AFB/PPRC.22-23/7
24 May 2018

Adaptation Fund Board
Project and Programme Review Committee

PROPOSAL FOR TOGO

Background

1. The Operational Policies and Guidelines (OPG) for Parties to Access Resources from the Adaptation Fund (the Fund), adopted by the Adaptation Fund Board (the Board), state in paragraph 45 that regular adaptation project and programme proposals, i.e. those that request funding exceeding US$ 1 million, would undergo either a one-step, or a two-step approval process. In case of the one-step process, the proponent would directly submit a fully-developed project proposal. In the two-step process, the proponent would first submit a brief project concept, which would be reviewed by the Project and Programme Review Committee (PPRC) and would have to receive the endorsement of the Board. In the second step, the fully-developed project/programme document would be reviewed by the PPRC, and would ultimately require the Board's approval.

2. The Templates approved by the Board (Annex 5 of the OPG, as amended in March 2016) do not include a separate template for project and programme concepts but provide that these are to be submitted using the project and programme proposal template. The section on Adaptation Fund Project Review Criteria states:

> *For regular projects using the two-step approval process, only the first four criteria will be applied when reviewing the 1st step for regular project concept. In addition, the information provided in the 1st step approval process with respect to the review criteria for the regular project concept could be less detailed than the information in the request for approval template submitted at the 2nd step approval process. Furthermore, a final project document is required for regular projects for the 2nd step approval, in addition to the approval template.*

3. The first four criteria mentioned above are:
   1. Country Eligibility,
   2. Project Eligibility,
   3. Resource Availability, and
   4. Eligibility of NIE/MIE.

4. The fifth criterion, applied when reviewing a fully-developed project document, is:
   5. Implementation Arrangements.

5. It is worth noting that since the twenty-second Board meeting, the Environmental and Social (E&S) Policy of the Fund was approved and consequently compliance with the Policy has been included in the review criteria both for concept documents and fully-developed project documents. The proposals template was revised as well, to include sections requesting demonstration of compliance of the project/programme with the E&S Policy.

6. In its seventeenth meeting, the Board decided (Decision B.17/7) to approve "Instructions for preparing a request for project or programme funding from the Adaptation Fund", contained in the Annex to document AFB/PPRC.8/4, which further outlines applicable review criteria for both concepts and fully-developed proposals. The latest version of this document was launched in October 2016 following an update of the Operational Policies and Guidelines in March 2016.

7. Based on the Board Decision B.9/2, the first call for project and programme proposals was issued and an invitation letter to eligible Parties to submit project and programme proposals to the Fund was sent out on April 8, 2010.

8. According to the Board Decision B.12/10, a project or programme proposal needs to be received by the secretariat no less than nine weeks before a Board meeting, in order to be considered by the Board in that meeting.

9. The following fully developed project document titled “Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo” was submitted by the West African Development Bank (*Banque Ouest Africaine de Développement*, BOAD), which is a Regional Implementing Entity of the Adaptation Fund.

10. This is the third submission of the proposal using the two-step submission process following endorsement of the concept by the Board at its 28th meeting. The proposal was first submitted as a fully developed project document to the Board at its 30th meeting and was resubmitted at the 31st meeting. The proposal was submitted in time for the intersessional review cycle between the 31st and 32nd meetings of the Board. The secretariat carried out a technical review of the project proposal, assigned it the diary number TGO/RIE/Agri/2016/1, and completed a review sheet.

11. In accordance with a request to the secretariat made by the Board in its 10th meeting, the secretariat shared this review sheet with BOAD, and offered it the opportunity to provide responses before the review sheet was sent to the PPRC.

12. The secretariat is submitting to the PPRC the summary and, pursuant to decision B.17/15, the final technical review of the project, both prepared by the secretariat, along with the final submission of the proposal in the following section. In accordance with decision B.25.15, the proposal is submitted with changes between the initial submission and the revised version highlighted.

Project Summary

Togo – Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo

Implementing Entity: *BOAD*
Project/Programme Execution Cost: USD 804,380
Total Project/Programme Cost: USD 8,467,125
Implementing Fee: USD 728,495
Financing Requested: USD 10,000,000

Project Background and Context:

Togo's dominant rain-fed agriculture is implemented by small producers and mainly depends on climatic conditions which greatly vary and disrupt agricultural activities. This strong climate variability throws off farmers in their usual crop farming, often affecting crops in full vegetative phase and causing losses of significant returns. The proposed project aims to improve the level of resilience of vulnerable households in Mandouri by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production. In addition to the project intends to improve livelihoods by promoting crop diversification and the production of value added agriculture products and provide capacity building to project beneficiaries through knowledge management and training.

Component 1: Improved planning and management of water resources and (agricultural) production (USD 5,000,000)

This component will provide improved food self-sufficiency and sustainable management of land through better water management for agricultural production. Activities will focus on fencing off and developing 144 ha of land for agriculture production by constructing a basin and furrow irrigation system, purchasing equipment to improve the techniques and means of irrigated production, producing manuals and handbooks on irrigation and the expected ecological & health hazards of irrigation and disseminating the knowledge, and designing and implementing training programs for actors responsible for the operation, maintenance and repair of equipment acquired for the beneficiaries.

Component 2: Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries (USD 2,150,000)

This component will promote the development of income generating activities such as rice and corn production, market gardening and processing of fresh produce such as tomatoes and peppers for the market, drying and packaging of produce from the gardens, livestock and fish farming, and also beekeeping. Social infrastructure (warehouses, drying areas for fish, fish ponds, latrines, a communal bakery, a nursery to support agro-forestry, and a mini network of drinking water supply) will be built. Credit lines dedicated to financing agricultural and other income generating activities will be established. Preference to the credit lines will be given to women-led or youth-led groups. In addition, capacity building on financial management and simplified accounting, and training of local technicians in the installation and repair of irrigation and solar equipment will be provided to beneficiaries.

Component 3: Capacity building, environmental and social measures, and knowledge management (USD 1,317,125)

This component will provide improved knowledge of stakeholders for building resilience to climate change and for the prevention and management of environmental and social risks. Activities will focus on designing and delivering capacity-building programs to strengthen the technical capacity of local institutions in the prevention and resolution of climate risk issues, organizing information, education and communication sessions toward local populations on risk management techniques related to climate change, strengthening the capacity of cooperatives and employees of local institutions in the joint management of water resources and conflict management, and establishing a knowledge management system. In addition, information, education and communication programs related to climate change and the achievements of the project will be developed and delivered to local people.

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: **Togo**
Project Title: **Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo**
AF Project ID: **TGO/RIE/Agri/2016/1**
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): **10,000,000.**
Reviewer and contact person: **Farayi Madziwa**
Co-reviewer(s): **Dirk Lamberts**
IE Contact Person: **Yacoubou BIO-SAWE**

Review Criteria	Questions	Comments 1 May 2018	Comments 24 May 2018
Country Eligibility	1. Is the country party to the Kyoto Protocol?	Yes	
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	Yes	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes	
	2. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	Yes.	

	3. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy of the Fund?	Yes.	
	4. Is the project / programme cost effective?	Yes.	
	5. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?	Yes.	
	6. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	Yes. However, the certificate of compliance that was issued by the National Environmental Management Authority (NEMA) of Togo and mentioned in the project document is not attached to the proposal. **CR1:** Please attach the certificate of compliance issued by NEMA of Togo to the project proposal.	**CR1:** Addressed.
	7. Is there duplication of project / programme with other funding	No.	

	sources?		
	8. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	Yes.	
	9. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations?	Yes.	
	10. Is the requested financing justified on the basis of full cost of adaptation reasoning?	Yes.	
	11. Is the project / program aligned with AF's results framework?	Yes.	
	12. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	Yes.	
	13. Does the project / programme provide an overview of environmental and social impacts / risks identified?	For the most part, yes. However, the identification in table 9 is unclear for some of the principles as to whether they will trigger risks or not, e.g., gender equity and women's empowerment, core labour rights and pollution prevention. In addition, it is unclear whether the limited resettlement of farming activities for some households will be voluntary or involuntary in order to adequately substantiate the principle of involuntary resettlement. **CR2:** Please explain whether the	**CR2:** Not addressed. The environmental and social risks

		principles of gender equity and women's empowerment, core labour rights and pollution prevention trigger risks or not. **CR3:** Please provide an explanation of who owns the land within the 144ha project construction zone, that is, whether it is private or public ownership. Should the land holding be under public ownership (Land owned by the State), please address the principle of involuntary resettlement accordingly and as per the Fund's environmental and social policy (ESP). Please refer to the Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy, available on the Fund website at: https://www.adaptation-fund.org/documents-publications/operational-policies-guidelines/	identification should be done according to the 15 principles of the Adaptation Fund environmental and social policy (ESP). This should be reflected in the relevant Table 11. **CR3:** Addressed. Access to the project grievance mechanism will need to be made available to all possibly affected parties.
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	Yes	
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	Yes. The fee is 7.86%.	
	3. Are the Project/Programme	Yes. The costs are at 8.68%	

	Execution Costs at or below 9.5 per cent of the total project/programme budget?		
Eligibility of IE	4. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes. BOAD is an accredited RIE	
Implementation Arrangements	1. Is there adequate arrangement for project / programme management?	Yes.	
	2. Are there measures for financial and project/programme risk management?	Yes.	
	3. Are there measures in place for the management of environmental and social risks, in line with the Environmental and Social Policy of the Fund? Proponents are encouraged to refer to the draft Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy, for details.	Unclear. The construction of the proposed water reservoir of 47ha in size with potential capacity of 472,000 m3 constitutes unidentified sub-projects (USP) with potentially significant environmental and social risks. **CR4:** Please identify risks and describe mitigation measures for all identified risks as far as is feasible for the construction and operation of the water reservoir, including information on biodiversity and habitat loss, as well as data on water flows, water quality, estimates of how much water will be extracted etc.	**CR 4:** Not adequately addressed. The clarifications on the flows in the Oti river and the volumes of water stored from the river during the rainy season do not tally with the (very low, 42 l/m^2 annually) irrigation water requirements listed in the new table 4 (p. 27) The storage of water in the oxbow lake is a vital element of the project design also to prevent impact on the Oti river (global biodiversity relevance) during the dry season

			when the water levels are very low. The biodiversity importance of the oxbow is likely highly relevant as well, being inside a Ramsar site as well as the Oti-Keran/Oti-Mandouri UNESCO Man and the Biosphere Reserve. In addition, the dimension of the reservoir is adequate to supply a much larger irrigated area. The environmental impact of the reservoir dredging is announced to be identified and managed as needed during project implementation but there is no justification provided as to why this is not possible during project formulation. Please clarify rainy season and dry season river flows for the Oti River in relation to water use and storage in the proposed reservoir. Please identify risks and describe mitigation measures for the construction and operation of the water reservoir, including information on biodiversity and habitat loss.
	4. Is a budget on the Implementing Entity Management Fee use included?	Yes.	
	5. Is an explanation and a breakdown of the execution costs included?	Yes.	
	6. Is a detailed budget including	Yes.	

	budget notes included?		
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators?	Yes.	
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	Yes.	
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	Yes.	
	10. Is a disbursement schedule with time-bound milestones included?	Yes.	

Technical Summary	The proposed project aims to address vulnerability to climate change in the agriculture sector of Mandouri by installing hard infrastructure and improving food security whilst simultaneously building local capacity and knowledge in the agriculture sector. The project plans to install irrigation technology and equipment to improve water supply and to reduce health risks by installing social infrastructure for the community in the project area. Issues identified by the Board in the previous version of the proposal related to the coherence of project components, outputs and outcomes, and the interrelationship between the different project components and infrastructure systems have been addressed. The initial technical review found that the project had not attached the certificate of compliance issued by NEMA of Togo, and had not adequately assessed environmental, social and gender risks in line with the Funds environmental and social policy (ESP) and gender policy (GP), and in particular, the principles of gender equity and women's empowerment, core labour rights and pollution prevention. The project had also not provided a clear description of land ownership affecting issues of resettlement and the principle of involuntary resettlement under

	the Fund's ESP, and had not undertaken and adequate risk assessment of the proposed water reservoir. The final review finds that whilst some of the clarification requests have been addressed, the project still needs to address the issue of environmental and social risks identification, including providing risks identification and assessment for the proposed water reservoir. The following observations are made, to be addressed by the proponent: a) Please provide information on environmental and social risks identification according to the 15 principles of the Adaptation Fund environmental and social policy (ESP) b) Please clarify rainy season and dry season river flows for the Oti River in relation to water use and storage in the proposed water reservoir. c) Please identify risks and describe mitigation measures for the construction and operation of the water reservoir, including information on biodiversity and habitat loss.
Date:	24 May 2018

RESPONSE SHEET PROVIDED BY BOAD TO ADDRESS THE OBSERVATIONS MADE BY THE BOARD AT ITS 31ST MEETING

ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: **Togo**
Project Title: **Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo**
AF Project ID: **TGO/RIE/Agri/2016/1**
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): **10,000,000**
Reviewer and contact person: **Farayi Madziwa**
Co-reviewer(s): **Dirk Lamberts**
IE Contact Person: **Almamy Mbengue**

Review Criteria	Questions	Comments 5 February 2018	Comments 23 February 2018	Agency Response 16 April 2018
Country Eligibility	3. Is the country party to the Kyoto Protocol?	Yes.		
	4. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	Yes.		
Project Eligibility	14. Has the designated government authority for the Adaptation Fund endorsed the project/programme ?	Yes.		

	15. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	Yes, however Part II, Section H of the proposal under stakeholder consultation (page 62) appears to introduce new project activities, specifically, closing off the project area and the construction of cattle pens to mitigate the impacts of transhumance (these are also mentioned as mitigation measures on page 82). Description of these construction activities is not provided under Part II, Section A or under the table presenting the project components. Construction plans for these infrastructures are also not included in the drawings and plans submitted for the project. In addition, the proposal mentions the construction of a water storage basin on pages 62 and 84 as a measure to ensure continued supply of water for irrigation during the dry season. However, the design structure and technical detail of this construction, including		

		environmental and social risk assessment and the provision for its maintenance post project completion is not included in the relevant sections of the proposal. Further, drawing plans submitted for the project sight show a water storage tank, which is different from the storage basin as the storage tank is only mentioned in the proposal on page 83 as a measure to mitigate the shortage of water for downstream users due to water abstraction activities of the project. It is therefore not clear whether the storage tank is for the use in the project area or for use by downstream users outside of the project. **CR1:** Please provide further information on the closing off of the project area and the construction of cattle pens, including a description of construction materials to be used. **CR2:** Please clarify whether the project will construct a water storage	**CR1:** Addressed. **CR2:** Addressed.	

		tank or a water storage basin/pond or both and in the event of a water storage basin/pond, include it under the relevant project component and clarify the technical assessments done e.g. soil tests, construction design (e.g. size, depth, measures for erosion control etc) for the water storage basin/pond and include design drawings to the extent possible. **CR3:** Should the project include both a water storage tank and a water storage basin/pond, please include the construction or purchase of a water storage tank under the relevant project activities and clarify the use and purpose of the proposed storage tank.	**CR3:** Addressed.	

	16. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	Yes, however quantifiable benefits should be estimated as far as is feasible, e.g., the increase in area under cultivation, the increase in yields including any other benefits that can be quantified. **CR4:** Please quantify the estimated benefits from project activities as far as is possible in comparison with the project baseline.	**CR4:** Addressed.	

	17. Is the project / programme cost effective?	For the most part, yes. However, the first sentence of the first bullet point on page 41 states that "*Several alternatives were analysed during the project preparation*", and the remainder of the newly inserted text suggests that it represents the summarized results of this analysis that was done. In addition, whilst Section 5 of the ESIA provides a narrative justifying the chosen options for the project, it does not provide a cost effectiveness analysis. To further strengthen the case for why the proposed activities are more cost effective when compared with other alternative activities that could have been chosen instead of the ones proposed by the project, and that would still have led to increased resilience in the target community, please clarify if the process of analysing alternatives during project preparation was documented, and if it was documented, please submit the analysis mentioned on page 41. **CR5:** Please clarify if the process of analysing alternatives to determine cost-effectiveness of identified activities during	**CR5:** Addressed.	

	18. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?	Yes.		

	19. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund??	Yes. However, clarification on the steps taken to comply with relevant codes e.g. for construction of buildings and water extraction, and the nature of the authorization/clearance granted for the project to be implemented should be provided. As the project proposes commodity processing, food safety and health standards should also be considered. **CR6:** Please explain the steps that have been taken for the project to comply with relevant codes, in particular, food safety standards or codes, building codes, water extraction codes, and demarcation of physical boundaries (since the project area will be closed off), and explain if any licenses or approvals have been granted or are going to be granted for the project to be implemented.	**CR6:** Partially addressed. Whilst the need for compliance with water codes, construction codes, and international standards has been adequately mentioned, it would be useful to describe how the project will meet the requirements of these standards.	Section re-written to reflect actors relating to building, water extraction, demarcation of physical boundaries, and food safety standards. Including specific licenses to be acquired – pages 53-55

	20. Is there duplication of project / programme with other funding sources?	No.		
	21. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	Yes.		
	22. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	Yes.		
	23. Is the requested financing justified on the basis of full cost of adaptation reasoning?	Yes.		
	24. Is the project / program aligned with AF's results framework?	Yes.		

	25. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	Yes, however if the proposed new infrastructure has been added to the project as per CR1 above, then a detailed explanation of how this infrastructure will be maintained post project completion should be provided. **CR7:** Please refer to CR1 and provide a detailed explanation of how added infrastructure consisting of construction material for closing off the project area and cattle pens will be maintained post project completion.	**CR7:** Addressed.	
	26. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	Yes. However, it should be noted that whilst Part II, Section K provides an overview, this is made confusing by the inclusion of anticipated project benefits, which ideally should have been included under Part II, Section B. The overview also appears to be incomplete, e.g., the section on ESP categorisation (page 84) includes additional statements on risks that have not been listed in this		

		section, such as involuntary resettlement which had been mentioned in the risk screening table on page 87 as requiring no further assessment. This causes confusion as to the level of significance of this risk. Please clarify whether there will be resettlement (either physical or economical) of individuals or communities during project construction or at any stage of the project. If so, please explain in detail, the resettlement plan, process and provide evidence of consultation with those affected. Please consult the guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy available on the Fund website via the following link: https://www.adaptation-fund.org/documents-publications/operational-policies-guidelines/. It should also be noted that the proposed activities include unidentified sub-		

		projects (USPs), for which environmental and social risks and impacts identification is not possible at this stage, but which should be assessed during implementation. **CR8:** Please ensure consistency in all risks identified and mentioned throughout the proposal and in particular, provide further clarification on the identified risk of involuntary resettlement.	**CR8:** Partially addressed. The environmental and social risks identification table has been improved. However, there are still inconsistencies in the risks and impacts findings within this section. E.g. on p. 74, the table identifies clear public health risks and impacts, as well as mitigation measures, but Table 10 states that there are no risks, and hence that no further assessment is required for compliance. This is inconsistent. Furthermore, in Table 10 risks should be identified for each of the 15 ESP principles without taking mitigation or management measures into account. The risks finding for involuntary resettlement remains unsatisfactory as the activities clearly indicate	1. Pgs. 82-86: Table on activity analysis against AF principles reformatted. 2. Clarified - principle 8: involuntary resettlement. Community has donated 500 ha. Project is using only 144 ha. Any farmers in the 144-ha irrigation block will be moved to the rest of the donated land according to a stakeholder engagement mechanism to be developed at project implementation. Declaration on land donation added as Annex 4

			that will be at least temporary relocation of farming activities (e.g. p. 79, 82). However, the risks identification still states there is no risk (p. 82).	
Resource Availability	5. Is the requested project / programme funding within the cap of the country?	Yes.		
	6. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	Yes. The fee is 7.86%		
	7. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	Yes. The fee is 8.68%		
Eligibility of IE	8. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes. BOAD is an accredited regional implementing entity (RIE).		

