER) in partnership with Climate-Resilient Farming Systems Program at Cornell University, USA in collaboration with the West Africa Agricultural Transformation Programme (WAATP-Nigeria) of the Federal Ministry of Agriculture and Rural Development.

Sincerely

A handwritten signature in blue ink, appearing to read "Yerima Peter Tarfa".

Dr. Yerima Peter Tarfa

Adaptation Fund National Designated Authority;

UNFCCC Focal Point/Director, Department of Climate Change



Dakar, le.....
29 JUL. 2019.



ADAPTATION FUND

L'Autorité Nationale Désignée
pour le Fonds d'Adaptation

A

Le conseil d'administration du fonds d'adaptation
c / o Secrétariat du Conseil du Fonds d'adaptation

Email : Secretariat@Adaptation-Fund.org

Fax : 202 522 3240/5

Objet : Approbation pour le projet « Mise en échelle d'une riziculture résilient au climat en Afrique de l'Ouest »

Monsieur le Président,

En ma qualité d'autorité désignée du Fonds d'Adaptation du Sénégal, je confirme que la proposition de projet ci-dessus est conforme aux priorités du gouvernement du Sénégal dans la mise en œuvre d'activités d'adaptation visant à réduire les effets néfastes impacts et risques du changement climatique au Sénégal.

En conséquence, je suis heureux de marquer l'intérêt du Sénégal à participer à projet.

S'il est approuvé, le projet « **Mise en échelle d'une riziculture résilient au climat en Afrique de l'Ouest** » sera mis en œuvre par le Centre Régional de Spécialisation du Riz de la CEDEAO (CRS-RIZ/IER) basé au Mali, en collaboration avec le programme Climate-Resilient Farming Systems de l'Université de Cornell, Etats Unis.

l'Agence Nationale de Conseil Agricole et Rural (ANCAR) du Ministère de l'Agriculture et de l'Equipement Rurale exécutera au niveau nationale les activités du projet.

Je vous prie d'agréer, **Monsieur le Président**, l'expression de ma considération distinguée.

Madame Dior Alioune SIDIBE

Chief de la Division Gestion du Littoral



SIERRA LEONE GOVERNMENT
Environment Protection Agency-Sierra Leone
Office of the President
21 Old Railway Line, Freetown

Letter of Endorsement by Government of Sierra Leone

25th July, 2019

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Project "Scaling-up Climate-Resilient Rice Production in West Africa"

In my capacity as designated authority for the Adaptation Fund in Sierra Leone, I confirm that the above West Africa Regional Project proposal is in accordance with the Sierra Leone government's priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Sierra Leone.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the Sahara and Sahel Observatory and executed by Regional Centre for Specialization in Rice of ECOWAS, in partnership with the Sierra Leone Environment Protection Agency and the Rokupr Agricultural Research Centre.

Sincerely,



Professor Foday M. Jaward, PhD.
Executive Chairman, EPA Sierra Leone
Telephone: +232 76 423645
Email: foday.jaward@epa.gov.sl
Adaptation Fund national Designated Authority

MINISTERE DE L'ENVIRONNEMENT
DU DEVELOPPEMENT DURABLE
NATURE
Patrie



REPUBLIQUE TOGOLAISE

Travail-Liberté-

DIRECTION DE L'ENVIRONNEMENT

POINT FOCAL AF

N° 0489 /DE /AF

Lomé, le 12:3 JUIL 2019

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Scaling-up Climate-Resilient Rice Production in West Africa

In my capacity as designated authority for the Adaptation Fund in Togo, I confirm that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Togo.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by Sahara and Sahel Observatory and executed by Regional Centre for Specialization in Rice of ECOWAS in partnership with Climate-Resilient Farming Systems Program at Cornell University, US.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kohoga".

Thiyou Kohoga ESSOBIYOU
Director of Environment



AF focal Point

ANNEX 1



OBSERVATOIRE DU SAHARA ET DU SAHEL
SAHARA AND SAHEL OBSERVATORY



ADAPTATION FUND

Report of the Regional Remote Consultation Workshop

RICOWAS Project - Scaling-up climate-resilient rice
production in West Africa

April 14, 2020, through videoconference



Context of the project

In the West African region, rice is a staple food and plays a key role in regional food security for rural and urban populations. Its production is largely provided by smallholder farmers, whose livelihoods and incomes remain very low. The constantly increasing demand for rice in the region, due to population growth and increased consumption, now exceeds production, resulting in a constant increase in rice imports. This weighs heavily on public budgets and exposes the region to volatile world market prices.