Implementation Arrangements	11. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	Yes.		
	12. Are there measures for financial and project/programme risk management?	Yes.		
	13. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	Partially but inadequate. Some identified risks have no mitigation actions stated, e.g., the risk on soils and on the source of water irrigation (page 81). More importantly, whilst it is good that an ESIA was undertaken as well as a vulnerability assessment, component 2 of the proposal contains unidentified sub-projects (USPs), activities that have not been identified to the point where meaningful environmental and social risks identification is possible. In such a case, compliance with the ESP then requires either the development of a project-wide ESMP that includes a		

		detailed description of the mechanism and criteria that will be used to identify ESP risks as and when these USPs will have been identified (e.g. when loan applications are received and assessed through the micro-finance institution) to the point where risk identification is possible, as well as ways to formulate and implement mitigation and management measures. Alternatively, these USPs could be identified prior to submission of the funding application, with all ESP risks identified. The submitted ESP compliance process for the USPs is therefore inadequate. Whilst the impacts of the USPs are said to have been identified, assessed and integrated in the ESIA (p. 52), and there is indeed an additional paragraph on social exclusion as a result of access to loans, what is required is that for each USP, environmental and social risks need to be		

		identified according to the 15 principles of the ESP or as mentioned above, a detailed mechanism and criteria that will be used to identify ESP risks as and when they the USPs have been identified must be provided. This is currently not the case. It appears that the conclusions presented in this section are speculative, and not in line with the ESP. The updates to the ESMP are therefore not substantive. In addition, the process of ESP compliance for the USPs is problematic in other ways too (p. 74 of the ESIA), e.g., the 'working groups' are not specified. The role for initiating the process is not specified. The risks identification method is therefore not in line with the ESP and is not linked to the 15 principles of the ESP. The process is not integrated in the overall ESMP. Further, the ESMP needs to reflect the four core qualities of the ESP: risk-		

		based (applying the AF ESP 15 principles), evidence-based (as opposed to opinion or categorisation-based), commensurate to the risks, and comprehensive (applying to all the project activities). Risks and impacts should also be described in gender-disaggregated terms where appropriate. The updated ESMP for the proposed project which is included in the ESIA document is thus inadequate as it is not in line with the ESP. It needs to be based on the Fund's ESP and a detailed assessment of the 15 principles. **CAR1:** Please prepare an ESMP that reflects the requirements of the Adaptation Fund ESP. The project is classified as Category B for ESP compliance purposes (p. 84). However, on p. 100 it is considered to be a category A project.	**CAR1:** Partially addressed. Section III.C of the proposal has been elaborated and now contains elements of an ESMP. However, substantial shortcomings remain, including: 1. management of risks that have been identified for the activities that have been fully	1. Risk management for fully developed activities included – pg.97 2. Added a rider in Annex 6: key personnel to be hired, on format of job adverts at project implementation to ensure relevant competencies in project

			developed is not included. 2. the key positions responsible for the application of the ESMP for the USPs – the M&E officer and the project coordinator – require adequate capabilities to apply the ESMP, which may not be key requirements in the profiles for these positions. How will this be addressed? 3. Similarly, the Executing Entity will be assigned to develop specific environmental and social management measures. The EE's capacity to do so or to procure the required services should be clarified. 4. The 'general framework on risk assessment and risk management' (Fig. 9) needs to be modified to align with the ESP. **CR9:** Addressed.	staff – pg. 140. 3. Clarified EE's capacity on pg. 87 under EE profile. 4. Edited Fig. 9 on pg. 103 to conform to ESP.
		CR9: Please clarify which the correct project category is in line with the ESP. One of the main		

		environmental risks is the possible impact of the abstraction of irrigation water from the Oti river, which is at the core of a globally significant and protected (wetland) biodiversity hotspot. This risks information is not presented in the proposal or the ESIA, apart from a statement on p. 51 of the ESIA document that operation of the Irrigation Project will result in a reduction of water flows for downstream users. This risk is not quantified nor described in any detail, and there is not even a suggestion of possible consequences. Two generic mitigation measures have been formulated (p. 61, ESIA), as well as a suggestion for a storage tank to be filled during high flow (p. 56, ESIA). The same concern regarding risk identification and assessment applies to the water storage basin as stated in CR 2 above. **CR10:** Considering the globally significant	**CR10:** Not adequately addressed. The proposed	Added text on water basin creation to Table 9:

		importance of the Oti river and its associated ecosystems, please quantify the risks and expected impact of reduced flows due to project activities, that is, provide data and a description of the river for all of the relevant aspects: flows, water quality, estimates of how much water will be extracted, biodiversity, etc., both at the intake point as well as far downstream as the risks are present.	mitigation measure of creating a reservoir of 47 ha (p. 25) would constitute a USP in its own right with potentially significant ESP risks.	Environmental impacts and their mitigation – Pg. 76. To be handled as a USP at project implementation

	14. Is a budget on the Implementing Entity Management Fee use included?	Yes. However, the description in the table (which is not labelled) showing the budget for the IE management fee does not refer to any monitoring activities, although these are budgeted for in Table 12. In addition, the management fee mentioned in Table 4 is different from the figure mentioned in Table 15 and the total on page 117. **CR11:** Please clarify what the management fee is and be consistent throughout the proposal. **CR12:** Please include a label and title for the table shown on pages 115-117 and include reference to monitoring activities in the table.	**CR11:** Addressed. The fee is 7.86% **CR12:** Addressed.	
	15. Is an explanation and a breakdown of the execution costs included?	Yes.		

	16. Is a detailed budget including budget notes included?	Yes. However, whilst sub-figures have been included to itemize the budget, the itemized budget in row 1.1 of Table 15 does not add up to the subtotal for that row. The itemized budget in 1.2.1 of the same table also does not add up to the subtotal in the row, neither does row 1.2.2 or 1.2.3 and others. **CAR2:** Please ensure that itemized budget figures add up to the sub-totals in the right-hand column of the budget table or consider revising the proposed budget.	**CAR2:** Addressed.	
	17. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	Yes.		

	18. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	Yes.		
	19. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	Yes.		
	20. Is a disbursement schedule with time-bound milestones included?	Yes.		

Technical Summary	The project aims to improve the level of resilience of vulnerable households in Mandouri by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production. In addition, the project intends to improve livelihoods by promoting diversification in the agriculture sector and promoting the production of value added agriculture products. The initial technical review found that the project had several inconsistencies in the stated budget figures, the management fee stated in different sections of the project document, the articulation of environmental and social risk identification, assessment and mitigation, and was inconsistent in classifying the project category as per the Fund's ESP. The project did not adequately explain the addition of new activities in the form of hard infrastructure that had not been mentioned in the three project components, did not provide a clear description of the cost effectiveness analysis, and did not adequately address how the project would meet relevant national technical standards.

	The final review finds that whilst most of the clarifications have been addressed, the project still needs to address inconsistencies in environmental and social risks and impacts findings and the measures in place for the management of such risks, including for unidentified sub-projects, and in line with the Environmental and Social Policy and Gender Policy of the Fund. The following observations are made: a) Please ensure consistency throughout the project document in all risks identified and in the findings of risk assessment and impacts, and in particular for the principle on involuntary resettlement. Please update the relevant sections throughout the project document for consistency. b) Please describe how the project will meet the identified codes and international standards as relevant. c) Please provide detailed information on the measures in place to identify and address environmental and social risks for unidentified sub-projects in line with the Environmental and Social Policy and Gender Policy of the Fund.
Date:	23 February 2018

ADAPTATION FUND

PROPOSAL FOR TOGO

Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo

May 2018

DATE OF RECEIPT:	
ADAPTATION FUND PROJECT ID:	
(For Adaptation Fund Board Secretariat Use Only)	

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	**Regular project**
Country/ies:	**Togo**
Title of Project/Programme:	**Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo.**
Type of Implementing Entity:	**Regional Implementing Agency**
Implementing Entity:	**Banque Ouest Africaine de Développement (West African Development Bank) [BOAD]**
Executing Entity/ies:	**Ministere de l'Environnement et des Ressources Forestieres African Sustainability Centre (ASCENT)**
Amount of Financing Requested:	**10,000,000 (In U.S Dollars Equivalent)**

1. Project Background and Context:

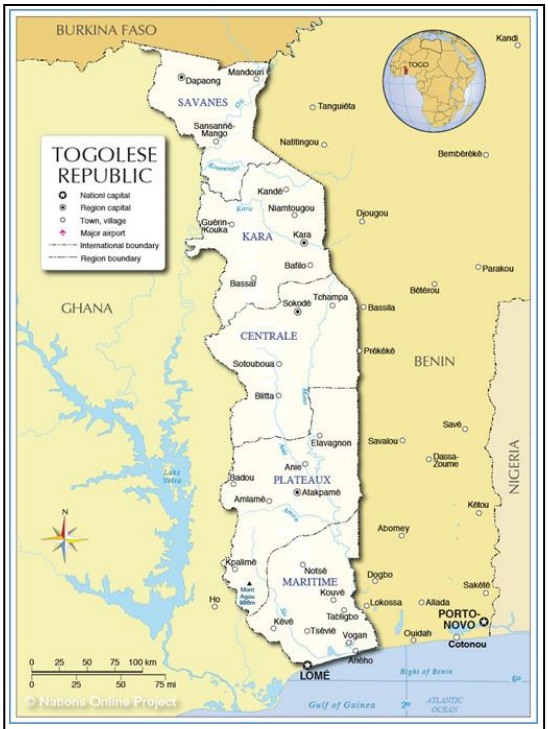


Fig. 1: Location & administrative divisions

Geographical and environmental context

Togo is a West African country located between latitudes 6^0 and 11^0 north, and longitudes 0^0 and 1.40^0 east. It is bounded to the north by Burkina Faso, to the south by the Gulf of Guinea, east by Benin and to the west by Ghana. With an area of 56,600 km², it stretches from north to south over a length of 600 km in a straight line and has a width that varies between 50 and 150 km. It has a coastline of about 50 km, which opens onto the Gulf of Guinea. It is divided into five administrative regions: Savanes, Kara, Central, Plateaux and Maritime where the capital Lomé is located (Figure 1).

Togo's relief consists of rugged terrain, except for the Atakora mountain range that crosses the country in a southwest to northeast line. The typical landscape is composed of deep and narrow valleys that individualize the plateaus. In the far north, a vast eastern plain furrowed by the Oti River and its tributaries extends between 9° 20' and 11° north. From the north, the eastern plain rises and extends to the south, giving the plateau bar of land overlooking the lagoon area, which covers more than two thirds of the Maritime Region.

Togo is under the influence of two major climatic patterns (Figure 2).

- **The tropical north Sudanese regime (from the 8th parallel north) with a rainy season that goes from May to October and a dry season that goes from November to April. In this area, annual rainfall varies from 900 to 1100 mm and the plant growth period is less than 175 days;**
- **The Guinean regime tropical south (south of parallel 7) is characterized by two dry seasons and two rainy seasons of unequal durations. Annual rainfall ranges from 1000 to 1600 mm[1].**

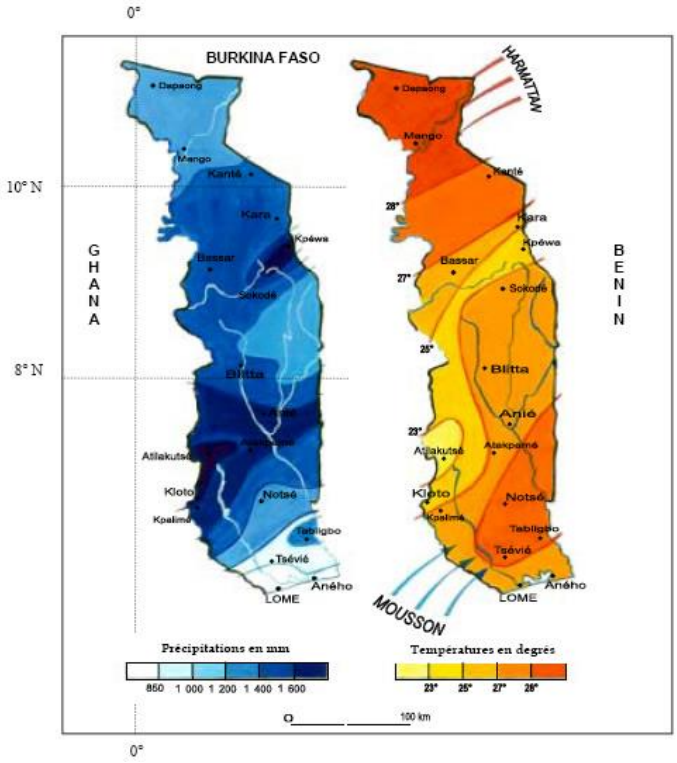


Figure 2: The two maps for climate[2] (precipitation and temperature)

Between the two regimes, there is a transition zone whose ombrothermic curve has a single rainy season with a slight decrease in rainfall in August or September. The average temperature is generally high: up to 28° C in northern areas, 27° C in the coastal zone and between 24⁰ and 26° C in the other localities. The average relative humidity is high in the southern areas (73-90%) but low in northern regions (53-67%). The average wind speed is 1.93 m/s and the average duration of insolation is 6h37 minutes per day. The average evapotranspiration can be estimated at approximately 1,540 mm/year[3].

At the watershed level, Togo is divided into three large basins:

- **The Oti basin and its tributaries cover about 47.3% of the territory. The high-water period is between August and October, and the low water period is from December to June;**

- **Mono Basin occupies the central third and all of eastern Togo. By area (37.5% of the territory), it is the second basin in the country. There is only one high water period between July and October. The duration of the period without flow varies from 30 days to about 130 days;**

[1] Deuxième communication nationale du Togo (2010)
[2] Deuxième communication nationale du Togo (2010)
[3] Deuxième communication nationale du Togo (2010)

- **The coastal basin of Lake Togo has three components which Western Component that drains the waters of Zio, the central component that drains the waters of the South and Haho component formed by the own basin of Lake Togo. The entire coastal basin covers an estimated area of 14.3% with a transitional equatorial regime in connection with the rains: two dry seasons alternating with two rainy seasons.**

- **The coastal basin of Lake Togo has three components, the western component which drains the waters of the Zio, the central component which drains the waters of the Haho and the southern component formed by the basin of Lake Togo. The whole coastal basin covers an area estimated at 14.3% with a transitional equatorial regime in connection with the rains, of two dry seasons alternating with two rainy seasons.**

The National Water Policy (NEP) also reveals that despite a favourable situation in potential availability, Togo suffers from a lack of mobilization of its water resources and is struggling to meet the basic needs of populations, in supplying drinking water and mobilizing these resources for the promotion of a harmonious and coordinated development of the country. It reports also large regional differences in terms of availability and demand of the resource. The distribution of water resources in time and space does not necessarily follow the rules of needs and uses. They are abundant in some areas and sorely lacking in others. Sometimes the most deprived areas represent the most important use areas. Moreover, the problems of availability may be related to quality problems due to salinity, or pollution may arise locally[4].

Concerning flora, Togo has three major categories of natural formations: the dense forest formation (10% of the country), the open and wooded savanna formation (83% of the total area of the country), and riparian formation located in the more or less flooded main river valleys (2% of the total land area).

Togo's vegetation formations are located in a transition zone between the semi-deciduous dense forest and savanna and include: -

a. the Sudano-Guinean forest, degraded and currently mainly located in mountainous areas, especially in the West Plateaux region;
b. the gallery forest bordering the axes of the main drainage watercourse;
c. the dry dense forest or savannah consists of a stand of deciduous species, mainly in the central and north of the country;
d. Savannah southern and central part of the country until the ninth parallel and north of the Togo Mountains in the basins of the Oti and Kara, and in Danyi Plateaux, and Akposso the Akébou; and
e. The shrubby bush is mainly found on the earth bar trays and wet lowland depressions of the Lama.

All formations described above are highly degraded areas with high rural activities. This situation has worsened with the phenomenon of climate change which caused frequent drying up over the past decade in Togo. At the same time, productive savannas decreased at a rate of 6,000 ha/year and fallow increased by more than 22 000 ha/year[5]. The increasing erosion of plant formations including mountain forests is a great concern considering the important role they play in regulating water and rivers and also in the protection of watersheds. The climatic diversity of Togo flows from north to south by a diversity of ecosystems with their characteristic species. These flora and wildlife resource areas include terrestrial ecosystems and aquatic ecosystems[6].

[4] Rapport final vulnérabilité et adaptation ressources en eau-Projet Troisième Communication Nationale (2014)
[5] Deuxième communication nationale du Togo (2010)
[6] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

The formations encountered are functions of the physical and geographical conditions, and are generally heavily degraded. The 1994 the National Forestry Action Program (NFAP) of Togo estimated that in 1970, dense forests covered 449,000 hectares, while in 1990 it reduced to 140,000 hectares with a deforestation rate of about 15 000 ha / year.
Tree cutting is the most devastating human activity that causes the destruction of forests throughout the national territory in general, and especially in the western part of the Plateau and Central Regions. This deforestation results from bushfires, pressure from farmers practicing slash and burn agriculture, timber operators, and wood energy especially for households in rural and urban areas. Indeed, firewood and charcoal are the two main types of fuel mainly used for cooking food. Ninety-four percent (94.4%) of rural households use firewood for cooking, while 75.4% of urban households used mainly charcoal[7].

2. Socio-economic development context

According to the 2010 Togo Census and Housing Report and its updated data, the country's population grew from 6,191,155 in 2010 to 7,121,673 people in 2015, composed of 51.4% women and 48.6% men.

With an average annual growth rate of 2.84%, the population density rose from 110 inhabitants per square kilometre in 2010 to 133 inhabitants per square kilometre in 2015. This population is predominantly rural (> 60%). Young people under 15 years and 25 years counts respectively for 40% and 60% of the total population.

The macroeconomic context is characterized by a Gross Domestic Product (GDP) which rose from 3.7 billion USD in 2010 to 4.5 billion USD in 2014[8].

The rural sector contributes 41.7% of the GDP of Togo and employs more than 40% of the active population. Agricultural production accounts for 70% of the GDP in this sector. Indeed, only 45% of arable land, i.e. 3.4 million ha, is currently exploited[9].The socio-political crisis that the country went through during the past years has deeply affected the performance of the sector. The trends are currently characterized by an average growth in agricultural production of 4.4% between 2002 and 2005 despite an increase in cultivated area of 3.4% over the same period. This reflects lower yields over the period.

The vast majority of the rural population consists of small producers. They are poorly monetized, as reflected in their low productivity and their inability to take advantage of market opportunities (national or international) to increase their income and to access a number of services that could improve their living conditions.

A 2009 study by IFPRI (International Food Policy Research Institute) on agricultural performance in Togo showed that halving the rural poor would require an annual growth of 9.6% in the agricultural sector during a five-year period. This constitutes a major challenge. Between 2005 and 2008, agricultural growth was 3.9% globally, and 4.8% for food production in particular. In 2009 agricultural growth reached a record level of 8.2%. This shows that significant progress can be rapidly achieved when decisive actions are taken. In the various sub-sectors, the following performances were recorded:-

In the crop production subsector, subsistence farming is the main source of poverty reducing growth both nationally and in rural areas for the next decade. Crop production can be divided into:
a. food crops (maize, sorghum, millet, rice, etc.), tubers (yams, cassava, etc.) and legumes

[7] Questionnaire des Indicateurs de Base du Bien-Etre (2011)
[8] Comptes nationaux du Togo 2010 and Word Bank (http://www.worldbank.org/en/country/togo)
[9] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

(peanuts, beans, etc.), that in recent years have contributed to 66% of the agricultural GDP; and

b. export crops such as cotton, coffee and cocoa, contributing an average of 9% of agricultural GDP[10].

While grain is the main staple of the population, the cereal balance was in deficit between 2005 and 2008 with a coverage rate of domestic production between 87% and 97%. Since then, through incentives introduced by the Government as part of the Strategy for the revival of agricultural production (AFS), with notable outcomes including:-

a. fertilizer supply has increased from less than 11 000 tons in 2008 to 30 000 tons in 2010 with the key demand leading to the setting up of 110 stores;

b. food seed production recorded about 400 t in 2008 to more than 533 tons, an increase of 12.9% in twelve years, and 750 tons in 2009 and 2010 respectively, an increase of 33% in two years.

Sustainable Land Management (SLM) gradually restored seed production capacity by rehabilitating the Sotouboua seed farm; structuring of the seed sector; and training seed inspectors.

Among cash crops, cotton has suffered a continuous decline since 2005, going from 173,660 tons to 27,900 tons in 2009. Between 2002 and 2009, production in the coffee and cocoa experienced respective annual growths 39% and 79% to 11,000 tons and 13,200 tons in 2009. In addition to the agro-ecological potential available in the country, the Government has undertaken major restructuring to improve cash crops. There is ongoing restructuring and a coordination unit has been established to restore production potential through the close support to producers[11].

The sub-sector of livestock production has contributed to the agricultural GDP with an average of 13.4% in the last five years. The main species found in Togo are: Cattle, sheep, goats, pigs and poultry (chickens, guinea fowl, turkeys, and ducks). In 2009, livestock number estimates included - cattle (307,500 heads), small ruminants (sheep and goats 1,657,400 and 1,870,000 heads respectively), pigs (308,450 head) and poultry (13,878,000). This shows an annual growth of 3%, 10%, 3% and 39% respectively for the four species.

Despite this growth, meat production does no satisfy the demand. In 2009, meat production was at 49,689 tons for a demand of 70,000 tons, with a shortfall of 20,311 tons (30% of the needs) met by imports from the Sahelian countries, and from Europe. Through the National Agricultural Investment Program and Food Security (PNIASA), the Government aims to cover this demand through domestic production.

Over the last ten years, fish production (mostly artisanal) catered for 3.6%of agricultural GDP. In 2009, the average fish production was 27,025 tons, of which 81% comes from the ocean and 19% from rivers, lagoons and fish farming.

The coverage rate of domestic consumption in fisheries products is less than 50% and is likely to worsen in the future. Given the weakness of maritime resources and overexploitation of lagoon resources, the efforts of the Government, to reduce the deficit, are mainly focused on the development of fish farming and the establishment of adequate mechanisms for the sound management of maritime and continental fishery resources.

Socially, there are many conflicts between farmers and herders in Togo related to transhumance especially after crop harvesting. Generally, livestock comes in from the Sahelian countries (Burkina Faso, Mali, Niger, etc.) and Benin. This creates a set of problems with the local sedentary population. The root causes are that transhumance corridors still exist, but with climate change, livestock inevitably increase the pressure on natural resources, sometimes destroying stored crops. There are,

[10] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

[11] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)

however Transhumance Management Committees that hold regular meetings in the prefectures on this issue.

In socio-economic terms, despite the implementation of various economic and social policies, Togo's development indicators are far from satisfactory today. Togo is part of the category of Least Developed Countries (LDC) with a per capita income of 360 US dollars in 2005. The Togolese economy traditionally depends on the primary sector. This represents about 40% of GDP and employs over 70% of the workforce. The secondary and tertiary sectors represent approximately 23% and 36% of GDP in 2004. Agricultural production is primarily dependent on weather conditions and is dominated by small farms conducted using rudimentary techniques and tools. Togo has a liberal economy whose exports, focusing on phosphates, cotton, cement, coffee, and cocoa accounted for an annual average of 34% of GDP between 2002 and 2005, a level well below the average of 45% that prevailed in the 1980s. Also, the degradation of economic activities, followed by worsening poverty have ended up showing the limits of the actions of the state to respond effectively to people's needs. In addition, the skills gap also affects the private sector and civil society.

Clearly, human and social development indicators are lacklustre. Indeed, Togo's human development index of 0.495 ranks the country 147th in the world ranking (UNDP Report 2006). Based on data from the survey on well-being indicators (CWIQ, 2006), it was revealed that the incidence of poverty has increased. There percentage of poor households was 56.2% in 2006 (MEF, 2007) compared to 35.3% in 1998 (RNDHD, 2004). The Human Poverty Index (HPI-1) of Togo was 39.2% in 2006, ranking the country 72th in the world out of 102 developing countries (in 2003, the HPI-1 was 38.5%). The various surveys revealed that over 60% of the Togolese population lives below the poverty line. The incidence of poverty is very high in rural areas where three out of four households are poor against two in five in urban areas. The regions most affected by poverty are the Savanna region (90.5%), the Central region (77.7%) and the Kara region (75%). Moreover, poverty is strongly correlated with undernutrition to the extent that 64.2% of the poor population is undernourished[12].

The main determinants of household poverty are, firstly, household size, health status of members and household factors of production and on the other hand, the level of education, occupational status, sex, age and marital status of the head of the household.

The comprehensive strategy for poverty reduction that the Government intends to implement with the participation of all development actors and beneficiary populations, has the ultimate objective of effectively and sustainably improving people's living conditions by addressing main causes of poverty.

To do this, the government's goal is based on four (04) strategic pillars:

- **a. strengthening governance;**
- **b. the consolidation of the foundations for strong and sustainable growth;**
- **c. human capital development and,**
- **d. reduction of regional imbalances and promoting development at the base.**

These different pillars take into account the cross-cutting issues relating to the environment, AIDS, gender and human rights.

In terms of access to basic social services, there is a great disparity to the chagrin of the poor. In terms of access to education, guidance of public subsidies to education is unfavourable to the poor. The poorest 20% receive an equivalent of 5,607 FCFA as educational grant per head, while the richest 20% receive 10,376 FCFA per capita. Similarly, access to public health grants, is unfavourable to the poor. Indeed, the poorest 50% of the Togolese population has only 20% of public subsidies to University Hospital, and 30% of subsidies to hospitals and health centres. In rural areas that

[12] 12 DSRP-C Togo (2009-2011)

concentrate approximately 80% of the poor, access to health care is done through clinics or health centres. Health huts 9 (clinics) do not receive public subsidies.

The analysis of the access to electricity in Togo shows that the poor do not have access. Only 11.1% of poor people have access to electricity, against 42.9% of non-poor.

As for access to safe drinking water, the divide between the poor and non-poor is relatively low. About 39% of the poor have access to safe drinking water against 53.5% of non-poor.

Women represent the larger fraction of the Togolese population (51.3%), and nearly 75% of the population in rural areas against only 25% in urban areas. In agriculture, they represent nearly 60% of the agricultural workforce and are present in all phases of agricultural production. They are responsible for 40% of ploughing and weeding; 70% of the harvesting; 80% of seeding; and 90% of agricultural processing and marketing activities. They are present in many other activities, and their role in domestic work predominates over that of men.

Compared to men, Togolese women face higher rates of illiteracy that affects their lives. The majority of women are not educated; the female literacy rate is 55.8% according to provisional data from the 2006 CWIQ survey. They rarely go beyond the primary level and even less the secondary level. This situation disallows women from being informed about all the favourable legal provisions present in the Convention on the Elimination of Discrimination against Women (CEDAW) for instance.

The different legal provisions in favour of gender equity and empowerment of women, demonstrate the Government's desire to promote equality and equity between the two components of society. The sociological factors, ignorance of the existence of these provisions, the lack of a clear appeals process, distrust, resignation, partly explain the non- exercise of rights. In general, beliefs and custom still dominate modern law in some areas and oppose the advancement of women and girls. This is, among others, early marriage; female genital mutilation; and the low-participation of women in decision-making. Added to this are the difficulties in accessing credit, land and inputs; easements ritual marked by the placement of girls in fetishist convents; some mourning rites for the widow; and gender-based violence.

To support and implement the commitments made in the framework of the various agreements, the Government of Togo in 1992 devoted to the principle of gender equality in the Constitution of the 4th Republic. Togo ratified all international instruments that protect the Woman (CEDAW), Convention for the Suppression of the Traffic in Persons and of the Exploitation of the Prostitution of Others, the Protocol to the African Charter on Human Rights and Peoples' Rights (ACHPR) on the Rights of Women). However, there are still obstacles that must be overcome to improve women's status and promote their equal participation in the development process. To this end, initiatives should be undertaken to: -

a. promote education and training of the daughter and wife,
b. improve the health of women,
c. ensuring the economic empowerment of women
d. improve and respect the legal and social status of women,
e. develop and take into account women's work, and
f. strengthen the participation of women in decision making spheres[13].

The extractive industries are mainly on phosphate and clinker. Manufacturing industries include the following industrial units: food, beverages and tobacco, textiles, clothing, wood and wood products, printing, paper, publishing, chemical, and metal products.

[13] (UNDAF) (2007)

The overall objectives of the various sectoral policies implemented in areas related to climate change are as follows:

- **In agriculture, it is to increase the income of farmers and contributing to improving the living conditions of rural people, in a perspective of sustainable development, with particular attention to the poorest populations or most vulnerable, including young people and women;**

- **In the energy sector, the general objective of the Government is to meet the energy needs of households and businesses. More specifically, it will effectively manage energy by reducing losses and waste, to establish an institutional and legal framework for development of the sector, to implement a promising alternative sources development plan for the production of energy, taking into account the environmental dimension and to promote the involvement of private operators;**

- **In the forestry sector, the guidelines of the National Forestry Action Plan (NFAP) concern the improvement of forest management and strengthening capacities of ecosystems for efficient carbon sequestration. People are called to create private forest areas, to protect existing forest stands and developing urban forestry, suburban and rural;**

- **In the transport sector, the objectives of the Government's policy focus on improving: road infrastructure; the effectiveness of the sector to support the economic recovery and contribute to economic growth; the competitiveness of Togolese products in domestic and foreign markets by reducing transport costs and a better quality of services and the mobility of goods and people and the reduction of poverty and the implementation of an autonomous and sustainable plan of the area;**

- **In the area of health, the general guidelines of the national policy designed to reform the health system in order to adapt to the new challenges of the health sector in Togo; ensure the adequacy of the health system to the needs of the most vulnerable and the poor; and promote physical, economic and policy favourable to health and advocacy to put health at the centre of economic and social development;**

- **In the field of hydrology, this is to enable all people to have access to drinking water in sufficient quantity and quality. To improve the management efficiency of this sub- sector, the Government will resort to the private sector, either through outright privatization or by privatizing some functions such as marketing;**

- **In the area of sanitation, the Government is aware that proper sanitation requires, among other things, public awareness, proper management of household and industrial waste, improving access to individual sanitation systems for households, the prevention of pollution of any kind;**

- **In the field of urban planning and housing, the Government policy aims to control urban development by facilitating access to housing for the most disadvantaged; capacity building of actors in the subsector; mastery of land issues; and institutional strengthening of the Planning Department and Housing;**

- **In the environmental sector, the Government has developed an environmental policy to promote a comprehensive and rational management of the environment, to improve the environment and living conditions of people in the perspective of economic development and social sustainability.**

To do this, the Government intends to implement the following measures: -

a. **reducing human pressure on natural resources;**
b. **the promotion of integrated management of the coastal zone;**
c. **strengthening of cooperation in regional and international environmental management matters;**

d. strengthening national environmental management capacities;
e. prevention and fight against pollution and nuisances; and
f. prevention and management of risks and disasters.

In general, the degree of consideration of the issue of climate change in the policies initiated by the Government is significant from one sector to another, but generally insufficient.

3. Climate Change and variability in Togo

- **Trends, climate risks and observed impacts**

Studies conducted in Togo in recent years indicate that there is generally a decrease in rainfall and number of days of rain[14]. The Rainfall-Potential evapotranspiration (P/PET) ratio which is the aridity index is also down, reflecting the trend of climate aridity. Temperatures are rising, those for the high temperature period (February, March and April) can exceed 35 °C (Table 1). Climatic data on climate change shows that the major climatic risks between 1961 and 2012 are summarized with paradoxically extreme situations of drought or flood. Thus, those contradictory extremes follow and create complete confusion on the country level communities. Between 1986 and 2012, observing data indicates also an agitated climatic period by the global warming phenomenon (tables 1 and 2). The warming phenomenon is felt differently from south to the north of the country.

However, since 2005, a resumption of rainfall was recorded in some stations. This recovery is reflected in the intensity and amount of rainfall, which would explain the recurrent floods recorded these last years in the country. This rainfall variability is not without consequences on the occupation and evolution of the ground.

Table 1: Warming evolution in various climatic zones in Togo[15]

Regions	Average T°C 1961-1985	Average T°C 1986-2012	Variations in T°C
Lomé 06° 10' N / 01°15' E	26,8	27,9	0,69
Atakpamé 07°35' N / 01°07 E	25,8	26,8	1,0
Sokodé 08°59'N / 01° 07' E	26,2	26,9	0,69
Mango 10° 22' N / 00° 28' E	27,9	29,1	1,2

Table 2: Evolution of precipitations in various climatic zones in Togo[16]

Regions	Average rains (mm) 1961-1985	Average rains (mm) 1986-2012	Variations (mm)
Lomé 06° 10' N / 01°15' E	876,0	833,0	-43
Atakpamé 07°35' N / 01°07 E	1363,3	1360,0	-3,29
Sokodé 08°59'N / 01° 07' E	1380,7	1299,7	-81
Mango 10° 22' N / 00° 28' E	1085,1	1048,3	-41,8

[14] Adjoussi et al, (2012), Adéwi (2012)
[15] Direction Nationale de la Météorologie, (2013) in (Scénarios climatiques-Troisième communication nationale 2014)
[16] Direction Nationale de la Météorologie, (2013) in (Scénarios climatiques-Troisième communication nationale 2014)

Following the recurring of floods in Togo and consequences recorded on the national economy and on the poorest people, the government set up Disaster Risk Reduction (DRR) as a national priority. This initiative will enable the government to respond appropriately to the risks of disasters, taking into account sustainability in interventions (NADP, 2010)[17].

Tables 1 and 2 above indicate that in the entire country, temperatures are rising and the annual rainfall show a general downward trend. The rains are concentrated in a short time and dry periods are experienced hardest with temperature thresholds exceeding all averages.

- ***Climate projections and expected impacts***

Changes in annual temperature and precipitation were compared with changes from 1971 to 2000. Scenario studies reveal that climate change will already be perceptible by 2025, both in terms of temperatures and precipitation.

Indeed, there will be a variation in rainfall of 1% in the North from 11° N to -1.5% at Latitude 5 ° N in the south of the country. The Savannah Region will experience a small increase in rainfall, while the other regions (Maritime, Plateau, Central and Kara) will be marked by a decrease (0 to -1.5%). The average annual temperature will have a variation of 0.66 ° C in the South of the country at 0.80° C in the extreme north. On average, high temperatures will be recorded in the Savannah region in April (32.6° C)

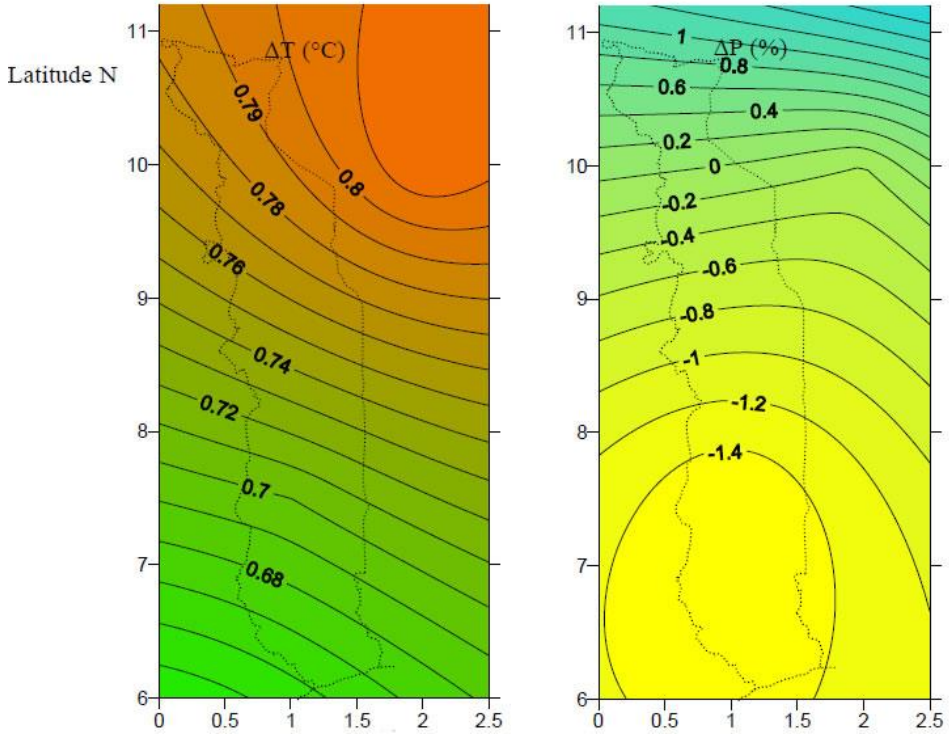


Fig. 3: annual variations of temperature and the rate of precipitation by 2025 (Source: Second National Communication 2011)

Reference scenario

The present time is represented here by the average of the 1986-2005 period atmosphere centred on 1995. The average annual temperatures "TMean" range between 21.22° C and 28.62° C with maxima "TMax" around 35.22° C in the extreme north and minima "TMin" of 16° to the west of the plateau

[17] Programme national de suivi de l'environnement au Togo (PNSET, 2012)

region. The annual rainfall "Precip" vary between 850 and 1,715 mm with the lowest values in the maritime region and in the far north of the Savanna region.

Scenarios for 2025 (optimistic assumption RCP2.6)
Depending on the emission scenario defined by the concentration of GHG RCP2.6 trajectory, the highest temperatures will be registered in the extreme northeast with average maximum of almost 36° C. The average temperatures oscillate between 21°C and 29°C in general and the western plateau region is going to experience the lowest temperatures around 17° C on average. Compared to 1995, the maximum temperature limit will increase by 2%.

Precipitation will change in the range 857-1,722 mm against 850-1,715 mm in the reference scenario.

Scenarios to 2050 (optimistic assumption RCP2.6)
The warming trend is noticeable throughout the country by 2050 with average maximum temperatures between 27° C and 36.24° C.

The change in rainfall is not very high compared to the levels of average precipitation in the baseline scenario. However, a slight increase in overall can be noted.

Scenarios for 2025 (worst case RCP8.5)
The results of the pessimistic scenario for 2025 are below:

27°C < TMax < 36.08°C
22°C < TMean< 29.5°C
17°C < TMin < 24.26°C
858.41 mm <Precip< 1,723.30 mm.

Scenarios to 2050 (worst case RCP8.5)
By 2050 the GHG concentration trajectory worst scenario RCP8.5 temperatures will change as below:

27.8°C < TMax < 37°C
22.8°C < TMean< 30.5°C
17.8°C < TMin < 25°C

Rainfall "Precip" are in the range from 862.7 to 1,732 mm.

The scenarios impacts on Agriculture
The IPCC Third Assessment Report of the Expert Group noted a loss of 2% to 4% for agricultural production for West and Central Africa regions. Moreover, studies for category B2 SRES showed that by 2080 the changes in meteorological factors will lead to a loss of agricultural potential. Land area for rainfed agriculture and grain production potential will decline remarkably.

Other risks that can be expected are the risks of erosion and declining agricultural product yields in rainfed areas and reduced crop growth periods. Climate variability, climate change and changes in socioeconomic variables can also have negative impacts on the fisheries and livestock especially the risk of pest invasions.

On the West African regional level, it is recognized that climate change has already led to a desert encroachment of 25-35 km to the South West Africa. Consequently, areas of arid and semi-arid regions will increase by 5% to 8%.

For Togo, the projections show that agricultural produce needs (namely food grains, tubers and legumes and protein) will continue to increase in the country to feed itself in the future. The population is estimated at 5,212,000 inhabitants in 2005, but projections are close to 8 million by 2050, and 17 million by 2100.

Thus the limiting factor for food production is the availability of arable land. The area of arable land is estimated at 2.5 million hectares. The arable lands still suffer from degradation due to the combined effects of human activities and climate change. Indeed, many areas of land have already lost their vegetation cover and exposed to leaching especially on hillsides and mountains of the Atakora chain, and observable laterisation process east of the Plateau Region namely the prefectures of Est-Mono, the Middle Mono and Notsé.

In Togo, degraded lands were estimated at 163,400 ha in 2005. The projections foresee around 4 million hectares of managed ecosystems, including agricultural land, irrigated areas, pastures and forest plantations in 2050. Thus, the achievement of this goal of 4 million hectares of landscaped space is impossible under business-as-usual circumstances. Socio-economic impacts are also numerous. There will be a decline in the contribution of the agriculture sector to Gross Domestic Product due to lack of arable land available after 2050.

According to the evaluation of GCE reports there will also be a decline in food production per capita, a situation that will force the country to depend more on imports for food.

4. Non-climatic vulnerabilities

The main environmental and social constraints are: land degradation, deforestation and biodiversity loss, pollution inputs, including pesticides and social conflicts related to land access. It is especially clear that the access to land by inheritance is difficult for women. Note, however, that apart from pollution by inputs that may be specific to cotton, other problems are common to the entire agricultural sector. The ecological impacts of land degradation are:

a. the increase in the planted area;
b. chemical pollution of water resources;
c. loss of agricultural productivity;
d. changing the flow regime;
e. deterioration of the landscape, and
f. the loss of plant cover and biodiversity. Habitat loss and terrestrial flora in Togo is largely due to forest clearing related to shifting cultivation system practiced by slash and burn farmers.

The sub-sector of plant production still faces a number of constraints, namely a low crop productivity due to –

1. low investment in the sub-sector,
2. the application of marginal technologies caused by the failure the extension system and agricultural advisory support and
3. an insufficiently oriented development research; edaphic and degradation of forest resources due to -
   a. over-exploitation in some areas,
   b. the low use of soil conservation techniques,
   c. the degradation of forest and tree resources, due to the extension of cultivation, overexploitation of firewood and charcoal, and cultural constraints of land for replanting, and
   d. Excessive dependence vis-à-vis a small number of export crops (cotton, coffee, and, marginally, cocoa) which sectors have the other fragilities in organizational terms and sensitivity to world prices.

Problematic

Togo's agriculture is rain-fed agriculture dominated by small producers. Indeed, it mainly depends on climatic conditions vary greatly disrupt agricultural activities. This high variability is characterized often by a late start and an early end to the rainy season compared to the usual crop calendar, the onset of dry spells and poor spatial and temporal distribution of rainfall. This strong climate variability

disorients farmers in their usual crop often affecting crops in full vegetative phase and causing losses of significant returns.

The most northern regions (Kara, Savannah) are regularly affected by famine, a consequence of climate anomalies that significantly reduce agricultural production. This demonstrates the relatively high level of vulnerability of the agricultural sector of Togo to the adverse effects of change and climate variability reinforced by vulnerability studies conducted as part of the Second National Communication on Climate Change. Indeed, this study demonstrated only horizons 2025, 2050 and 2100, Togo would record losses of production of its main food crops (maize and rice) respectively 5% to 10% accompanied by huge losses in farm receipts small producers, thus weakening the country's food security. This situation will exacerbate rural poverty and significantly reduce the capacity to withstand climate shocks.
Yet despite, sufficient water resources and a potential irrigable land of about 86000 ha, control of water for irrigation is still in its infancy.

It is for this purpose that this project is an appropriate adaptive response to the strong climate variability through the water control to secure agricultural production activities of the communities. Beyond securing the production, this project intends to promote the diversification of livelihoods, the development of agricultural products and the improvement of local governance for better support adverse effects of change and variability climate[18].

5. Recommended adaptation measures

In connection with the analysis of climate, socioeconomic and environmental scenarios, the following adaptation measures are recommended at national level[19]:

- **Support to the Ministry of Environment and Forest Resources**

Main objectives - Awareness and training of local people on adaptation measures at local level: the development of social cohesion, confidence in oneself and savings opportunities.

- **Food security and agriculture sub-sector**

General objectives for agricultural development and food security:

- **increase in crop yields, livestock and fisheries products, all economic regions of the country concerned;**
- **increase of spaces allocated to agricultural practices, all economic regions of the country concerned; and**
- **development of the Environmental and Social Management Framework in the implementation of agricultural intensification program.**

The measures to adapt to climate change to limit the declines in output and yields of agricultural products

- **Support to the Ministry of Agriculture, Livestock and Fisheries (MAEP) in its Agricultural intensification program with food security objectives.**

The specific objectives are:

- **Introduction of livestock species adapted to drought,**
- **Introduction of crops adapted to drought.**
- **Development of water control mechanisms for crop diversification and for self-food sufficiency and activities generating incomes.**

[18] Rapport final étude de vulnérabilité et adaptation au changement climatique –Secteur de l'agriculture, foresterie et affectation des terres- Projet Troisième communication (2015)
[19] Etudes de la vulnérabilité et de l'adaptation aux changements climatiques – secteur de l'agriculture, Foresterie et affectation des terres (Troisième communication nationale)

All economic regions are concerned but specifically savannah regions and Kara.

6. Project target area

The project will be located in Mandouri, capital of Kpendjal prefecture in the Savannah region in Togo. The project area is in the canton of Mandouri.

The project site is located 2 km from the city of Mandouri and consists of 4 parcels of 36 ha each or 144 ha in total.

In general, beneficiaries are made up of the population of the prefecture Kpendjal including that of the Canton of Mandouri, about 155,091 inhabitants of which 80,628 are women.

Specifically, there are two (02) categories of direct beneficiaries which are:

- **2,880 people will be directly affected which are 576 farmer households[20]; given the average household size of 5 people per household;**
- the population of the city of Mandouri (about 5,203[21] inhabitants) that will benefit from social measures from the construction of mini water supply consisting of equipped drilling, a mini network, water tower and fountains powered by solar equipment. In addition, the project also includes the construction of three (03) latrines to improve sanitation at the village level.

The population of the Savannah region is estimated at 828,224 inhabitants, representing 13.4% of the total population of Togo. The population density is 96 people/km² and the annual growth rate in this region is 3.18%. The Savannah region population comprises of 397,996 men and 430,228 women.

Kpendjal prefecture has a population of 155,091 inhabitants; by residence, the urban population is 5,203 inhabitants (3.35%) against 149,888 (96.65%) and rural population distribution is as follows: Men: 74,463 (48.01%) Women: 80,628 (51.99%). The population of the city of Mandouri is estimated at 5203 inhabitants.