West Africa has also been identified as a region particularly vulnerable to climate change. This is due to naturally high levels of climate variability, a strong dependence on climate-sensitive rain-fed agriculture, especially rice, and a limited economic and institutional capacity unable to cope with the adverse impacts of climate change. To deal with these issues, the Economic Community of West African States (ECOWAS) launched in 2013 a regional initiative called "Rice Offensive", to attain rice self-sufficiency by 2025, using a Climate Resilient Rice Production approach (CRRP).

It is in this perspective that the RICOWAS regional project request was developed, dealing with the "Scaling-up of Climate Resilient Rice Production in West Africa". The pre-conceptual note²⁰ for this project was approved by the Adaptation Fund in October 2019 and is currently evolving into a concept note to be submitted for the intersessional review cycle before 20 April 2020.

This project will be implemented by the Sahara and Sahel Observatory (OSS) and executed at the regional level by the Regional Center for Specialization in Rice sponsored by ECOWAS (RCoS Rice/IER - Mali), in partnership with Climate-Resilient Farming Systems program at Cornell University (USA), for the benefit of the 13 ECOWAS countries: Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.

The RICOWAS project aims to improve climate change resilience and increase the rice system productivity for smallholder farmers across the West African region using a more climate-friendly production approach. More specifically, the project has set specific objectives of:

- Strengthening the resilience and building the capacity of smallholder rice farmers and other operators in the rice sector by enabling them to use agroecological sustainable land and water management strategies that respond to the threats of climate change in their respective localities;
- Helping farmers implement and improve the CRRP, using the System of Rice Intensification (SRI) method and locally adapted soil and water conservation management approaches;
- Supporting a communication platform and engaging in advocacy to promote an effective knowledge and expertise exchange between the different stakeholders in West Africa and elsewhere;
- Facilitating the creation of national and regional partner coalitions for the scaling-up of the CRRP.

To achieve these specific objectives, the RICOWAS project will be based on three main components:

- **Component 1:** Strengthen human and institutional capacity in climate-resilient rice production (CRRP);
- **Component 2:** Assist farmers to scale-up CRRP;
- **Component 3:** Strengthen communication, advocacy and partnerships to scale-up CRRP.

It will be built on existing human and institutional capacities as well as the achievements of the regional project SRI-WAAPP – Improvement and scaling up of the Rice Intensification System in West Africa" – 1st phase (2014-2016), which was commissioned and supervised by CORAF/WECARD, as part of the West Africa Agriculture Productivity Program (WAAPP).

²⁰ <https://www.adaptation-fund.org/project/benin-burkina-faso-cote-divoire-the-gambia-ghana-guinea-liberia-mali-niger-nigeria-senegal-sierra-leone-and-togo-scaling-up-climate-resilient-rice-production-in-west-africa/>

Context and objectives of the workshop

Within the framework of the consultative process of RICOWAS project - Scaling up Climate Resilient Rice Production in West Africa - a regional remote consultation workshop²¹ was organized by the regional implementing entity, the Sahara and Sahel Observatory (OSS), using the "BlueJeans" videoconferencing platform, on Tuesday 14 April 2020, for a duration of four (04) hours (from 01.00 p.m. to 05.00 p.m.). Facilitated in bilingual, the workshop was mainly conducted by the RICOWAS Project Coordinator within the OSS, but also by the consultant in charge of the elaboration of the project's concept note.

The general objective of the workshop was to gather contributions from the main stakeholders, to understand their needs and expectations, but also to clarify several relevant points, enabling the consultant to integrate the proposals and recommendations resulting from the discussions into the project concept note to be submitted to the Adaptation Fund. The workshop was also an opportunity to inform participants about the main findings of the consultation process already started and also to validate the concept Note final version.

The workshop was conducted in an interactive manner, alternating presentations on the topics of (i) the objectives of the workshop (ii) the regional implementing entity role and responsibilities, (iii) the overview of the RICOWAS project and its objectives, and (iv) the concept note. The presentations were followed by exchange sessions, discussions and debates among the different participants, which addressed various aspects. The workshop was therefore an opportunity to bring together all the stakeholders involved in order to establish a common reflection on the RICOWAS project.