The percentage of households owning land in the Savannah region is about 89.3%. An estimated 82.8% of households are owners of their home. The assessment of the food situation by WFP in 2008 found that the Savannah region was affected with 13.6% of households in severe food insecurity and 28.8% moderately[22] food insecure.

The climate is tropical Sudan type with two contrasting strongly seasons: a 5-month rainy season (May to October) and a dry season during the remaining seven months of the year. The temperatures vary between 17 and 39 °C in the dry season and between 22 and 34 °C during the rainy season.

6.1 Background of the target area of Mandouri

The site of Mandouri is located an area where flooding problems, poor access to drinking water, soil erosion, drought are the major constraints to development. This region also records the highest poverty rate in the country (90.5%) and thus remains highly vulnerable to adverse effects of the change and climate variability.

Indeed, the local economy is mainly based on smallholder agriculture which occupies 96% of the population of Kpendjal and depends on largely very variable weather conditions that are not mastered by producers. Moreover, the mode of production has accommodated a highly climate-sensitive type of subsistence farming and which essentially revolves around the cultivation of rice and

[20] 576 farmer households: All activities will seek to include both or all adults especially as a means to increase women and youth ownership

[21] Rapport du recensement général de la population et de l'habitat du Togo de 2010

[22] Enquête rapide sur la sécurité alimentaire des ménages dans les régions de la Savanes et de la Kara. Avril 2010[22]

corn. This situation, combined with a total lack of diversification of livelihood activities creates the high degree of community vulnerability worsened by lack of mastery of cropping calendar.

In terms of production, 56.4% of active people are women who play an important role and are the driver of agricultural development. Despite this importance in the development of agricultural activities in the community, they are marginalized and have little access to land of good quality, because it is only the men who own land. Young people are unemployed and are often lured into emigration from the rural areas. Attention will be paid to these groups in the development and implementation of this AF project.

The targeted beneficiary communities consist of structured smallholder families (women, youth, market gardeners, low-income workers).

The area of intervention is also an area of pastoral activities and ultimate passage of cattle transiting south in search of pasture and water points during the dry season. This is the source of often deadly conflicts between farmers and herders.

In this respect, particular attention should be given during the implementation of the projection, the management of conflicts between farmers and pastoralists.

In the project area, people draw their drinking water from rivers, boreholes and individual wells. Rural households have much less access than urban households with drinking water. The populations face two crucial problems:

- **In the rainy season, surface water is polluted and exposes populations to waterborne diseases (diarrheal diseases, parasitic diseases, malaria) with very difficult health consequences for vulnerable populations. During floods (e.g. the period of floods in August 2013), the water of the rivers are muddy, but still consumed by people who have the river as the only source of water;**
- **In the dry season, people and animals lack clean water.**

The indicator of access to drinking water in the region of savannas in 2007[23] is 38.4%. The drinking water is a problem in general in the prefecture of Kpendjal with an access rate of 14.1%. This rate of access to safe water is only 6.3% and 6.5% in the municipality and the canton of Mandouri respectively according to data from the Poverty Mapping[24]. Women have generally the responsibility in the household to collect water, which is time consuming and difficult task when they have to carry over long distances heavy buckets or water cans. They undergo consequences on their health, but also on education and income-generating activities. This situation, greatly contributes to their vulnerability to climate change.

6.2 Status of the agricultural sector and irrigation sub-sector

The agricultural sector in Mandouri

Agriculture is dominated by farms ranging from under 1 to over 5 hectares and characterized mainly by food crops. Agricultural employment concerns permanent family workers and paid labour. Solidarity is practiced frequently in the form of work against invitation to share meals, where the person who invite must provide food and drink to those who come to work in his farm. Paid work varies based on effort and equipment used:

- **Sharecropping without food equivalent to 500 F or 600 F per day for all agricultural operations;**
- **Sharecropping with food is charged to 250 F or 350 F per day for all agricultural operations;**
- **Ploughing and ridging are respectively 10 000 F to 12 000 F per ha per operation.**

[23] Direction Générale de l'Eau et de l'Assainissement-2007
[24] Cartographie de la pauvreté, Lomé 2011

Agricultural employment in the Prefecture is on average equal to 99.34%. Agricultural production is the main activity of the Prefecture: 96% of jobs and 90% of revenues. There are 30,000 farmers in Togo who exploit 110,000 ha annually. The highest land use is in the north. (+ 80%) sectors of available land are in the south. Women's participation in economic life is marked by work in the farms, processing and marketing of agricultural products.

The main food crops in the project area are: maize, millet (3 months, 6 months of millet), sorghum, rice, cowpeas, and soybeans. Millet of 3 months is used as solder culture. The main cash crops are: cotton and peanuts. It should be noted that in all over the Savannah Region, 28 000 hectares of cotton crops were planned, but 27,139 hectares were completed during the 2011/2012 agricultural year, with an achievement rate of 97%. Vegetable crops are composed of: onions, tomatoes, watermelons, carrots, okra, Guinea sorrel, cabbage, peppers...

Animal traction and use of tractors would allow obtaining significant yields. Unfortunately, agricultural equipment failures and lack of skilled labour for repairs as well as the weather and climate are bottlenecks for agriculture throughout the prefecture Kpendjal.

Status of the irrigation sub-sector
The irrigation sub-sector in the project area is not operational. The development studies and the exploitation of lowlands launched by the Support Project for Agricultural Development in Togo (PADAT) led to the identification of two types of lowlands.

It is estimated that about 718 hectares developable land in PADAT area are found in the prefecture of Kpendjal. The lowland experiences significant exceptional floods. That is why a type 2 development is needed to allow flood discharge from structures. For the lowland where type1 development is needed, there are no ravines or waterways. These are not rough lands. But their watersheds have significant topography and runoff is not grouped in flows during periods of flooding. In total, 156 lowlands were identified and selected in the Savannah Region to be developed with an area of 2520 ha. These lowlands are located in 129 villages within 24 cantons and 4 prefectures.

Mandouri City is not spared from the flooding caused by torrential rains that fall in the Savannah Region with property damage. Apart from roads and houses, there are thousands of hectares of maize, sorghum and rice which are flooded.

Livestock - Fishing
Kpendjal prefecture is an area where the breeding of animals is traditionally practiced. It has some advantages for the success of animal production:
- **Villagers traditionally own cattle;**
- **Presence of Fulani herdsmen experienced in livestock keeping;**
- **Areas of low population density where herds can stay in dry season.**

However, the following are on the flipside:
- **An unfavourable health situation;**
- **There are areas where population density is very high and therefore causes the migration of cattle;**
- **The scarcity of water points;**
- **Insufficient food production to eventually allow food complement.**

7. Project Objectives:

7.1 Overall objective:
To develop water management and irrigation technologies that reduces dependence on rainfall for agricultural production

The overall objective of the project is to improve the level of resilience of vulnerable actors in the agricultural sector in Togo, particularly in Mandouri (Savannah Region), by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production.

The Adaptation Fund project aims at increasing agricultural production while improving conditions and living standards of people in the project area to reduce the vulnerability of producers through the water control for production and promoting crop diversification for food security improvement and development of products for improved incomes.

7.2 Specific objectives:
More specifically, the project aims to:

a. **help secure local rice production and reduce the national deficit in rice production by an additional 9,900 tons of paddy rice; and**
b. **promote, improve and diversify the incomes of beneficiary families.**

This will involve: -

a. **construction of a water network for the irrigation of 144 hectares of land;**
b. **a combination of basin and furrow irrigation techniques;**
c. **improvement of the availability of drinking water for people and;**
d. **promotion of diversification and valorisation of products to improve the income of project beneficiaries' families.**

7.3 Expected results
Expected results focus on the following aspects:

a. **food self-sufficiency and sustainable land management through better water management for agricultural production is achieved;**
b. **resilience of producers is raised up by improving their income and promoting new income-generating activities;**
c. **new agricultural production techniques are adopted by farmers, breeders and fish farmers;**
d. **cooperative structures are improved;**
e. **technicians are trained, and population is sensitized to the technical use of surface water for irrigation of crops;**
f. **populations and local representatives of the region have a better understanding of climate change impacts and can become involved in the implementation of adaptation measures;**
g. **Climate protection practices are prioritised at the local level and mainstreamed into policy development at the local scale systematically.**

Project Components and Financing:

Table 3: Project components and financing

Project/Programme Components	Activities	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Improved planning and management of water resources and (agricultural) production	1.1 Develop 144 ha for agricultural production, equipped with a combined basin and furrow system, powered by a solar pumping system 1.2 Improve techniques and means of irrigated production 1.2.1 Acquire communal farm machinery and kits (one 75 hp tractor + 3 discs ploughs + one 10x10 drive sprayer + one sub-soiler with 3 teeth + one trailer + one harvester + one rotavater + one huller) 1.2.2 Train farmers in irrigation techniques and the proper use of agricultural inputs (technical itinerary) 1.2.3 Produce manuals / handbooks on irrigation, expected ecological & health hazards of irrigation and disseminate the knowledge 1.3 Design and implement training programs for actors responsible for the operation, maintenance and repair of equipment acquired for the beneficiaries.	**Output 1**: Construction of basin and furrow irrigation system on 144 ha of land powered by solar power **Output 2**: production yields improved through mechanized means of production and improved agricultural practices by: - - the purchase of equipment (2 vehicles for delivery of products are acquired to facilitate access to market; 4 agricultural production kits are made available to producers) - the training of at least **576 farmer households** in improved agricultural techniques - the training of 10 to 20 local technicians on driving, installation, repair and maintenance of irrigation and solar equipment **Output 3**: Closing-off of project irrigation site to reduce crop damage by stray animals.	**Outcome**: food self-sufficiency and sustainable management of land through better water management for agricultural production improved	5,000,000
2. Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries	2.1 Promote the development of income generating activities 2.1.1 Design and deliver capacity building programs to cooperatives and their members for diversification of income-generating activities (gardening, guinea-fowl rearing, bee-keeping, composting, etc.), the simplified financial management and accounting, and the management of cooperative organizations 2.1.2 Establish the infrastructure and equipment needed to develop the	**Output 1**: Income-generating activities are practiced, and products are promoted and sold, i.e. - The surplus cereal production (rice and corn) and garden production (tomatoes, peppers, etc.), are processed for marketing - Credit lines dedicated to financing agricultural and other income generating activities are available from MFIs.	**Outcome**: Increased resilience of producers through the promotion of new income-generating activities, improvement of their income, and improvement of the living conditions of the beneficiary population through: - Improved availability of potable water for consumption - Improved sanitation of	2,150,000

	values chain of agricultural production, processing, packaging and marketing, i.e. - Build a warehouse(s) - Build drying areas - Acquire corn and tomato mills - Train producers in processing, packaging and marketing techniques - Facilitate access to markets 2.2 Implement simplified funding mechanism for producers (micro-credit) 2.3 Build latrines for sanitation 2.3.1 Build social infrastructures 2.3.2 Build mini drinking water supply (DWS) network	**Output 2**: basic social infrastructure is realized for the beneficiaries. i.e. - Construction of a mini-network of drinking water supply coupled with fountains and 1 borehole equipped + 1 mini network + 1 water tower + 3 fountains + solar pumping system and 3 latrines will be built for the benefit of the beneficiary communities+1 large communal bakery powered by solar+ the construction of fishponds, a drying area and assistance for fish production techniques+ agroforestry: set up nursery stores	the city of Mandouri - Reduction of water-borne diseases	
3. Capacity building, environmental and social measures, and knowledge management	3.1 Design and deliver capacity-building programs: 3.1.1 Strengthen the technical capacity of local institutions in the prevention and resolution of climate risk issues (bush-fires, resource use and agricultural production conflicts, sustainable management of natural resources) 3.1.2 Organize information, education and communication (IEC) sessions toward local populations on risk management techniques related to climate change 3.1.3 Strengthen the capacity of cooperatives and employees of local institutions in the joint management of water resources and conflict management.	**Output 1**: local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies, i.e. - Capacity building programs are offered - The capacity of members of the Conflict Management Committee in conflict management and awareness strengthened - Mandouri and Kpendjal populations are sensitized on the joint management of water resources - Mandouri and Kpendjal populations are sensitized on conflict management on pasture, crop production-livestock production conflicts, etc. - The environmental and social management plan is implemented, and beneficiaries are aware and trained on the implementation of the ESMP and environmental monitoring (ecological and human health	**Outcome**: Improved knowledge of stakeholders (public, local elected officials in the region, officials of local institutions, etc.) for the building of resilience to climate change and the prevention and management of environmental and social risks.	1,317,125

	3.2 Implement measures of the Environmental and Social Management Plan 3.3 Establish a knowledge management system (production, capitalization, vulgarization, etc.)	aspects, management of fertilizers and pesticides, etc.) **Output 2**: lessons learned from projects in progress at the national level are capitalized on and a system to disseminate the knowledge acquired in the project is implemented at the local level, i.e. - A system of information sharing of knowledge related to climate change is implemented - Information, education and communication programs related to climate change and the achievements of the project are developed and delivered to local people.		
Project Execution Cost				**804,380**
Total Project/Program Cost				**8,467,125**
Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)				**728,495**
Amount of financing requested				**10,000,000**

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	May 2018
Mid-term Review (if planned)	December 2019
Project/Programme Closing	March 2022
Terminal Evaluation	January 2022

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

One of the most imminent threats that currently undermine economic and social development of Africa in general and West Africa in particular is climate change. This phenomenon impacts negatively all developing sectors of countries including agriculture, livestock and fisheries. These effects result in lower yields of crops, livestock and fisheries due to changes in rainfall, long droughts and / or floods, drastic reduction of water resources, reduction of pasture, accentuation of desertification, land degradation, etc.

In Togo, a major concern is the availability of drinking water. Water resources are not always easily accessible and of good quality due to the depth of the aquifers and the process of salinization. Moreover, the favourable situation of surface water is reduced by seasonal and regional variations as well as the filling of streams and their fast drying in the dry season. The balance between withdrawals and contributions that are made for the city of Lomé and the Maritime region is too precarious to ensure the water needs of the region that includes 40% of the population and 90% of the country's industries.

The Togolese economy is traditionally based on agriculture, which occupies a prominent place since it accounted for 35.1% of GDP in 2000 and 38% on average during recent years. It provided more than 20% of export earnings and sustains 2/3 of the workforce. In 2010, the added value of the sector was 394.9 billion remained almost stable compared to 2009. This is mainly due to the decline in food agriculture whose added value passes from 270.9 billion in 2009 to 237.7 billion in 2010, a decrease of 1.2%. This decline is attributed to adverse weather conditions.

The project of raising the level of resilience of the actors vulnerable to climate change of agriculture sector in Togo and more specifically in the area of Mandouri finds its justification by the central role played by agriculture in the national economy (41% of the GDP in 2012) in general and population food security in particular. About 70% of the population depend directly on agriculture. Moreover, at the local level, the vulnerability of the populations is accentuated by the weakness of their capacities; which prevents them from reacting to external shocks.

Indeed, the production activities are characterized by the small size of plots exploited, non- water control for the production and use of rudimentary production tools. The productions are quite low and highly dependent on rainfall variability and revenues generated are insufficient to meet the needs. Furthermore, the low diversification of production activities in the project area causes the growth of population vulnerability level and poses a real problem of food security.

The project is part of an overall objective to reduce constraints of dependence for production activities. Its implementation is consistent with the objectives of the Accelerated Growth Strategy and Employment Promotion (SCAP), the National Strategy for the long-term development based on MDGs and the National Action Plan for Climate Change Adaptation and the policy of agricultural recovery. Indeed, the development of irrigation system will control the water resources to support the economic recovery by increasing agricultural production. This will contribute to improving the food situation (fight against malnutrition and undernourishment), increasing the income of affected communities (poverty reduction) and thus to work for local development by reducing the vulnerability of communities involved in local agriculture.

For the purposes of the project, the site has been donated to the state of Togo by the beneficiaries of Mandouri. A mandate which copy is attached has been established for this purpose.

People mainly practiced rain-fed agriculture (see p18 and 19), whose future remains threatened because of the high variability within and between seasonal rainfall. Indeed, climate change is causing a shift of the rainy season and the crop calendar. The onset of the rainy season has moved from April-May to June or July during some years while the end occurs early (September).

In the northern region of Togo, which includes the area of this project, it has been observed between 1961 and 2012, a rise in temperature average of 1.2 °C and lower rainfall of 41.8 mm. Thus, people have had to change their farming and eating habits: the short-cycle maize (about 2 months) became a dominant culture substituting rice, millet and sorghum.

Other coping strategies consisted of the combination of several agricultural crops (millet maize and cowpeas) in the same plot in order to maximize the chances of harvesting at least one product at the end of the season. None of these strategies in place were robust enough to cope with the impacts of the strong climate variability that continues to be manifested through droughts, floods, higher average temperatures and lower rainfall.

In summary, the project aims to reduce the vulnerability of producers affected by a very high spatial and temporal variability of rainfall, by initiating water control, and diversification of production activities and strengthening of local governance for better management of issues related to climate change.

Thus, the practical adaptation actions will focus on the following activities:

Component 1: Improved planning and management of water resources and (agricultural) production
This component seeks to increase the resilience of the Kpendjal prefecture communities in particular, and Togo as a country in general by various ways including: -

- increased food production by providing machinery, fertilizer use, and increased rice output by introduction of new varieties,
- elimination of total reliance on rainfed agriculture by introduction of irrigation to continue crop production during the dry half of the year, when normally no cropping happens. The half year dry spell usually increases vulnerability of the communities which are largely smallholder farmers using traditional farming systems
- the introduction of new crop varieties to both defuse the risk, and increase overall food production
- flood control: flooding causes migration and risks to (human and livestock) life annually; the flood waters will be managed under this Adaptation project through the combined basin and furrow irrigation system over a wider acreage (144ha), so that the threat posed by floods is eliminated.
- the planned water management system, will provide improved water access to the population; to mitigate against the water scarcity related to frequency of droughts in the project area.

Expected Outcomes: *Improvement of food self-sufficiency and sustainable management of land through better water management for agricultural production*

The poverty reduction strategy paper indicates that the vulnerability rate is higher in rural areas (87.4%) with the savannah region (where the project site is located) still by far the poorest region of the country with an estimated incidence of poverty of 90%. The vulnerability is exacerbated by their low capacity to external climatic shocks.

Regarding information provided by the 2nd (pages 56-57) and the 3rd (pages 27-39) national communications to UNFCCC, combined with Togo's INDC Report (page 6), the project area is strongly vulnerable to climate change. It's expected that the extreme north-eastern part of Togo where the project area is located (i.e. Mandouri), will be affected by the increase of temperature

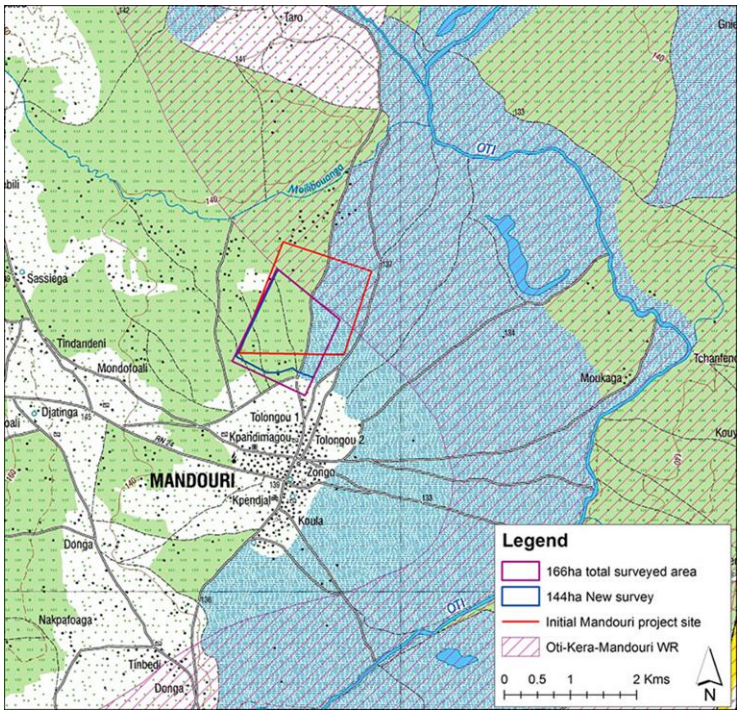
(RCP 2.6: 28.8-29.3°C (2025), 35.6-36°C (2050), 35.6-36.2°C (2075), 35.6-36.2°C (2100);RCP8.5: 35.4-36.0°C (2025), 36.4-37.0°C (2050), 37.6-38.2°C (2075) and 39.0-39.6°C(2100). In the meantime, there will be rainfall upsurges, causing extreme weather and climate events such as floods, which will increase vulnerability of the Mandouri communities and landscape more than ever. In the same perspective, it's projected that agricultural sector will be affected by the loss of incomes, land degradation, loss of biodiversity, the invasion of insects harmful to crops and livestock, loss of wetlands, etc. imperilling once again Mandouri community and landscape resilience. In addition, Togo's INDC Report mentions that, in consideration of current and forecast demographic growth rates, the water supply would be severely affected, with a drop in stocks due to climate change and heavy pollution of drinking water reserves as a result of flooding, etc.

This project will bring adaptation strategies by providing the possibilities to develop and sustain rainfed agriculture by improved water management during the wet season, and diversification of agricultural activities in the dry season (because up to now, no gardening activities were possible during the dry season due to lack of proper water management). The warehouse will allow Mandouri's farmers to store their produce with a threefold advantage: first, access to crops during lean periods; then, keep them in a safe place that respect building standards, away from heat and moisture, and finally, do not discount their produce to get rid of them as in the past; all these issues will contribute to food security in Mandouri and the country at large.

During the consultation process at local level, populations of Mandouri had raised a strong concern related to the difficulties agricultural production is facing in relation to strong climate variability (drought, floods). Water management and control would be a considerable asset to enable people to better manage changes and impacts of climate variability on the production activities.

The system designed for Mandouri will be a combination of basin and furrow irrigation with water delivery to the blocks via UPVC pipes. UPVC pipes are always buried, at a depth of between 1 and 1.2 m.

Expected Concrete Output 1: Construction of the combined basin and furrow irrigation system on 144 hectares of land powered by solar.



Map 1: Site survey areas, May-June 2017

In the last survey of the project site (May-June 2017), an ASCENT technical team designed the Mandouri irrigation model. The model delineates a gross area of 106.38 ha with a net irrigation area of 100ha. There is an additional 38 ha potential area for future irrigation expansion. More information is given in separate irrigation design documents.

The irrigation area is split into 5 blocks: 1, 2, 3, 4 and 5 as shown in **Fig. 4**. Sub-division of the area was based on the following:

a. Topography – blocking of areas with similar topographical features;

b. Existing drainage system (natural waterways/depressions) – used to form boundary between blocks;

c. Soil types – areas with similar soils grouped together as much as possible;

d. Discussions and agreements with farmers' representatives on the boundaries.

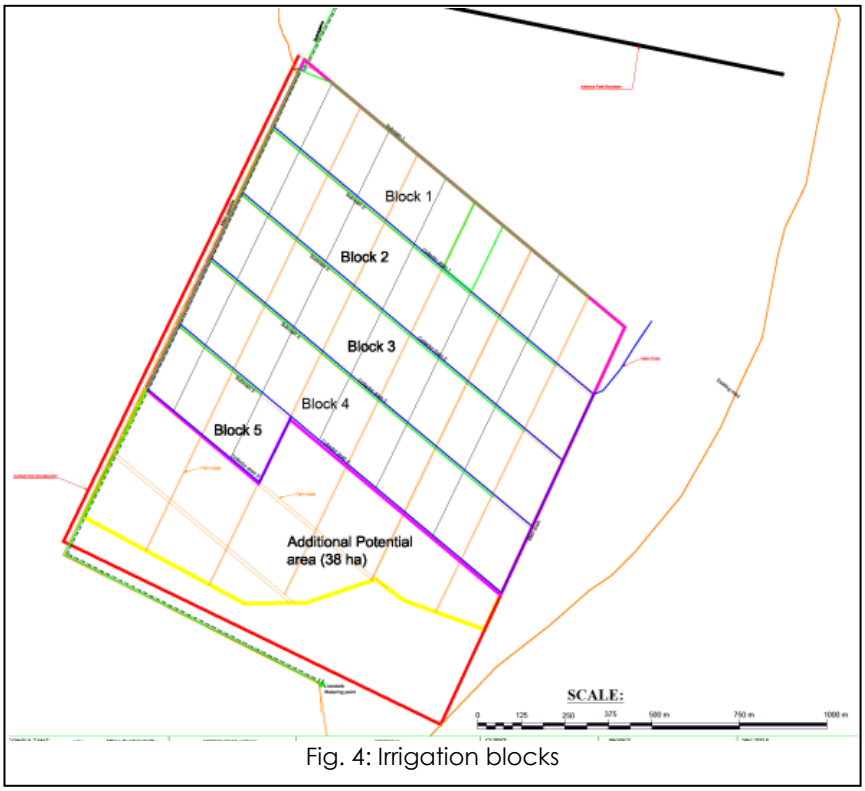


Fig. 4: Irrigation blocks

The project site will be divided into a number of irrigation blocks and a combination of the two techniques (basin and furrow) will be used. In basin irrigation, water is applied to levelled surface units (basins) which have complete perimeter dikes to prevent runoff and to allow infiltration after cut off (**Fig. 5**). Basin size is limited by available water stream size, topography, soil factors, and degree of levelling required. Basin may be quite small or as large as 15 ha or so. Level basins simplify water management, since the irrigator need only supply a specified volume of water to the field. Suitable for close growing crops (e.g., paddy), though many other crops can also be grown in basins: e.g., maize, sorghum, trees.

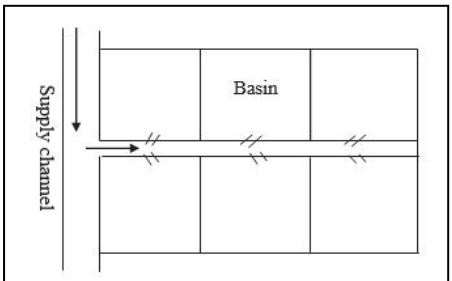


Fig. 5: Basin irrigation

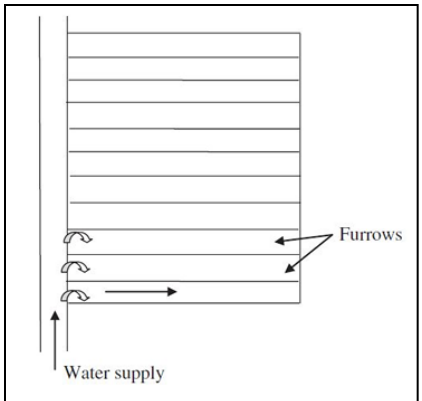


Fig. 6: Furrow irrigation

A furrow is a small, evenly spaced, shallow channel installed down or across the slope of the field to be irrigated parallel to row direction (**Fig. 6**). In this method, water is applied to furrows using small discharges to favour water infiltration while advancing down the field. The furrow method is an efficient system if properly managed. For this method, fields must have a mild slope and inflow discharge must be such that advance is not too fast and produce excessive runoff losses, nor too slow to induce excessive infiltration in the upper part of the field. Alternatively, short blocked furrows with manually controlled water applications are practiced by traditional irrigators.

Furrow irrigation is best used for irrigating widely spaced row crops such as potato, maize, vegetables, and trees.
In implementing the combined basin and furrow irrigation systems, work will focus on:

a. irrigation network construction, drainage networks, trail networks;
b. the acquisition and installation of pumps and accessories;
c. the acquisition and installation of solar equipment, and
d. Additional works will consist of ploughing, clearing, planning and the delimitation of driving axes.

It is planned to install a basin and furrow type of irrigation system that is best suited to the context of the site because of the following considerations:

- rational use of water (reduction of losses through evaporation and infiltration);
- easy to use and require less maintenance.

The installation of the irrigation system will permit not only, rice production but also improve the yields and the practice of market gardening during the dry season. The gardening ultimately contributes to improve the nutritional value of food for populations and will increase and diversify population's incomes and reduce rural exodus. Besides, concerning rice cultivation, several high yielding varieties (average yield 6 t/ha with a potential of 10 t/ha), have been identified for the project site. These include ADNI 11, BG 90-2, the Wassa (IR 32000), irrigated Nerica, and Wat 310, to improve productivity. NERICA lowland rice (IR 841) has been recommended in the irrigation model for Mandouri.

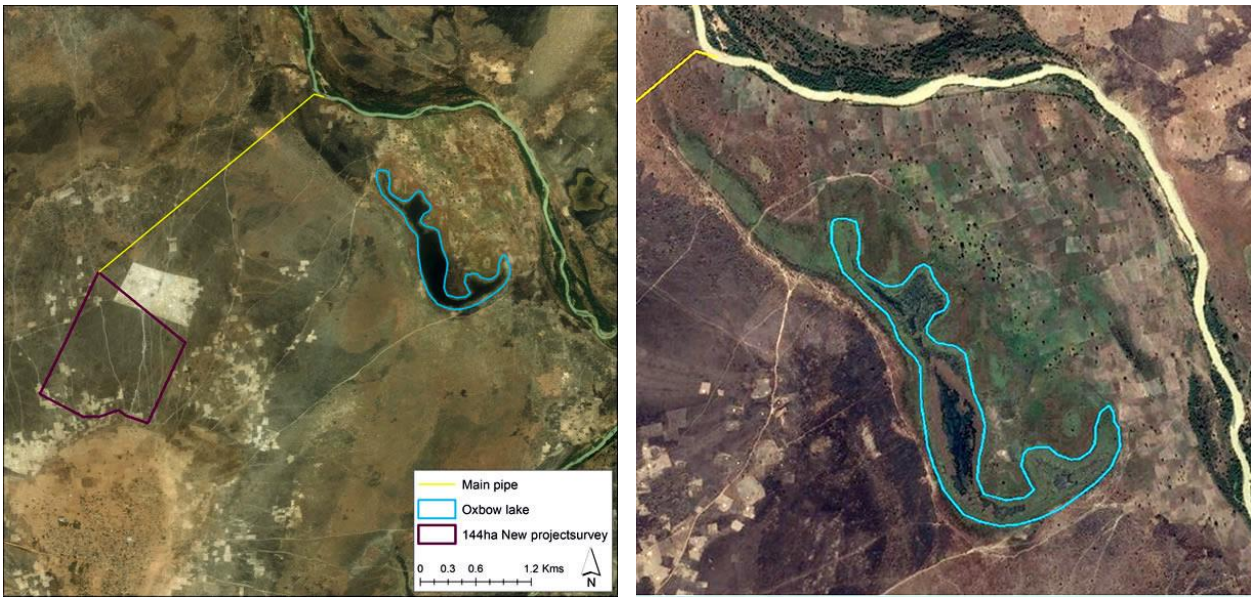
The main climate risk that could have an impact on these investments is flooding. However, the site dedicated to rice farming is not located in the river bed and the main irrigation facilities will be buried. To avoid this risk, everything will be done, thought and built, taking into consideration the risk of flooding.

The second risk is the possible increase in extremity of the floods due to erratic rainfall which could damage the crops and other assets further increasing the vulnerability of the people in the province. This AF project safeguards the people's crops and assets in the following ways:

- The storage of flood water for irrigation during the dry season manages flooding effectively;
- The burying of pipe network safeguards the installations from floods;
- The year-round crop farming increases overall productivity thereby strengthening food security; and
- Increased variety of crops produced (diversification) will increase the economic standing and hence better livelihoods with greater resilience

River Oti is part of the Volta river basin. During the rainy season, large areas of Mandouri are flooded from incident precipitation. In the months of August and September the Mandouri agricultural areas to the East and North Eastern part of Mandouri town are flooded by Oti river waters as it overflows its banks. Mandouri town, located on higher ground, forms of an island during the period when the surrounding areas are flooded. During the dry period, the Oti river flow emulates the dry season with the river having extremely low flows or sometimes drying up, particularly in the months of April and May. This AF project proposes to mitigate the extremely low flows by creating a water reservoir in a natural depression to the NE of the project site, an ox-bow lake that holds water after flooding. It has an estimated surface area of 472,000m^2 (116 acres or 47 ha) at its lowest point.

Mandouri rainfall patterns consist of a dry period (November - April), and a rainy season (May - October). Satellite images acquired in the dry season, still show signs of water retention in the depression.



ESRI base map image, acquired on 24.01.2012 (L) Google earth image, acquired 11.12.2016 (R)

Fig. 7: Ox-bow Lake proposed as water reservoir

Water flows in the project site

Reservoir water will be drawn from River Oti river floods that takes place annually from August to October. The volume of water passing in the Mandouri area in the flood period is as follows: -

- August - 235 million m^3,
- September - 573 million m^3, and
- October - 227 million m^3.

Fig. 8 shows the flooding from River Oti in relation to the project site. Only the eastern part of the project site is in the flood zone.

Fig. 9 based on [25]SRTM 30m DEM data, shows the flooding from River Oti in relation to the project site. The general project area is in a fairly flat area with elevation values ranging between 131 and 149 m asl. Lighter shades of colour correspond to low-lying areas (river channels, ox-bow Lake, and low–lying areas corresponding to the flood zone).

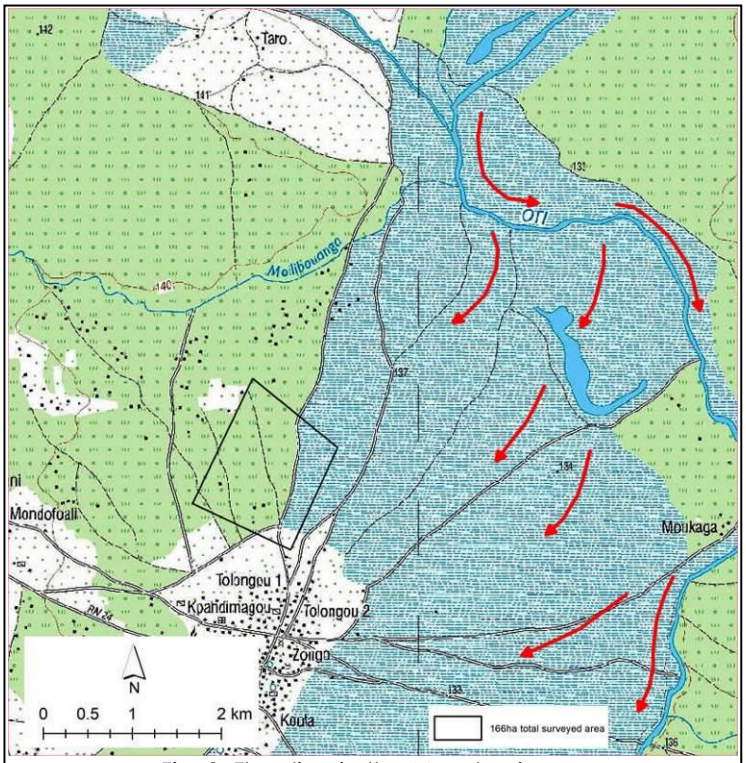


Fig. 8: Flooding in the Mandouri area

[25] SRTM Digital Elevation Model (DEM) data from NASA's Shuttle Radar Topography Mission from 2000.

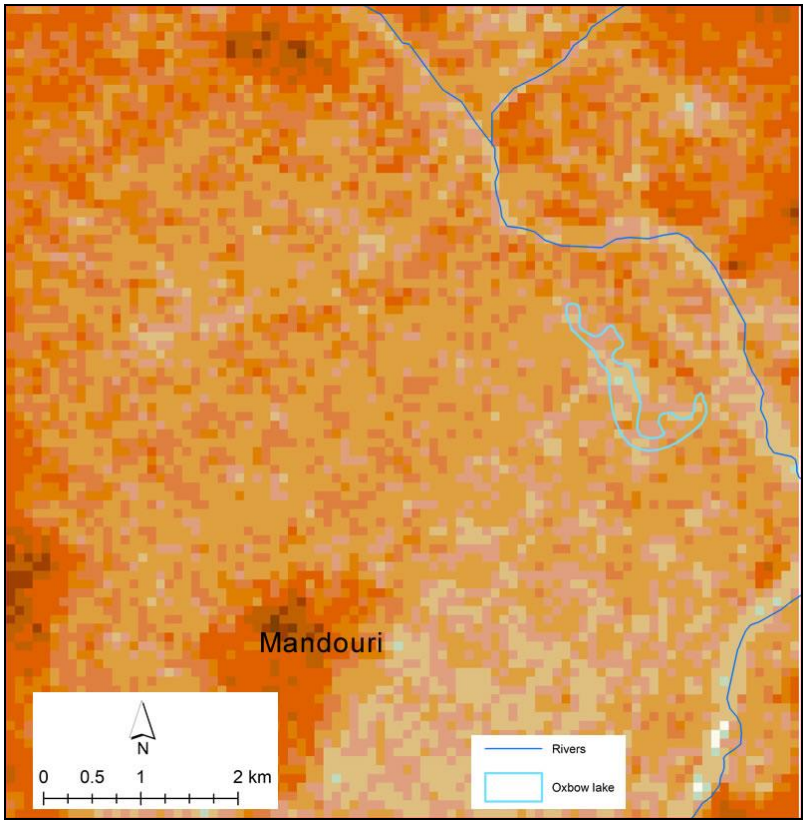


Fig. 9: DEM showing low-lying areas in the Mandouri area

The volume of flood water passing Mandouri as River Oti flows to the south in these three months is approximately 1.035 billion m^3[26].

This abstraction is based on water requirements for the selected [27]crops in the irrigation project, and their combined requirements by volume per month, is shown in **Table 4** below.

Table 4: Estimate water abstraction from reservoir

Month	Water abstraction (m^3)
Jan	14,428
Feb	12,528
March	9,936
April	1,728
May	0
June	2,419
July	518
Aug	0
Sept	0
Oct	9,677
Nov	3,024
Dec	6,566

[26] Directorate of Water resources of the Ministry of Agriculture

[27] See separate Technical Report on Irrigation. Other than the main crop Rice, other crops selected for the project include black nightshade, kales, spinach, Cowpeas, Onions, Tomatoes, Maize, Groundnuts, Watermelons and Cowpeas

Note that in case of rice for the period October to December, there will be no irrigation as flood water will be allowed into the fields. Irrigation will only be necessary for vegetable and other grains grown in the flood free zone of the project area.

The total amount to be drawn from the reservoir for irrigation will be 60,826 m^3. This reservoir can thus be used to meet both domestic and livestock water need especially during the dry season.

Proposed Improvement of the natural basin (Ox-bow Lake)
The AF project proposes to improve the basin by dredging, padding with compacted soil, and lining with clay. The improved basin will potentially hold 472,000 m^3 of water assuming a uniform 1m depth at the very least. A 2 m of depth improvement in the whole depression will result in at least, 472,000 m^2 x 2m = 944,000 m^3 reservoir.

From the total water available in the flood period (1.035 billion m^3) and assuming a 2m depth improvement of the ox-bow lake, only 0.944 million m^3 of water will be drawn from the river at Mandouri for the reservoir. This is approximately 0.091% of to the river flow.

An outflow channel can drain back into the River Oti on the SE part of the depression. A 500-600m^3 tank will be installed on higher ground, into which water will be pumped from the depression. The water will then flow via gravity to the irrigation blocks.

An EIA and Risk Assessment and management for the development of the water basin will be handled at the start of project implementation, for compliance with AF ESF, BOAD's environmental and social safeguards standards, and Togolese legislation.

Expected Concrete Output 2: production yields improved through mechanized means of production and improved agricultural practices

This will be the acquisition of farm machinery kits (one 75 hp tractor + one 3 discs plough+ one 10x10 drive sprayer + one sub-soiler with 3 teeth + one trailer + one harvester + one rotavator + one huller), 2 vehicles for delivery of products are acquired to facilitate access to market.

This output increases the resilience of the beneficiaries through ensuring high and possibly increasing productivity despite climate variabilities.

- The project will support beneficiaries in selecting rice varieties and other adapted crops to produce. The production support will also focus on supporting producers on agro-pastoral, fisheries and forestry production techniques.

- The acquisition of agricultural equipment aimed to improve productivity (better preparation of fields, capacity to cultivate on more land, etc.). Notwithstanding the use of high yielding varieties, and acquisition of farm equipment will also contribute to food security.

The main climate risk that could have an impact on these investments is flooding. To avoid this risk, agricultural equipment will be housed on an area outside the flood zone, in consideration of local climatic conditions.

Expected Concrete Output 3: Closing-off of the project irrigation site to reduce crop damage by stray animals

This will mainly involve the fencing-off of the irrigated area, reinforced with a green hedge (trees) that will also act as wind breaks. This will be done at the irrigated area-block preparation stage. The project area has a perimeter of about 4.8 km. Requirements for fencing will include: -

- 960 7' wooden poles, chromated copper arsonate (CCA) treated, with a 5 m spacing. The CCA treatment increases life time up to 30 years;
- 4 strand of barbed wire, zinc-alu-galvanized for longer life comprising of 32x610m rolls'
- 4-5mm U-type nails / fence staples, zinc-aluminium coated for longer life; quantity – 2x25kg bags (108 nails = 1kg); and
- Labour.
- Agriculture-friendly Leguminosae plants for the hedge selected from species that can grow in northern Togo e.g. Cassia siamea or spectabilis; Albizzia procera, and Leucaena leucocephala. With 2 seedlings planted at 5-metre intervals; 1,920 seedlings.

Though the project site is not near the recognised transhumance corridors of the Savanna region (further elaborated in Part II: A, Component 3, Activity 3.13), stray animals belonging to Fulani herders have been documented in the area. The fencing will ensure increased food security by limiting any damage to crops by livestock. The green hedge not only will provide a wind break, but the Leguminosae plants are also beneficial in soil nitrogen fixation.

Component 2: Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries

The particular threats posed by the observed climate impacts and likely climate scenarios include acute exposure and vulnerability leading to crop failure. The community mainly practices monoculture - rice growing only. When crop failure occurs, the food shortage affects them and the entire region, with ramifications nationally. This component seeks to create resilience against climate threats like rainfall shortage or extreme flooding or both; that in turn lead to exposure to shortage and sudden poverty increase should crops fail, through diversification and strengthening market systems.

This component seeks to ensure that the socioeconomic shocks presented by the flooding as well as the subsequent droughts are eliminated. Due to the flooding ecosystem, the only economic activity that has proven reliable is paddy rice farming; which is only possible during the months of flooding. Specific interventions that will increase climate resilience include:

- Introduction of irrigation for crop growing will increase productivity of the farms thereby increasing the ability to keep the households economically occupied and covered round the year.
- The project will develop a storage facility for cereals so as to prevent post-harvest losses and fetch better prices. This will also increase the incomes and, in effect, rural-urban migration that increases during the dry half of the year will be stemmed
- Processing and value addition facilities for both cereals and tomatoes to expand the sources and quality of employment. Consequently, this improves livelihoods hence decreases climate vulnerability
- The creation of an economy around the agricultural activities supported by the project - through value chain development and financial mechanisms, will diversify job options for a section of the population which depends solely on agriculture, thereby increasing their climate resilience.

Expected Outcomes: Increase of the resilience of producers through the promotion of new income-generating activities, improvement of their income and improvement of the living environment of the beneficiary population

Expected Concrete Output 1: income-generating activities are practiced and the products are promoted and sold

Production activities have been defined by the beneficiaries during field consultations. They include: intensive cultivation of rice and maize in the irrigated area during the rainy season and gardening in dry season. The plant material will consist of selected rice varieties with high yield (average yield 6t/ha with a potential of 10t/ha), such as ADNI 11, BG 90-2, the Wassa (32000 IR), the irrigated Nerica, and Wat 310. For vegetable production, considered as diversification crops, the choice will be focused on the onion, tomato, pepper, with possibility of adding, at small scale, okra, carrot, ademe, cucumbers and cabbage.