Participants

The participants in the regional remote consultation workshop were as follows:

- The national facilitators from the 13 ECOWAS countries,
- The representatives of the national executing entities in their respective countries;
- The representatives of the regional executing entity;
- The research institutions (e.g., ICARDA, Africa Rice);
- The representatives of the Regional Implementing Entity (OSS);
- The consultant in charge of drafting the concept note for the RICOWAS project to be submitted to the Adaptation Fund.
- Other resource persons such as researchers, students, etc.



A total of thirty-two (32) participants attended the regional consultation workshop.

Workshop workflow

The workshop consisted of four (04) sessions, with an introductory and a closing session. The whole workshop is available through the following link: <http://projet.oss-online.org/ftp/Video/RICOWAS.rar>

²¹ Faced with the exceptional pandemic situation at Covid-19 and in order to ensure the security of its partners, the OSS was unable to organize the workshop in its usual face-to-face form and therefore resorted to a videoconferencing platform.

Introductory session

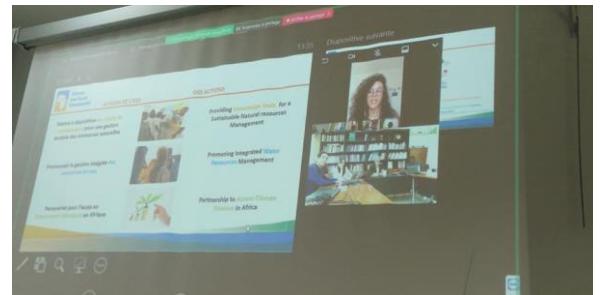
The introductory session was initiated by opening remarks by Mr Khatim Kherraz, Executive Secretary of OSS, who welcomed the participants of the regional consultation workshop. Following the official opening of the workshop Mr Nabil Ben Khatra, Coordinator of the environment program of OSS, presented the workshop objectives and main expected outcomes. He also explained the process and shared the final agenda which was adopted without amendments.



Session 1: Presentation of the project

The first session revolved around a general presentation of the RICOWAS project, alternating between the following two (02) presentations:

1. A brief presentation of OSS, the regional implementing entity of the RICOWAS project, was ensured by Mrs. Rawia Derbel, to explain the role of OSS in the framework of this project and to share some relevant experiences with the Adaptation Fund;
2. A presentation of the ECOWAS rice sector main challenges and the adaptation options that led to RICOWAS project development was conducted by Mr Samou Kone. Then he presented the objective, main components and expected results of the project.



Following these presentations, the discussions focused on the signification and importance of using "scaling up" rather than "improvement". The participants emphasized that this new project should build on the achievements of the SRI-WAAPP project and also involve the same actors to ensure the continuity in the region.

Session 2 : Présentation de la note conceptuelle du projet

The second session was organized around three (03) main topics presented as follow:

1. A reminder of the AF project's development process was shared by Mrs. Khaoula Jaoui, to get a common understanding of the whole steps to ensure a continuous commitment from all the parties. The presentation started from the pre-concept note stage up to the Full Proposal, as well as the consultation process required for each stage.
2. A presentation of the main sections of the Concept Note, by Mrs. Erika Styger, Project Consultant, including :
 - A reminder of the SRI-WAAPP project (2014-2016) and its main results and intervention sites;
 - A presentation of the RICOWAS project, its intervention areas and the challenge of climate change on rice production in West Africa;
 - A brief presentation of the concept note structure, with its main sections, and its status.
3. The last presentation of this session was dedicated to awareness raising on the scope and major risks related to the project activities, in terms of operational and financial risks as well as, environmental, social and gender issues, by Mrs. Leila Dridi. This session was highly of importance to ensure the required sensitization on the E&S safeguards of the Adaptation Fund.