Regarding diversification, in addition to gardening, the project will focus on: -

a. Support for the development and diversification of income-generating activities (grinders, guinea fowl rearing, bee-keeping, composting, etc.);
b. Improving access to micro-credit, and
c. The development of value chain and access to market.

The project will support fishing activities through the construction of the fish ponds, a drying area and assistance for fish production techniques. Fishing is practiced as a livelihood activity and drying is used as a method of preservation.
For agroforestry, the project will set up nursery stores.

Retained production options will allow farmers to ensure their living and generate income through the selling of products. This is also the focus of this project, namely: -

a. Improve food security of beneficiary populations, and
b. Promote, improve and diversify the sources of incomes of beneficiary families.

This component aims to strengthen the livelihoods of beneficiaries through the development of market gardening and poultry. Furthermore, the project will support the beneficiaries for conservation (storage rooms and drying structures i.e. two (2) warehouses and two (2) drying areas will be built); and also processing and marketing of market garden crops.

Among processing facilities will include:

- Rice processing and storage facilities complete with drying, grading, de-husking, packaging and warehousing
- Drying and packaging of garden produce including peanuts, cashew nuts, and cereals such green grams, etc., grading and packaging for marketing
- Fruit and fresh produce processing: this includes handling facilities such as cold storage, drying, desiccation and packaging/canning. Juicers and puree making facility will also be set up. Tomato produce is expected to be high and a puree making facility

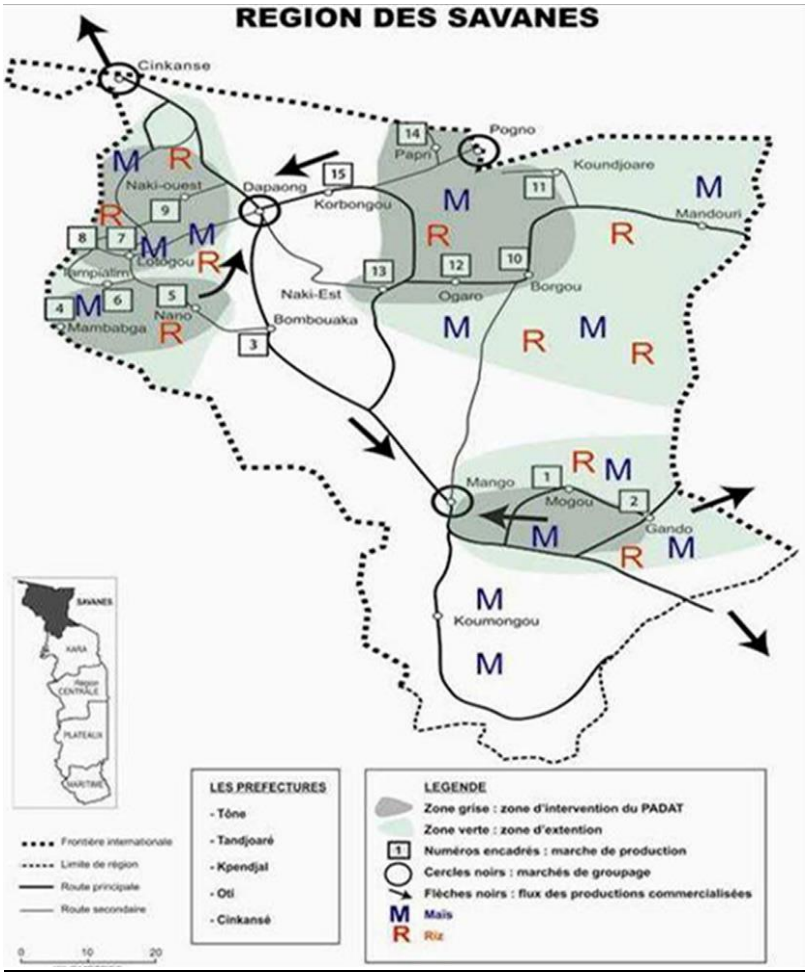
The construction of warehouses will offer people the following possibilities: -

a. The storage of their produce all year round in a safe place;
b. Access and availability of surplus production that can cover food needs during the dry season, and
c. The selling of part of agricultural surpluses throughout the year in order to diversify incomes. Delivery vehicles will also be made available to producers to improve the transportation of goods to markets.

The main climate risk that could have an impact on these investments is flooding. To avoid this risk, the warehouse will be built out of a flood zone and will respect the climate norms in terms of orientation, airflow, and moisture.

Concerning the transformation and conservation, NGOs at the local level may be involved in strengthening community capacity and organizing them for better control of production activities.

For marketing, the project will ensure strengthening the capacities of the populations on the information required for decision making and advantageously allow better interaction with the different actors of the chain for mutual benefit. Farmers will be trained in market investigation to ensure a balance between availability and demand of the local and national market. They will learn to recognize, understand and implement the components of the supply chain. They will also understand how to connect with consumers. At this level, production and knowledge management will be important. The project will identify all stakeholders in a participatory evaluation process of the market needs and identifying specific solutions.



Map 2: Production flows of goods sold in the Savannah region

The markets targeted by the project are:-
a.) the Mandouri prefecture market (the biggest market in the prefecture),
b.) the secondary cantonal markets, and
c.) the Dapaong regional market that is accessible through the National Highway 24 under construction.

To date, it takes about 1 hour and 30 minutes to connect Mandouri to Dapaong. The finishing of the National Road is planned in 1 year's time, and should improve access to markets, but at the moment all these localities are accessible through tracks.

Farmers can access the different weekly markets of Mandouri (Thursday), Dapaong (Wednesday and Saturday), Koundjoaré (Tuesday) and Bagre (Monday).

Expected Concrete Output 2: Strengthening financial management of cooperatives and beneficiaries; maintenance of engineering equipment

This will involve strengthening the capacity of beneficiary communities regarding: -
a. Financial and simplified accounting management;
a. Cooperative organization; and
b. Training of local technicians in the installation and repair of irrigation and solar equipment.

The institutions with the skills to train farmers in various areas include:

- Institut de Conseilet d'Appui Technique (ICAT): with a mission to contribute to the support to the rural world. It works in the promotion of rural areas, through the dissemination of appropriate crop management and support for the structuring of professional organizations.

- The Centre d'Animation Rurale of Tambimong-Ogaro (CARTO): dynamic in the region, provides training and resettlement of young farm couples in their original environment. This centre has an accommodation capacity of 24 couples per year. The training is mainly focused on soil conservation techniques, improved fertility, animal traction, and peasant organization.

- The NGO Recherche Appui et Formation aux Initiatives d'Auto-développement (RAFIA): works in empowering grassroots organizations and increase their self-development; capitalized and support community development initiatives; form for capacity building at the grassroots; capitalize on and disseminate the experience gained in self-development; promoting community relations in economic and social self-development; support basic initiatives aimed at the protection and sustainable management of the environment; promote all income-generating activities for vulnerable populations, including young people and women.

- The Centre de Formation Rurale of Tami (CFRT): provides training to young rural couples to allow these families to improve their living conditions, and to achieve food self-sufficiency. It works for agricultural training, learning animal traction, the use of selected seeds and natural fertilizers, breeding, gardening. It also trains on literacy, mathematical ability, hygiene, childcare, sewing, knitting, cooking recipes.

- Coordination Togolaise des Organisations paysanneset de Producteurs Agricoles (CTOP): works in promoting and constantly defending the value of a professional agriculture, competitive, dynamic and sustainable for family farmers' farms. To do this, it undertook in particular to develop and implement rural information education and communication policy, support for the development of concerted and aggressive strategies of business development, supports its members in accessing and using new information and communication technologies (ICT), negotiate and link its members with banking institutions and decentralized financing, organization of seminars and thematic workshops training, conferences, etc., organizing debates and conferences on media.

- NGO IT-Village has a professional technical training school called Centre Bonita. This Centre trains young people on among other things, modern carpentry, masonry modern, beekeeping, agroforestry, business management accounting.

The target groups which will be trained and sensitized include:

- Agricultural producers including farmers' cooperatives;
- Associations of women and youth;
- Mandouri community;
- The mixed farmer- herders groups; and
- Decentralized technical services such as the prefectural Agriculture service, Livestock service and Fisheries service, the prefectural service for management of the environment and forest resources

Training kits, a communication strategy with a communication plan will be developed. These documents will define the main target groups, essential and specific messages and target group the training profile.

In order to facilitate access to inputs, a micro-credit scheme will be implemented. It will cover a funding of about USD 116,000 to be placed in micro-credit institutions in favour of producers, for the financing of agricultural activities and other income generating activities.

To date, the three microfinance institutions operating in the project area include:-

- Union des Caisses Mutuelles d'Epargne et de Crédit des Savanes (U-CMECS) ;
- Coopérative d'Epargne et de Crédit Mandouri (COOPEC MANDOURI) affiliated to FUCEC-TOGO Network ;
- Coopérative d'Epargne et de Crédit pour le Soutien aux Initiatives des Femmes pour l'Autopromotion (COOPEC SIFA) ; and
- Fonds National de la Finance Inclusive (FNFI).

The project will not create a microcredit institution. The objective is to facilitate access to credit for producers. To this end, the project will build on the most successful microcredit institutions in the project area. According to the socioeconomic study and consultations with people and the Togolese part, farmers face difficulties in ensuring a sustainable procurement of agricultural inputs mainly because of the cost of credit. Indeed, due to the impacts of climate change on production and yields, crops productions are no longer sufficient to supply food for consumption and selling. This causes delays in reimbursement or unpaid credit. In addition, the project area was remote, making it difficult to access markets for the selling of products.

As support, the project proposes to select the successful microcredit institutions with support from the Ministry for the Economy and Finance for the establishment of a more accessible financing system. The thoughts have focused on the establishment of a bonus system or guaranteed loans to farmers including the land users of the site and the product processing cooperatives.

The AF resources will be used purely as capital to offer credit. For increased protection of the capital for borrowers with limited collateral capability, the fund will only loan groups rather than individuals. This way, peer guarantees will be applied. These groups will then be allowed to borrow against a business plan developed after training on the commercial venture they are borrowing for or against an existing business establishment/operation. The MFIs processing the loans will use their internal procedures as licenced by the law. The loans will only attract a one-off administration fee of under 5% to keep it affordable. Repayment and administration remains with the MFIs selected. The resources injected will be managed separately from the overall portfolio of the MFIs hence will be audited separately. Guarantees will only be corporate to create leverage for new resources so as to build up the resource. The Project will ensure the entire supply chains of the produce are well connected so as to further safeguard the credit loaned out; for instance, paying for equipment or inputs directly to the supplier rather than disbursing cash to the farmer group. All groups must be constituted according to the Laws of Togo and preference will be given to women-led or youth-led groups- so far a lesser fees has been found more attractive. As a rule, there will be maximum loan limit for first-time borrowers regardless of the intended use and only qualify for higher amounts upon successfully servicing first loan. Additionally, the groups will be required to bank with the MFI from which they borrow for ease of loan monitoring and an additional security.

In order to ensure the sustainability of the project, it is envisaged a loan bonus system that is aimed to reassign AF resources to selected institutions (for this purpose a loan contract at subsidized rate will be signed between the State and these microfinance institutions) to reduce credit interest rates. This will also help sustain the resources that will be restored gradually as repayments contrary to a guarantee fund, which could run out in the short and medium term.

For better loan repayment, there will be a capacity building of credit institutions for the management and monitoring of loans, and recipients (women's cooperatives, farmers, poultry, etc.). For recipients, the capacity building program will emphasize the mechanism and the need for ownership of a simplified financial management and value chain.

These funds will allow agricultural inputs supply and product processing. The construction of the Mandouri-Dapaong road will facilitate access to the regional markets.

Women's access to microcredits will be strengthened to improve their market gardening production and product processing. The access terms to credit for all beneficiaries (male, female and young) will be determined fairly with financial institutions to be selected, the Togolese authorities and beneficiaries and will take into account the AF gender policy.

Expected Concrete Output 2: basic social infrastructures are realized for the beneficiaries
The most common diseases in the project area are: malaria, waterborne diseases (diarrhoea and dysentery), respiratory diseases, meningitis, onchocerciasis or river blindness. Among the top ten causes of disease, malaria is a heavy burden with 12,145 cases, or 25%, followed by IRA 8,474 cases (17.1%), intestinal parasites 8.93%, STI (3.28%) with most often cases encountered at the Mandouri Hospital (360 STI cases). The frequent causes of hospitalization are: malaria 37.77%, snakebite (26, 25%) and infectious diseases (13.75%). The main causes of death are related to infectious diseases (50%), abdominal syndromes (16.6%) and severe malaria (16.6%). Concerning health facilities, latrines and modern water point, the situation needs improvement.

The drilling of a well for water consumption and latrines should improve the sanitary conditions of the beneficiary population. It is planned within the framework of the project, social measures will be implemented consisting of the construction of mini water supply composed of equipped borehole, a mini water network, water tower and fountains, powered by solar energy. In addition, the project also includes the construction of three (3) latrines to improve sanitation at the village level. These investments will be accompanied by the sensitization of beneficiaries on the water management and sanitation, in order to minimize the health risks related to the spread of certain diseases related to water and food (malaria, cholera, etc.).

The irrigation system will certainly involve the use of pesticides; however, such agricultural inputs are subject to certification by the National Certification Committee, which takes into consideration the environmental standards. The Committee relies on national chemicals management programs such as the National Profile on Chemicals Management adopted and revised in 2013 and the national implementation plan of the Strategic Approach for International Chemical Products Management (SAICM) developed in 2015. Farmers will be trained on the optimal use of chemicals through strict adherence to spreading standards of each product.

The project has planned to support fishing activities through the construction of fishponds, a drying area and assistance for fish production techniques. Fishing is practiced as a livelihood activity and drying is used as a method of conservation. For agroforestry, the project will set up nursery stores.

Component 3: Capacity building, environmental and social measures and knowledge management

The particular threats posed by the observed climate impacts and likely climate scenarios is ignorance (lack of awareness) on the climate threats and ways to manage them; both by the communities and by Government entities responsible for policy and planning. This keeps leads to repetition of mistakes and continued exposure to the threats of a changing climate due to inadequate or absence of planning.

Expected Outcome: Improved knowledge of stakeholders (public, local elected officials in the region, officials of local institutions, etc.) for the building of the resilience to climate change and the prevention and management of environmental and social risks

Expected concrete output 1: local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies

The capacities of the different actors and stakeholders will be strengthened in order to move "from climate risk to resilience". It has been proven that, risk reduction can be a substantial contribution to

adaptation to climate change. Therefore, **capacity building will be provided on risk assessment, risk reduction, vulnerability assessment, and adaptation technologies**.

In addition, this component will also focus on strengthening the technical, organizational and environmental actors regarding:

a. Environmental skills;
b. Joint management of water resources and conflict management, and
c. Environmental monitoring.

Regarding the environmental and social measures, the activities envisaged are:

1. Implementation of environmental measures prescribed in the Environmental and Social Management Plan (ESMP),
2. Development of Risk Assessment and Management Plans,
3. Establishment of a restoration Plan for the production zones,
4. Establishment of the Stakeholder Engagement Plan to strengthen ownership of the project;
5. Establishment of the Grievance Resolution Plan in order to resolve any conflicts that might impair the operation of the project; and
6. Implementation of an Integrated Pollution (from phyto-sanitary inputs) Prevention and Management plan.

Indicative Activities for Output 3.1:
Activity 3.1.1: Train regional extension officers and local community members on climate change adaptation technologies, including water conservation practices, climate-smart agricultural techniques and ecosystem-based adaptation (EbA) to climate change activities.

In an area where flooding is perennial, these techniques and activities will develop awareness amongst locals of the different approaches to climate change adaptation. Additionally, trainees can train fellow community and household members, thereby promoting replication of the interventions.

Activity 3.1.2: Establish demonstration sites for climate change adaptation technologies at the processing site as well as around the project area

Here, best-practice water conservation practices, climate-smart agricultural techniques and EbA activities will be implemented to demonstrate the techniques and activities in 3.1.1 above.

Activity 3.1.3: Organise information exchange field activities and visits where people from communities surrounding the project area of Mandouri and similar ecosystems elsewhere are exposed to the climate change adaptation technologies.

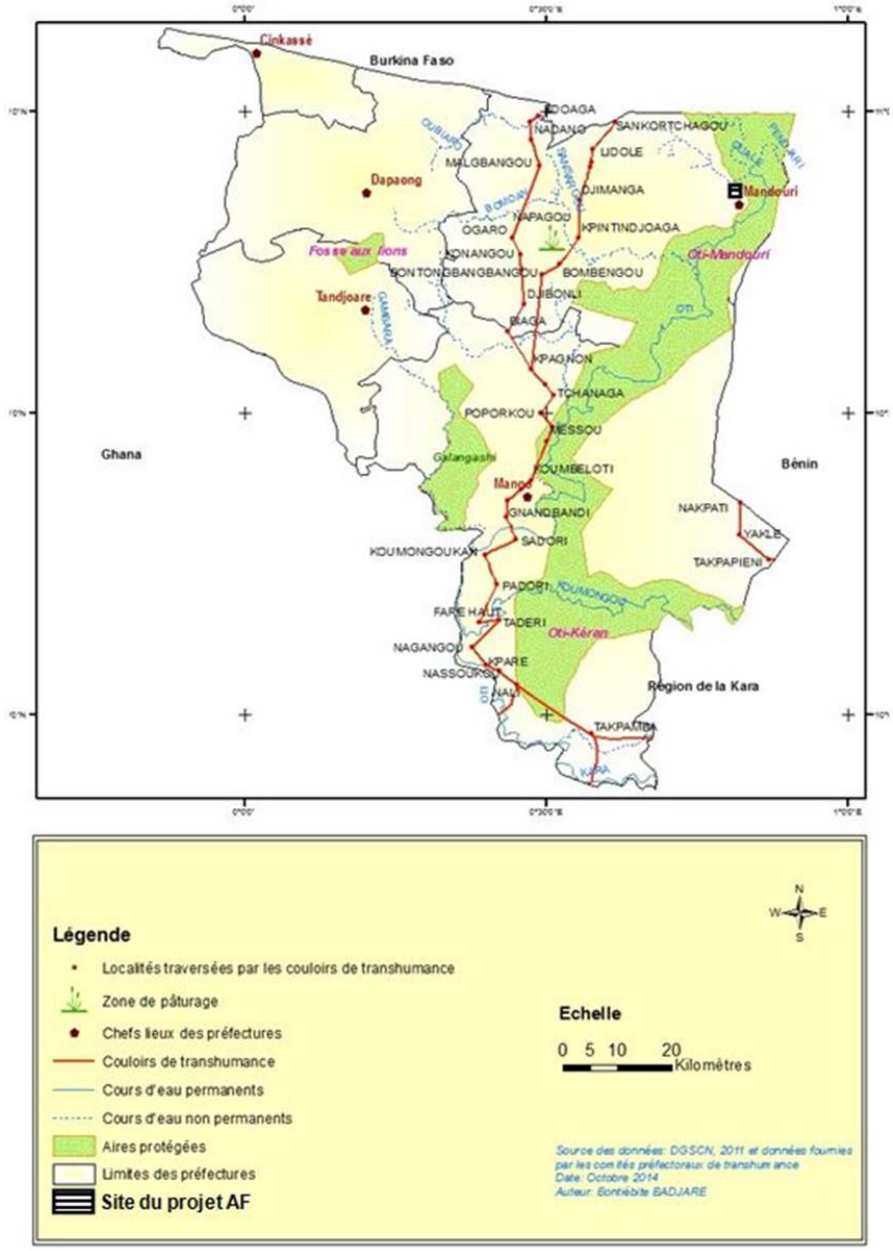
These are organised around regular meetings that the prefecture already runs in the project are to discuss general issues and well-being. Information on this project – progress and can be disseminated at these gatherings.

Conflicts between farmers and herders that were recorded in the Savannah area are those related to transhumance. To overcome these problems, Togo has developed a new map that defines transhumance corridors, reception areas and grazing areas (see Map 3).

The transhumance management is ensured by a national committee. The committee's work is done by a regional committee and at the prefecture level by a prefectural committee. Thus, the committee of the Kpendjal prefecture is chaired by the Prefect and includes several actors including herders and farmers.

Transhumance corridors that have been clearly defined by the Togolese authorities in accordance with Regulation No. 0072007/cm/UEMOA related to the security of plants, animals and food in the

UEMOA which Article 75 deals with cross-border transhumance states that "Member States implement the necessary procedures and actions to facilitate the movement of transhumance animals and, in particular, adopt international transhumance certificate of ECOWAS" published by the Council of Ministers of UEMOA dated April 6, 2007.



Map 3: Trans-humance corridors

Note that according to the map of transhumance corridors of the Savannah region, the project site is located far from the corridors. However, there are in the area of the project, conflicts from wandering animals in farming period. These conflicts are managed through consultation between farmers and herders. Strengthening the methods of storage of agricultural by-products for animal feeding will interest farmers in the project and prevent conflicts.

In any case, the project will rely on NGOs involved in the community, the local authorities and the experience of the existing committees in charge of settling disputes at the local level, to raise awareness. Moreover, the focus will be on boosting frameworks for dialogue between the various stakeholders and the project will assist in tracing and securing grazing areas to prevent and manage the risks associated with conflicts.

Follow up missions were conducted in January 2017 and May 2017 to the Project site. The former comprised of BOAD, government and EA representatives, while the latter consisted of government and EA technical team representatives. This was another opportunity for project developers to espouse on the success factors of the project, including the involvement and ownership of the project by all stakeholders. The project beneficiaries were actively engaged in both visits, including during the site-specific survey of the irrigation blocks in the latter visit.

Expected concrete output 2: lessons learned from projects in progress at national level are capitalized and a system to disseminate the knowledge acquired in the project is implemented at the local level

This will involve establishing synergies between the project and existing projects at the national level including:

- PGCIT project partially funded by the GEF5 regarding the operationalization of the early warning system;
- ADAPT GEF and IFAD, which aims to reduce the impact of climate change on rural vulnerable groups, as well as the natural resources essential to sustain agricultural production and increase food security.