All these presentations were followed by comments, questions and discussions from the participants, who raised several important points, either by speaking directly or by posting messages on the platform's chat room. The main recommandations are as follows:

- To give priority to large cross-border areas while refining the project intervention zones (communal level, district level, regional level, country level);
- To build on the institutional and human capacities already established and improved during the SRI-WAAPP project;

- To plan the project activities on at least a 4 years duration to ensure the achievement of the project expected results;
- To take the necessary measures in order to ensure the sustainability and scaling up of the project outcomes;
- To promote the rice production intensification, to meet the need of the West African countries for self-sufficiency;
- To reinforce the value chain approach through the establishment of PPP;
- To better identify the total number of beneficiaries per country and to consider gender issues mainly women and youth;
- To ensure the budget breakdown per country;
- To include some activities on improved seeds production and on sensitization of farmers on the importance of organic manure ;
- To consider scaling-up of other than SRI identified technologies for improving the resilience of rice production, through technology transfer rather than scientific research only;
- To ensure the link between the research center, extension agents and the private sector.

Session 3: Presentation of the operation and budget of the project

The third session, handled by Mrs. Khaoula Jaoui, dealt with the institutional arrangements and the regional steering committee proposed for the project execution. The presentation focused on the roles and responsibilities of each entity including the local and community level. Then a presentation of the global budget by component was also conducted highlighting the importance of the second component dedicated to concrete adaptation actions. This session was followed by the presentation of the gender and communication aspects in the RICOWAS project by the OSS gender expert Mrs. Lilia Benzid.

Session 4 : Debate and exchanges with national facilitators

After the various presentations a debate and exchange session was organized to give the opportunity to the national facilitators and participants to express their vision, observations, and comments. Prior to the visio conference, OSS shared with the participants a list of questions on the following topics in order to gather the opinions and structure the debates:

- Institutional arrangements at national level
- Technical capacities assessment at the national institutions and needs assessment
- Popularization national networks: Strengths , weaknesses and needs
- National communities involvement: Best way to succeed the process
- Land tenure : What to do to face this issue?
- Gender and youth role and involvement including in the rice value chain
- Environmental and social risks related issues

During the discussions each of the countries representatives and other participants has had the opportunity to express their opinion and share their challenges at national level. The main comments and suggestions are summarized as follow:

- The need to take into account the Covid-19 pandemic in the progress of the project;
- The importance of the participatory approach adopted by the project;
- The role of the SRI in production, which has proved its worth by considerably increasing productivity, and that the project fits well with national rice development concerns;
- The importance of involving women, youth and vulnerable groups. Women should be involved in the whole value chain from planting to marketing and participating especially in the post-harvest phase (especially rice parboiling);
- The need to valorize the achievements of the SRI-WAAPP project ;
- The necessity to build up a simplified institutional arrangement to ensure a smooth running of the project since it is a multi-country initiative involving several stakeholders at national and regional ;
- The importance of making the link with ongoing projects (at national and regional levels), and pooling resources to increase impacts;
- The development of training modules using local language;
- The opportunity to consider scaling up other technologies apart from SRI;
- The establishment of PPP to produce and to market the necessary equipment for SRI implementation;

- The involvement of NGOs and other community organizations ;
- The improvement of water productivity (more than yield per unit of water) by introducing well drought and heat resistant varieties,
- The organization of awareness and training days, including in schools, social media, etc.

Closing Session

The closing session was ensured by Mr Nabil Ben Khatra and Mrs. Khaoula Jaoui who thanked the participants for their commitment and dedication to the success of the project. They reported that the objectives of the workshop has been achieved and that a lot of information has been collected. Finally, they assured the participants of the continued support and readiness of the OSS to ensure the successful development of the concept note of RICOWAS project.