Good agricultural practices that are adopted will be disseminated through training / awareness sessions, spots broadcast in local radio and documentary films. Information on the project will be produced and disseminated among the authorities, technical and financial partners and beneficiaries.

Moreover, a local database will be created for the collection and processing, preservation and dissemination of data sheets, educational tools and other training materials for their replication.

Indicative Activities for Output 3.2:
Activity 3.2.1: Apply findings/lessons learned from past and current projects/programmes to identify potential project intervention sites.

Activity 3.2.2: Stocktaking: Conduct a stocktake of adaptation interventions detailed in existing national strategies and action plans, recommendations from other regional projects and findings of scientific research to identify appropriate adaptation technologies to be implemented regionally.

At all stages of implementation, a series of data gathering functions will be conducted along with baseline assessments and studies. These will provide advice before activity implementation, especially those involving infrastructure and technology transfer.

B. Describe how the project provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Economic benefits:
The current climate variability, particularly in rainfall patterns, with reduced precipitation in some years, or offset them against the crop calendar, cause a decrease in rice production, generating episodes of famine.

Rice cultivation is still the main source of food for the people of the area Mandouri, whose surplus production also serve as main source of income. The project will secure the supply of water in rice production in order to free it from dependence on increasingly changes in frequent rainfall / rainfall. It will also –

a. **Increase the area currently under cultivation,**
b. **Diversify agricultural production through the development of market garden production especially in the dry season, and**
c. **Strengthen small livestock producers.**

Accompanying people in their agricultural way will also improve yields and reduce input requirements. Securing rice production and increasing yields, and the diversification of agricultural production, will not only ensure food security but also generate income, reducing food shortages and enabling the poorest to have access to a food and minimum income.

Generally, in the prefecture of Kpendjal, animal traction and use of tractors has improved production through larger areas sowed. With regard to Mandouri, implantation area of the project, there is to date only one tractor for 50 ha in ZAAP perimeter. The project will contribute to the mechanization of agricultural production in Mandouri throughout the year as a result of the irrigation system, improve production to ensure better food security and selling of products (raw and processed), that would allow the generation and diversification of income.

The project will also diversify and increase revenue through the supports that will be made to improve farming.

Indirectly increased production will generate more activities and transactions that will have a beneficial effect on local employment, especially for young labour in the rice fields and women in market gardening production and trade. Support will be provided to encourage micro-credit that will benefit women's groups.

This project will also enable:

a. **A more complete utilization of biomass with the use of agricultural residues (rice stalks, residues of market gardeners) mainly for cattle feed. This system will improve pastoral production (meat, milk) and contribute to the improvement of people's living conditions;**
b. **Improvement of inputs: The development of livestock will enable the production of organic fertilizer which will enter in the soil amendment The use of organic manure will cause a decrease in the use of chemical fertilizers, thus lower production costs to the producer and the conversation of soil carbon;**
c. **Local firewood production: the introduction of trees and shrubs in plots contribute to meeting the food needs of the people first and also to meet the demand for fuel wood and timber used by local populations. This has the advantage of contributing to the conservation and preservation of heritage and wood existing biodiversity.**
d. **The introduction of an agricultural system in equilibrium with its environment. This system will bring local people to develop an economy based on the respect of environmental balances that**

enable them to sustainably produce at lower cost, while preserving natural resources for future generations.

Social advantages:
The implementation of the project will enable the development of socio-economic activities in which young people will benefit (labour), the achievement of food self-sufficiency reducing food purchases, contributing to the improved health coverage (construction of health infrastructure), improving access to drinking water (repairing water towers), and strengthening women's economic capacity.

Women in the prefecture of Kpendjal constitute an important workforce. The majority of women are active in the agricultural sector where they are present at all phases of production. The Women Leaders Network's actions for Disaster Risk Reduction (DRR) are very visible in Mandouri. It may be noted to their credit, reforestation of 400 feet Palmyra in the prefecture. However, many barriers limit the active and effective participation of women in local development processes.

Gender Considerations
The implementation of Mandouri AF project will consider the gender aspects by assigning a quota of developed plots to women and / or women's associations and by ensuring women are selected among 10 to 20 local technicians. Preference in selecting the 576 households will be given to women-led or children led house-holds. The capacity development and trainings is designed for households rather than heads of households so that it empowers all adult family members including women and youth. Women thus, will be part of the technicians selected to be trained on driving, installation, repair and maintenance of irrigation and solar equipment. Additionally, during the project planning study phase, it was apparent the existing revenue control mechanisms currently favour men. The AF project will deliberately segregate plot ownership to have women groups retaining full control of their value chains, hence of their incomes. The additional revenue generated by this project AF may be invested in the education of children.

A study on gender done in the project preparation phase identified inequalities that include, access to land access, land ownership, and labour. This AF project will mainstream the gender equity and women's empowerment issues in the project. Specifically, value addition will have direct bearing on reduction of drudgery for women and girls, while increasing revenues will be preferred on women and youth. The new irrigation system will save time that can be reinvested to develop other economic activities and increase the added value of agricultural production through primary processing such as husking rice.

Environmental benefits:
On the environmental level, the project will: -

- **Improve the conservation of the ecosystem through the implementation of reforestation actions including planting trees to act as windbreaks and hedgerows, and also the planting of multi-purpose trees than can yield wood for construction, fuelwood, fodder, and even fruits.**
- **Improve water management by reducing evaporation losses and making possible the availability of water in the dry season). The irrigation system will consist of buried pipelines that will take water to the irrigation blocks. This system saves water that could be lost through evaporation and will be built to withstand floods.**
- **Improve soil quality through the establishment of Soil Defence and Restoration works, to generally improve the productive potential in the project site.**
- **The use of organic fertilizers and biological pesticides will contribute to reducing the use of chemical fertilizers, and also in reducing water, soil and ecosystem pollution. The use of organic manure and biological pesticides will also contribute to improving the quality of food products (organic products.**

Regarding biodiversity conservation, the development of the Mandouri agro-sylvo-pastoral perimeter will encourage populations move out of parts of the Mandouri-Oti-Keran Wildlife Reserve that they

have entered in recent years. The development of this area will not generate additional deforestation because the right-of-way of the project was already exploited by the producers of the ZAPP project.

Regarding the conservation of biodiversity, the project will strengthen the efforts of the government and its technical and financial partners. Indeed, one of the major causes of the invasion of protected areas by residents is the search for fertile land. This is a consequence of the extensive practice of slash and burn agriculture.

The project will be organized so farmers can work on farms in the same perimeter, in a controlled setting, and practising improved land development and cultivation techniques resilient to climate change.

A management model will be developed by a committee comprising of representatives of the PMU and representatives of the project beneficiaries. This committee will be in charge of the purchase and distribution of agricultural inputs, and also other aspects of the project including water for irrigation. The management model will combine both a collective and an individual approach. The former will apply to the management of the entire irrigated area; while the latter will apply to the individual plots. The management model will be agreed on early in project implementation.

This is a complementary project to the "Projet de Renforcement du rôle de conservation du système national d'aires protégées in Togo" (PARFT) funded by GEF, UNDP, UEMOA, FAO and the Government of Togo. The project site will not encroach on the new boundaries of the Oti-Keran-Mandouri complex as indicated in the Map 1. Water will be transported via a buried pipeline from the River Oti uptake point through the nature reserve. This intake does not affect the conservation of the wildlife area. Care will be taken to minimize effects on biodiversity as per the ESMP requirements.

Anticipated AF project benefits

- **Improvement of Food Security**
  The proposed AF agricultural resilience project will use improved agricultural technologies. This, coupled with irrigation, will allow local communities to practice crop production in the both the rainy season (rice, corn, sorghum, etc.) and dry season (tomato, okra, watermelon, etc.).

- **Job creation**
  The project will create employment opportunities for people living in the region, and even from its strategic location, potential employment for people from neighbouring countries. locations. A skilled and unskilled workforce will be required during the different phase of project implementation. The list of potential job openings will include casual workers for the construction, rehabilitation and operation of the irrigation project, irrigation engineers, agronomists, food technologists, agricultural managers, accountants and others. This has the main advantage of increasing incomes for the inhabitants and therefore improving their livelihoods. In addition, the amount of money earned by wages will directly increase the exploitation of various economic activities and business development in the areas adjacent to the project area.

- **Improving the management of natural resources**
  The project area is currently covered with bushes, shrubs and acacias, all of which are adjusted to arid conditions. The conversion of this property to agricultural land with green hedges and solar panels will lead to improved land management and optimal land use.

- **Possibility of improved research and development**
  The proposed AF project will serve as a model of intelligent engineering for agriculture. The project is strategically located in a region not far from Benin and Burkina Faso, and potentially constitutes a good site for the sharing of knowledge between the countries of West Africa.

- **National and international negotiating opportunities**
  The strategic location between Togo, Burkina Faso and Benin potentially provides a large market for agricultural products. By purchasing agricultural inputs and machinery, the sale of agricultural products will also improve market opportunities at both the local and international levels.

- **Improved water use / flood moderation**
  The project area is susceptible to flooding. Implementation of the proposed project will contribute to better use of water in both rainy and dry seasons. The use of water in irrigation and other activities in the area will be a way of controlling the flow of water downstream of the project area.

- **Environmental benefits related to the use of solar energy**
- Significant reductions in emissions will be achieved by the production of photovoltaic electricity (PVe). PVe also does not generate noise or chemical pollutants during normal operation. In addition, PV cells help to increase soil moisture and improve flora formation in arid and dry areas. PVe, a non-polluting source of energy, will be used for irrigation.

Reduction in the consumption of fossil fuels

In terms of CO_2 balance and the type of technology used, the use of solar panels for the pumping station will prevent the emission of greenhouse gases from a fossil fuel run generator(s). Besides pollution due to accidental spillage is limited to a very small extent in the construction and decommissioning project stages.

The designed power requirement for the irrigation project is 110 kW – 150 HP, to drive a pump of 600 m^3/hr with a total head of 40 meters. The PV power generation will require 848 260w solar panels.

Fuel (diesel) consumption estimates for a 100 kW generator /motor at full load is 7.4 gallons/hr[1] (28.012 litre/hr).

Assuming a 6 hour operation per day, fuel use is estimated at 28.012 x 6 = 168.072 litres/day or 5,042.16 litres/month. Pumping will be done for at least 6 months in the dry season, with an estimated fuel consumption of 30,252.96 litres of diesel.

The project by reducing fossil fuel consumption reduces GHG emissions resulting from their combustion in diesel motor pumps. Considering that the burning of a litre of diesel emits 2.68 Kg of CO_2[1] into the atmosphere, the project, through the 30,252.96 litres of fuel not consumed, would have reduced emissions by about 81 tons of CO_2 in one year. Additionally, these avoided emissions may be traded on the carbon market during the course of the project's operational life.

- **In addition, direct benefits related to the use of solar energy include the inclusion of a** solar powered community bakery in the AF project design. During installation and maintenance of the PVe system, both full-time and part-time will be created, improving the local micro-economy and contributing to poverty reduction.

C. Describe or provide an analysis of the cost-effectiveness of the proposed project

The proposed project aims to provide concrete adaptation solutions to address threats of climate change to food security for a key deprived region in Togo, namely Mandouri capital of Kpendjal prefecture, Savannah region. The area has high temperature rates (up to 39^0C in the dry season), is affected by both drought and floods in the dry and rainy seasons respectively and has the highest poverty rate (90.5%) in the country.

The AF project in Mandouri is cost-effective and the value chain approach supports the cost-effectiveness in the following ways:

- When several alternatives were considered the project preparation phase, their comparison alysis revealed that main alternatives for the population of the prefecture Kpendjal and that of the Canton of Mandouri to adapt and build resilience to climate change would require almost infinite costs. For instance, the flooding in one half of each year and the drought in the other half both cause emigration at different scales; the floods which are increasing with silted river beds displace the populations while the drought forces people especially the youth and middle-aged to move to urban areas in search of alternative income sources (jobs). To avert this migration and for the people that remain at home, development of agriculture and particularly adoption of irrigation technologies emerged the best option for adaptation. Protecting the population, especially of the Canton of Mandouri would take expensive infrastructure like walls and dykes. These would not have any much business rationale other than protection from flooding. During the dry season, this infrastructure would be idle. That means the investment is only usable during half of the year. This AF project proposes to capture the same flood waters to expand food production acreage as well as store part of it for use through the dry season to create economic activities all year round. Therefore, it controls the floods and increases wealth creation potential of the population, thereby making them more resilient. The choice made to introduce construction of basin and furrow irrigation system is decisively more cost-effective than any other alternative of controlling the floods.

- The fact that the area has been selected as a priority agricultural development zone (ZAAP) demonstrates that it is a priority for the government, compared to an area which is not. Analysis revealed several indicators of cost-effectiveness. There is no irrigation sub-sector as such in Togo so this serves as the pilot to demonstrate best practices. The development studies and the exploitation of lowlands launched by the Support Project for Agricultural Development in Togo (PADAT) identifies Kpendjal as one of the high potential lowland areas bearing 718 ha of developable land under PADAT. This lowland type comprises rivers and ravines where the interventions are more variable and complex. 144 ha of the 718 ha (or 20% of all developable land in Kpendjal) will be put under irrigation by this AF project. The possibility for scale up is practical. And with that demonstrated, Togo can then replicate it in other parts of similar lowlands having demonstrated on over 700 ha in this northern region. Additionally, the introduction of other crops will also mean that this project serves as a pilot for the other type of lowlands where no ravines and rivers exist. This then becomes the most cost-effective site and manner for Togo to start commercial irrigation at large scale. The alternative would have been to select the savannah type of lowland to site this project. The downside of it would be that the rate of adoption and utilisation of the project facilities would be partial as the threats posed by flooding are not as high. So therefore, Mandouri is the most cost-effective site and the selected action is the best for the local population and for the Government.

- While rice farming remains the primary economic activity of the population in the prefecture, the decline in soil quality and at times off-season sudden flooding wiping out the crop badly affects production. This often leads to uncertain and insufficient harvest from year to year to cover the growing needs of families. It is therefore increasingly subsistence rather than commercial. This situation gets worse in the dry period of the year when no new production is possible. The alternatives for adapting to this would have been to help individual farmers to expand acreage even with irrigation. This project opts for the alternative of a collective farm with shared

infrastructure. This increases the cost-effectiveness of not just running the farming practices but also of processing the produce- harvesting and post-harvest value chains- with shared costs, knowledge and manpower. This is better than the option of individual dispersed farms which would lead to much higher costs and hence returns with greater possibility of being unsustainable and may not eliminate the current challenges.

- *The value chain approach* is better than the traditional approach of focusing on one part (mostly upstream) of the value chain. This approach adopted by the project allows producers to have the opportunity to make up for losses in one link from another link in the chain. Currently, the largely smallholder farmer population only have a hold on the production side which if affected a climate shock easily renders them destitute and aggravates other socioeconomic challenges. This value-chain approach will put the control of post-harvest revenues in the hands of the producers thereby the concepts of shifting margins will safeguard the households. The cost-effectiveness was also seen to arise from the fact that with jointly owned facilities, households can passively earn from ventures run by groups to which they belong. The proposed project will build on this community ownership approach and complement activities with the focus on national food security and adaptation approaches which is most cost effective.

- *Community based adaptation (CbA)* - According to a CARE study[28], CbA builds a strong economic case, with accruing social, environmental and economic benefits even in a delicate environment. Projects in communities in Kenya showed that "investing £1 ($1.35) in CbA generates between £1.45 ($1.96) and £3.03 ($4.10)[29] of wealth for communities"; intervention costs were over 2.6 times lower than doing nothing to counter the impacts of climate change and extreme events (and then having to respond to disasters).

- *The* project adopts an approach based on community mobilization, sensitization and training. This approach involves the population in the management of water resources and land as well as agro-processing. This satisfies social needs and promotes income-generating activities that contribute to food security and well-being. The project directly supports households to be involved in carrying out irrigation and so will increase people's incomes. Incomes per hectare in similar projects were increased at least ten times those in rainfed system so significant impacts on the yields of irrigated crops are expected. The value addition further improves the revenues and increases the climate resilience of these households. The gains made with increased production are thereby protected and enhanced. The cost case is therefore strengthened by this alternative beyond the alternative of irrigation only. Introduction of other crops using the same value chain approach further strengthens this approach. So the combined irrigation and agro processing is the most cost-effective.

- *On economic sustainability*, the project is self-sustaining as it enables producers to finance their households as well as manage the systems from the revenues. Running the irrigation system and the agro processing facilities. Therefore, they are able to run other social projects such as access to water to ensure regular irrigation, the availability of a safe source of energy for pumping and especially the lengthening of the crop year.

- *Finally, the use of solar power* for both water pumping and for the processing facility turns out, in terms of cost-benefit analysis, to be the best alternative energy source. This is compared to diesel or even biofuels which would present a logistical challenge sourcing sufficient quantity and maintaining the equipment. The annual cost of pumping for a solar system is four times lower than the cost of a diesel pump -250,000 F.CFA/ha for solar pump and 1, 000,000 F.CFA for diesel pump according to ICRISAT,2009. The long lifespan of solar equipment and the absence of operation costs explain this 300% cost saving.

[28] Community-Based Adaptation In Practice: A global overview of CARE International's practice of Community-Based Adaptation (CBA) to climate change

[29] 1GBP= USD1.35 as at January 2018

These activities whose cost effectiveness are described above are detailed below:
The Mandouri project's activities under Component 1 (Improved planning and management of water resources and (agricultural) production) will promote improved food self-sufficiency and sustainable management of land through better water management for agricultural production. To achieve this, it will make investments that scale up (and commercialise) existing practices and permanently transform water management and agricultural production. Specifically, Mandouri is already a major producer of rice and vegetables produced on rain-fed and floodwater cropping, on only one part of the year. The proposed project's investment will be used to set up infrastructure that has never been in the area over an entire 144ha land and turn it into a year-round irrigated farmland. This component will also acquire communal farm machinery large enough to cover the entire project are, which has never happened before. Once this is done, the economic vibrancy of the farming activities- more rice and a commercial horticultural/market gardening sub-sector will emerge. It will complete safeguard the communities in and around Mandouri from climate variability threats. Therefore, the disproportionately large benefit of the interventions under Component 1 are reflected in the equally large proportion of the proposed project's investment.

The cost-effectiveness of the project's adaptation interventions through Component 3 will be greatly enhanced by the EbA approach being applied with and among the local community. This approach result in higher benefit-cost ratio compared to the implementation of hard infrastructure. Yet, this project combines both EbA and hard infrastructure. The investment of US$5 million to put 144ha of land under intensive food production translates to not only high revenue returns but also savings on the countries food budget and foreign exchange.

Component 2 involves market-based approaches for strengthening resilience which will ensure sustenance of the interventions. One, the component seeks to harness maximum production capacity without the concerns of how to handle harvest. The investment made for this is only on storage and processing for marketing; which is minimal. Two, the use of credit mechanisms means that the farmers are able to access capital to invest in their agribusiness based on sound business models. The same capital is reinvested and lent to others over and over. This delivers highly cost-effective means with disproportionately large benefits and high return on the investment. The investment planned for this is $2.15 million to completely and permanently cushion 2,880 people from climate vulnerability.

The nexus approach to water-energy-food security prioritised by the project is by definition a cost-effective approach. Instead of adaptation efforts and plans being prepared to meet sectorial goals, focused on sectorial and project-based activities, without adequate consideration or coordination of cross sectorial interactions among key climate-sensitive sectors such as water, energy, and food, this project considers all is pursuing multiple results at 3 sectors and at different levels and scales concurrently. This makes it highly cost-effective as opposed to addressing each sector independently.

The project which is in an area which has been a top priority area for Togo but never managed to solve the challenges, will benefit from data, results and consultation processes conducted by key partners and stakeholders in the context of national scale planning. Under usual context, a similar adaptation programme would have had to allocate resources to conduct parallel consultation and validation processes.

The adaptation measures prescribed in the projected, are selected to mitigate the impacts of climate change and increase the resilience of the agriculture sector in Mandouri, Northern Togo. Changes in the weather conditions leading to more frequent extreme events such as floods and droughts and their costs and financial implications are taken into account. The project aims to diminish and, in some cases, avoid such costs.

Climate change affects negatively the yields in agriculture and crop patterns, as can be seen in the region due to unpredictable water resources. According to the documents available for Togo, mainly the third National Communication (2015) to the UNFCCC[30], the NAPA[31] and the 2015 INDC[32], changes in temperature and precipitation are expected to reduce yields and disturb crops.

Table 6: Project cost-effectiveness

Existing climate threats	Activities designed to mitigate threats
Decreased precipitation, disruption of the rainy season and the crop calendar. Indeed, the start of the rainy season has moved from April-May to June or July, while the end occurs early in September.	• Mobilization of water to compensate the water deficit in the crop cycle via irrigation. • Development of agricultural area (Mandouri perimeter) to help farmers increase their productivity. • Diversification i.e. increased crop production in the dry season, value addition and income generating activities (IGAs)
Drinking water shortage especially in the dry season.	• Provision for a mini water supply system through boreholes and a mini water network in the project.
Between 1961 and 2012, a rise in average temperature of 1.2 ° C and lower rainfall of 41.8 mm have been observed for the northern part of Togo	• Creation of nurseries of multi-purpose tree species (fruit, food, fodder etc.) to encourage reforestation based on trees species adapted to new climatic conditions • Irrigation technology (basin and furrow) to enable crop production in the dry season • Dry season farming through irrigation will result in diversified crop production, and potentially create more jobs for women and the youth.
Risk of flooding due to the increase in the intensity of rainfall	• Buried pipes in the basin and furrow irrigation system to withstand flooding

The mode of irrigation adopted is justified by the need to rationalize the use of water. The combined basin and furrow system significantly reduces losses by seepage and evaporation, compared to the open channel system which exhibits relatively large losses. Compared to other solutions (sprinklers, drips), the latter in spite of their real benefits in saving water, require more expensive equipment and a higher level of maintenance.