Annexes

Annex 1: List of participants

Country/Pays	Name/Nom	Institution focale/Focal Institution	Contact
Benin	Adjovi Ahoyo Nestor	Secrétariat Général du Ministère de l'Agriculture, de l'Elevage et de la Pêche (SG/MAEP)	ahoyonest@yahoo.com
Burkina Faso	Ilboudo Irissa	Direction générale des études et des statistiques sectorielles/Ministère de l'agriculture et des aménagements hydro-agricoles	ilboudoirissa@gmail.com
Cote d'Ivoire	Yapi Martial	Agence Nationale d'Appui au Développement Rural (ANADER)/Ministère de l'Agriculture et du Développement Rural	mafalev@yahoo.fr
Gambia	Ramatoulie Hydera Sanyang	Ministry of Agriculture	toulie4000@yahoo.co.uk
Ghana	Samuel Oppong Abebresse	CSIR-Savanna Agricultural Research Institute (SARI)	sam555oppa@yahoo.com
Guinée	Mamadou Billo Barry	Institut de Recherche Agronomique (IRAG)	billobarry@hotmail.com
Liberia	Robert Bimba	CHAP, International	robertbimba@yahoo.com
Mali	Diakaridia Coulibaly	Direction Nationale de l'Agriculture (DNA)	cdiak58@gmail.com
Niger	Adamou HAOUGUI	INRAN	ahaougui@yahoo.com
Nigeria	James Ocheme Apochi	Agricultural Research Council of Nigeria (ARCN)	jamesapochi@yahoo.com jamesapochi2@gmail.com
Sénégal	Abdoulaye SY Ousmane Fall Fatou Binta Hasedine Diouf	ANCAR	layesythies@yahoo.fr
Sierra Leone	Samuel Soki Harding	Rokupr Rice Research Centre/SLARI	Leumas1962@yahoo.com
Togo	Lotsi Kokou	Institut de Conseil et d'Appui Technique (ICAT)	Lotsikokou2002@yahoo.fr
Regional Executing Entity	Dounanké Coulibaly (DG adjoint) Alpha Seydou Maiga Hamidou Nantoumé Mohamed K. Dicko Gaoussou Traoré	CRS-RIZ/IER Mali	aseymaiga@yahoo.fr gtraore1951@gmail.com
Consultant	Erika Styger	Cornell University - USA	Eds8@cornell.edu
Student	Meminegni Landry Gildas GUIDIGAN	PhD Student WASCAL	guidigan.m@edu.wascal.org
Other partners	Ismael Abdelbagi Azaiez Ouled Blegacem	IRRI : International Rice Research Institute ICARDA : International Center for Agricultural Research in the Dry Areas	A.Ismail@irri.org a.belgacem@cgiar.org
Implementing Entity accredited by the Adaptation Fund	Khatim Kherraz Nabil Ben Khatra Khaoula Jaoui Leila Dridi Samou Kone Rawia Derbel Aziz Belhamra Dalila Hicheri Lilia Benzid	Observatoire du Sahara et du Sahel (OSS)	nabil.benkhatra@oss.org.tn khaoula.jaoui@oss.org.tn leila.dridi@oss.org.tn samou.kone@oss.org.tn rawia.derbel@oss.org.tn aziz.belhamra@oss.org.tn dalila.hicheri@oss.org.tn lilia.benzid@oss.org.tn

Annex 2 : Chat

AUJOURD'HUI 13:55

Robert Bimba

1. What is the number of beneficiaries per country? 2. What is the minimum fund allocated per country? Will there be a comprehensive reporting format for NF and NEE? 4. Erica please make clarity on Libeira project zones as we don't have irrigated areas that are function what we have is rainfall lowland and upland so please double check or give clarity? 5. Is there any mechanism for seeds from this project as Liberia has a need of improved seed?

Ouled Belgacem, Azaiez (ICARDA), Dubai

it is dealing with technology transfer and not research project

Ouled Belgacem, Azaiez (ICARDA), Dubai

this means that the technologies for improving rice production resilience are already identified and ready for upscaling

AUJOURD'HUI 14:33

Ouled Belgacem, Azaiez (ICARDA), Dubai

To improve the resilience of the rice crop: improve the water productivity of rice per mm or m³ of water (more than the yield per unit of water) through introducing well drought and heat tolerant varieties, best agricultural practices, Integrated pest management and improving the post-harvesting techniques already adopted by farmers; market access.

Mohamed

Je n'ai pas entendu Africa Rice (Saiti est présent) ce serait bien de les intégrer au comité technique comme Cornell et un représentant de chaque institution nationale de recherche et mettre le CILSS plutôt dans le steering committee

AUJOURD'HUI 15:22

Robert Bimba

Thanks for this workshop and highly appreciate it and will send further questions, COMMENTS. Will the project provide seeds? What is it we want to achieve is it change in farmer behavior or increase in yield or enhance Farmers Advisory Services (FAS)? or a holistic one comprising of all? Liberia remain committed for the success of this Project RICOWAS

Ouled Belgacem, Azaiez (ICARDA), Dubai

Ensure the upscaling of these practices through school and field days, on the job training mainly gender issue, ...

Ouled Belgacem, Azaiez (ICARDA), Dubai

social medias, ...