The Adaptation Fund investment will cover 144 ha of land, introducing sustainable adaptive practices in agriculture and natural resources management. This will include water and land management. In addition, interventions will also include policy improvements with the integration of climate change related considerations and training materials, which will indirectly benefit the entire savannah region. The resources from the Adaptation Fund will be mainly allocated to field activities, by promoting the adoption and replication of best practices by the local communities of Mandouri and its vicinities. The interventions will strengthen the experience of the country, in terms of adaptation and environmental policy, for a scaling-up at the national level. It is planned that the activities will mainly benefit the local communities of Mandouri. This priority given to the final beneficiaries should enable an optimal cost effectiveness of the project. The table below summarizes these social and economic benefits.

Table 7: Social and economic benefits

[30] http://unfccc.int/resource/docs/natc/tgonc3.pdf
[31] http://unfccc.int/resource/docs/napa/tgo01f.pdf
[32] http://www4.unfccc.int/submissions/INDC/Published%20Documents/Togo/1/INDC%20Togo_english%20~ version.pdf

Social benefits	Economic benefits
576 farmer households will be benefiting from plots managed with adaptive methods	144 ha will be developed using sustainable adaptive techniques for water management and irrigation, and improved production techniques will be introduced such as short cycle seeds, high production varieties, etc.
Rural communities will be trained and better organized around income-generating activities including diversified crop production in the dry season, value addition to produce, etc.	The communities will benefit from demonstration centres both technically but also economically, as they will consider various income-generating activities such as shops to sell products with high added value.
Participation of the civil society, through the involvement of NGOs, including women's groups already mentioned above will increase the attractiveness of the region, together with consultations of stakeholders in the decision-making process related to climate change, and to the reduction of land degradation and information and awareness activities.	Microfinance activities will enable people to invest in agricultural production techniques related to the changing climatic context of the region.
Stakeholders will be formed to monitor, promote and develop the integration of climate change in agriculture. The population will not find themselves as "abandoned" (considering that Mandouri is an extremely isolated site)	In the long term, food security will be improved following the implementation of adaptation practices. This will come from increased production in the agriculture sector (e.g. by introducing innovations such as high yielding / drought resistant crops).
576 farmer households will be benefiting from plots managed with adaptive methods	144 ha will be developed using sustainable adaptive techniques for water management and irrigation, and improved production techniques will be introduced such as short cycle seeds
Rural communities will be trained and better organized around income-generating activities	The communities will benefit from demonstration centres both technically and also economically, as they will consider various income-generating activities such as shops to sell products with high added value. With availability of solar energy, value addition to agricultural produce can be taken to the next level for instance to run a communal bakery, tomato pulp/paste making installations, etc.
Participation of the civil society, through the involvement of NGOs, including women's groups already mentioned above will increase the attractiveness of the region, together with consultations of stakeholders in the decision making process related to climate change, and to the reduction degradation land, and information and awareness activities	Microfinance activities will enable people to invest in agricultural production techniques related to the changing climatic context of the region. Agricultural production will be possible in the dry season, presenting job opportunities for women and youth who raised concerns on the lack of opportunities for almost half of each year due to drought.
Stakeholders will be formed to monitor, promote and develop the integration of climate change in agriculture. The population will not find themselves as "abandoned" (considering that Mandouri is an extremely isolated site)	In the long term, food security will be improved following the release of adaptation practices. This will come from increased production in the agriculture sector (e.g. by introducing innovations such as early maturation / crops resistant to drought)

The water control was proposed because it best meets the concerns of the people of Mandouri who can no longer control their cropping calendar due to recurring floods and droughts that affect all production activities. The proposed method will enable them to secure production activities by storing and redistributing water even in times of floods or droughts.

During the project design process, studies have been conducted to establish the baseline. This has better demonstrated the benefits and cost-effectiveness of the project as well as adaptation measures recommended. The irrigation project will be powered by solar power. During the rainy season, there is plenty of water. While at the same time the solar component generates power. This power can be channelled to other uses like a planned communal bakery form the project, as well as other income generating activities like preparation of tomato pulp (value addition). In the drier season, irrigation will be practised for cultivation of vegetables and other crops. This not only complements the diets in the project area, but it is also a source of income from the sale of the agricultural produce.

D. Describe how the project is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

This project fully reflects the priority measures identified by the Togolese Republic in its NAPA and Strategy for Accelerated Growth and Employment Promotion (SCAPE) 2013- 2017, and contributes to the development and success of the country as to the achievement of key objectives of the new program for sustainable development, following the MDGs.

The national action plan for adapting to climate change has identified agriculture as one of the priority areas that need to implement urgent adaptation measures. Among the recommended measures include:

- **The adaptation of agricultural production systems in three regions including the savannah region in the implementation of cultivation techniques integrating climate change and improving the agro-meteorological information;**
- **Development of small irrigation in lowland areas for groups of existing farmers of Central, Kara and Savannah likely to slow down the rural exodus.**

This measure will:

a. **improve the living conditions of vulnerable communities in Central, Kara and savannah (area of the project area) with the development of vegetable crops against- season through increased food availability during the lean season;**
b. **increase the income of producers,**
c. **develop against-season crops and**
d. **strengthen the capacities of producers.**

According to PANA, adaptation measures developed by local people in the savannah region to cope with climate change are:

- **Crops association;**
- **Adapting cropping calendars;**
- **Varieties resistant to drought;**
- **Introduction of improved breeds;**
- **Storage of agricultural by-products for animal feed;**
- **Colonization and exploitation of lowlands;**
- **Change in eating habits;**
- **Movement of populations in search of good land;**
- **Implementation of erosion control devices.**

Agriculture, the main livelihood activity and one of the driving forces of Togo's economy, is a top priority for the government which, through the national agricultural development policy of Togo (PNDAT) 2013-2022 and national Program for Investment and Agriculture for Food Security (PNIASA), was involved in a number of programs, such as:

- **Promotion of efficient varieties resistant to climate change;**
- **Strengthening the management of integrated soil fertility;**
- **Mapping and establishment of zones and transhumance corridors;**
- **Construction and / or improvement of reservoirs for micro-irrigation and watering livestock in rural areas in all regions;**
- **Support mapping of vulnerable areas to climate change;**
- **Support for the dissemination of good agro-ecological practices;**
- **Promotion of rice production systems with very low water consumption and low greenhouse gas emissions (ISR: rice intensification system).**

In addition, the Government of Togo has demonstrated its commitment to integrating environmental considerations in its public policy of economic development. This politic is illustrated, among others, in the National Environmental Action Plan (NEAP); the National Environmental Management Program (NEMP); the National Strategy for Sustainable Development (December 2011); National Capacity Building for Environmental Management Strategy (October 2008); the National Strategy for Disaster Risk Reduction in Togo (December 2009); the National Medium-Term Priorities Framework (NMTPF) for Togo (2010-2015) and the National Action Plan for the management of coastal and marine environmental resources.

Therefore, the main environmental issues are integrated into the Accelerated Growth Strategy and promotion of employment as a development framework for filling the General Policy Statement of Togo (DPG) based on the MDGs, and finally with the ODD.

In seeking to align the NEAP with Togo's development planning, The World Bank has prepared a study, Towards Environmentally Sustainable Development in West Central Africa, which takes stock of national development efforts in the face of degrading natural resources and alarming demographic trends. The study concludes, however, that high population growth, high poverty levels and the direct dependency of most poor families on natural resources for subsistence, low levels of environmental awareness at all levels of society, market and policy failures, and institutional weaknesses, all point to the need for redoubling and redirecting environmental efforts. This project directly addresses these issues and contributes to their correction. The NEAP therefore identifies these factors as priority problems from national planning exercises:

a. **land degradation;**
b. **deforestation and loss of biodiversity;**
c. **water availability and quality among others**

This AF project takes direct action on each of these problems which if no action is taken will increasingly constrain the options for sustainable development.

The National Capacity Building for Environmental Management Strategy (October 2008) makes it clear that the next major phase towards Environmentally Sustainable Development (ESD) is to mainstream environmental issues into national development planning in all sectors and at all levels of society. This project takes an on-the-ground approach towards ensuring environmental issues are mainstreamed with each component of this project carrying an aspect of awareness and proactive action to climate adaptation among other environmental issues.

Togo's Third National Communication of 2015 indicates that Togo intends to contribute to climate protection by strengthening the resilience of its production systems and means by embarking on a carbon-lean development path. These aspirations are also captured in the National Adaptation Programme of Action (NAPA) for climate change, produced in December 2008 and whose objectives relate to:

a. **the protection of human lives and livelihoods, resources, infrastructure and the environment;**
b. **the identification of grassroots communities' urgent, immediate needs for adaptation to the harmful impacts of climate change and variability; and**
c. **the incorporation of adaptation measures and objectives into sectoral policies and national planning.**

This on-the-ground AF project is well aligned with these strategic aspirations. The project also deploys large scale solar irrigation as part of the mitigation plans around the energy-water nexus as captured in the 3rd National Communication (NC). Key among the mitigation measures singled out is rice growing. The NC of 2015 states that for the rice sub-sector, the actions will target the identification and promotion of varieties of rain-fed rice, and support and guidance in the better use of organic matter (for faster decomposition) in the paddy fields. This is exactly the way this project is designed.

This project is aligned to the Accelerated Growth Strategy for Employment promotion insofar that this National development framework has identified agricultural productivity increasing as one of its priorities. One of the strategic objective of the Accelerated Growth Strategy for Employment promotion is to increase production to improve productivity, improve access to quality seeds, restore degraded lands and increase soil fertility, improve agricultural equipment, and make facilities irrigated.

More precisely, it is:

- **Increase the rate of agricultural mechanization by at least 3% in 2015 and by 5% by 2017;**
- **increase the developed areas by at least 2500 ha per year;**
- **increase the irrigated areas by more than 500 ha per year;**
- **increase the amount of fertilizer distributed from 32,000 tonnes in 2012 to 58,500 tonnes in 2015 and 69 500 tonnes in 2017 for at least 500 000 small producers;**
- **create a financing fund for the agricultural sector (including the support fund for agricultural processing for at least 500,000 small producers);**
- **build 1.500 km of rural tracks per year.**

The target defined in the Accelerated Growth Strategy for Employment promotion for Togo is to ensure an agricultural growth rate of at least 4% on average (baseline scenario) and more than 6% on average (accelerated growth scenario)

One of the evidences of the alignment of this AF project with the Accelerated Growth Strategy for Employment promotion is that, the Togolese Government, with the aim of increasing and diversifying the incomes of the rural populations, encourages the activities of granting credit to farmers. Indeed, recent studies have shown that effective access to credit at appropriate interest rates can significantly reduce the incidence of poverty and climate change.

The Accelerated Growth Strategy for Employment promotion aims to ensure that agriculture's contribution to growth is inclusive and a powerful means of fighting poverty and inequality. To do this, the focus is on the involvement of women, youth and small-scale producers recognized as among the most vulnerable social groups in Togo. This is in line with this AF project in the sense that these three categories of actors are the priority target groups.

The Government's ambition is to reduce rice imports by at least one-third, which cover 50% of national requirements. This project, which supports rice production, contributes directly to this ambition defined in SCAPE. The horticultural sector is also prioritized in the Accelerated Growth Strategy for Employment promotion to increase the country's exports and increase foreign exchange earnings for the benefit of the smallholders. The AF project seeks among other things to develop horticultural crops.

The project has strong linkages with the World Sustainable Development Goals (SDGs), more specifically with SDGs 1 and 13. SDG 1 which refers to "eliminate hunger, ensure food security, improve nutrition and promote sustainable agriculture" is supported by this project as it aims to increase agricultural productivity and production. SDG 13 which aims at 'taking urgent action to tackle climate change and its impacts" is the main international objective this project is linked to as the overall objective of this current project is to increase resilience of the agricultural sector to climate change.

The recent Agricultural Policy of Togo (2016-2030) envisioned "A modern, sustainable and high value-added agriculture serving national and regional food security, a strong, inclusive, competitive economy and generating decent and stables jobs by 2030". The objective to be achieved by this policy, estimated at USD 7,400 billion for the 2016-2030 period, is to contribute to accelerating economic growth, reducing poverty and improving economic conditions. life while ensuring social inclusion and the respect of environment. The active phase of the implementation of the new agricultural policy is based on the creation in the economic regions of the country of agricultural

development poles called "agropoles". This is the main strategy envisaged in the implementation of the new policy. Such a strategic option had already been foreseen in axis 5 of the Strategy for Accelerated Growth and Promotion of Employment (SCAPE) on the promotion of the balanced emergence of development poles. To this effect, a pilot program "agropoles" over the period 2016-2020 has been developed. "The model of agropoles that is sought is an integrated pole of development around agricultural activity. The ambition of such a structuring is to regroup in a single place and in a same organization to work on the local potentialities, on the comparative advantages of the sites concerned and the associated channels, the various levers allowing to get people out of poverty. Agropoles must also be linked to the development of various infrastructures support to development poles of development and financial services business and micro-enterprise services, telecommunications services and tele-services. This New Agricultural Policy 's priorities are in line with those of this Adaptation Fund project in Mandouri.

E. Describe how the project meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

Togolese national standards will be applied to the project. Those standards are the ones concerning the obligation to ESIA, infrastructure construction standards, the water code, including those concerning the use and sharing of water in the case of joint management of the resource for irrigation, agricultural development guidelines, standards on the protection of biodiversity, the master plans of the territory and those of local authorities will be considered to ensure consistency with the proposed hydro-agricultural development.

In addition, projects entering the BOAD's portfolio are analysed to ensure not only their compliance with national standards, but also with BOAD's environmental and social safeguards standards, which are aligned with international standards (World Bank Environmental and social safeguards policies and the IFC Performance Standards). BOAD also operates the ESIA's quality control before allowing projects to continue through the internal project cycle.

The ESIA for this project was carried out in accordance with:

a. Decree No. 2006-058 / PR establishing the list of work, activities and planning documents submitted to the environmental impact study and the main rules of this study;
b. Order No. 013 / MERF regulating the procedure, methodology and content of environmental impact studies; and
c. Order No. 018 / MERF laying down the terms and procedures for informing and consulting the public in the environmental and social impact study process.

This present Adaptation Fund project will be carried out in accordance with the following:

- **For water, environment, forestry: the water code (Act No. 2010-004 with Water Code), the Environmental Code (Act No. 2008-005 of 30 May 2008 with Framework Law on Environment) and the forestry Code of Togo. (Act No. 2008-009 of 19 June 2008 on the Forest Code);**
- **For spatial planning: Law No. 2007-011 of 13 March 2007 on decentralization and local freedom; and Order No. 12 of 6 February 1974 on agricultural land reform;**
- **For working conditions: Act No. 2006-010 of 13 December 2006 on the Labour Code.**

In addition, the project is consistent with key national strategies that include – The National Environment Policy, the National Environmental Action Plan (NEAP); the National Environmental Management Program (NEMP); the National Strategy for Sustainable Development (NSSD), and the Energy Policy among others.

The National Environment Policy (NEP), adopted by the Government of Togo on 23 December 1998, defines the overall policy framework for the promotion of sound management of the environment and natural resources with a view to sustainable development in all sectors activities. It focuses on:

a. **addressing environmental concerns in the national development plan;**
b. **the mitigation, elimination and / or reduction of negative environmental impacts of public or private development projects and programs;**
c. **strengthening national capacities in environmental and natural resource management; and**
d. **improving the living conditions of the population.**

Accordingly, the National Environment Policy aims among other things, to promote sanitation through the implementation of wastewater and storm water disposal systems in human settlements and the implementation of a policy of reducing domestic waste. The Mandouri project site undergoes flooding in the rainy season with inherent waste water and sanitations issues posing challenges to the inhabitants. In addition, the project development with come with varying environmental challenges from minor pollution during construction to potential water and soil pollution in the operating stage. In

terms of the applicable measures, these are those relating to the prevention and control of pollution and nuisances.
Togo's National Environment Action Plan (NEAP), adopted in June 2001, constitutes a strategic framework that complements the National Environment Policy. It takes into account the concerns of the different actors in the national socio-economic life and helps to stimulate the ecological consciousness of the different categories of actors and decision-makers to make them take into account the environmental dimension in the planning and management of programs and development projects.

The NEAP, in its foundations and strategic orientations, aims to reconcile, in a global participatory approach, the requirements of environmental quality with those of increased productivity and economic profitability in a fluctuating national and international context. As a result, solving environmental problems related to agricultural production activities such as in the Mandouri project will involve:

a. **assessment of the impact of the project on the environment;**
b. **the development and implementation of performance indicators for environmental monitoring;**
c. **the application of environmental standards;**
d. **the taking into account of safety measures to minimize adverse effects on populations, and the environment;**
e. **encouraging the use of technological know-how to ensure safe evacuation of harmful waste;**
f. **the development, implementation, monitoring and rigorous monitoring of environmental management plans; and**
g. **Periodic environmental audits of ongoing activities likely to have a negative impact on the environment and / or the living environment.**

The National Environment Management Program (NEMP) document is a programming of actions identified for the implementation of the National Plan of Action for the Environment Policy (NPAEP) over the next fifteen (15) years. This document has the same objectives and the foundations of the NPAEP, comprising of five strategic directions:

a. **Strengthening national capacities in the management of the environment;**
b. **Promote an ecological conscience nation based on the mastery of knowledge and the development of positive attitudes in the face of the environment;**
c. **Effectively take into account environmental concerns in the planning and management of development;**
d. **Promote sound and sustainable management of natural resources and the environment; and**
e. **Strengthen sub-regional and international cooperation for a concerted management of environmental problems.**

The Mandouri project espouses all the 5 objectives, given its siting near the border with Benin and Burkina Faso, its planned environmentally conscious climate change resilience activities.

The Togo National Strategy for Sustainable Development (NSSD) document was approved in September 2011 in Lomé and is a valuable tool for planning of the country's development. Its Vision of a Sustainable Togo is to build a society on the basis of harmonious economic and social development, with cultural respect and support for the environment by 2030. A society in which economic, ecological and social sustainability, solidarity, human rights, democracy, and good governance are the barometers of its development. The general objective that the actors have set out in this document is to ensure economic, ecological, cultural and social development in Togo. In other words, to work for an ecologically viable economic system that guarantees acceptable conditions and living conditions for present and future generations.

This document is based on four strategic axes:

- **Consolidation of the economic recovery and promotion of sustainable production and consumption patterns;**

- **Revitalization of the development of the social sectors and promotion of the principles of social equity;**
- **Improved environmental governance and sustainable management of natural resources; and**
- **Education and skills for sustainable development.**

By planning to actively involve all social groups, including women and youth in its activities, the plan to revitalize agricultural production in the dry season through solar powered irrigation, income earning activities supported by solar power and a micro-finance sub-component, and education and skills on climate change resilience, the Mandouri project is indeed in line with the NSSD objectives.

Togo has had an Energy Policy since 2011 to guide interventions in the sector. The main strategic axes of the energy policy are organized around the reduction of energy dependency, the reduction of the energy bill, a better matching of energy supplies to the needs of the population.
Togo's energy policy is based on the following axes: -

a. **Secure energy supply and control costs;**
b. **Increase access to electricity;**
c. **Improve the supply of electricity for industrial consumers;**
d. **Fostering energy efficiency on supply and demand;**
e. **Developing national renewable energy sources; and**
f. **To enable the Directorate-General for Energy to play its central role in the sector.**

The Policy addresses the potential energy resources of the country (oil, natural gas, coal, wood energy, solar, wind, and hydroelectricity). The Mandouri project has in its design opted for a renewable energy source that meets one of the Energy Policy axes.

Other national policies of interest include National Water Policy adopted in August, 2010 with the objective of contributing to the fight against poverty and to sustainable development by providing appropriate solutions to the problems related to water, so that it becomes a limiting factor in socio-economic development.

And the National Strategy and Plan of Action for Biodiversity in Togo (NSPAB 2011-2020), an accession by Togo to the general framework set up not only by the biodiversity-related conventions. The aim of this framework is to "live in harmony with nature", and by 2050 to ensure that "biodiversity is valued, conserved, restored and used wisely, ensuring the maintenance of services provided by Ecosystems, maintaining the planet in good health and providing essential benefits to all peoples". The conservation, restoration and enhancement of biological diversity at the project site plans to maintain the long-term functioning of ecosystems and its resilience to climate change, in part by creating green areas and planting tree hedges all around and within the enclosure of the site.

In fulfilment of its commitment to UNFCCC, Togo prepared its third communication in 2015. Some key observations relating to the Mandouri project include agricultural production, and potential effects of climate change. The report recognized that the agricultural sector is dominant in the economy, accounting for only 35.1% of GDP in 2000 and an average of 38% in recent years, translating to about 20% of export earnings. This sector supports two-thirds of the working population and offers the most opportunities to accelerate growth, ensure food security, create jobs, increase income for the poor and contribute to the development of the agro-industry. The main food speculation is cereals, tubers and legumes, accounting for 70% of agricultural GDP. Livestock, poultry and small ruminants comprise the main meat production in Togo. However, this production caters for only 65.9% of national requirements. The Mandouri project will play a part in revitalizing the agricultural sector via both the production of rice and livestock. In addition, solar powered irrigation will enable the production of vegetables to diversify diets; and additionally, the solar power generated offers potential for value addition of agricultural produce i.e. tomato pulp, bread making, etc.

According to the third communication, scenario studies in annual temperature and precipitation reveal that climate change will already be perceptible by 2025, both in terms of temperatures and

precipitation. The Savannah Region in particular will experience a small increase in rainfall, while the other regions (Maritime, Plateau, Central and Kara) will be marked by a decrease (0 to -1.5%). The average annual temperature will have a variation of 0.66 ° C in the South of the country at 0.80° C in the extreme north. On average, high temperatures will be recorded in the Savannah region in April (32.6° C). These will have marked effect on the Mandouri project site, in an area that gets flooded during the rainy season and is very dry for about six months every year.

The planned irrigation project will bring resilience to the project area. Buried pipes in the basin and furrow irrigation system will be designed to withstand flooding. This irrigation technology will also enable crop production in the dry season. Dry season farming through irrigation will result in diversified crop production, and potentially create more jobs for women and the youth. And tree nurseries will be created comprising of multi-purpose tree species (fruit, food, fodder etc.) to encourage reforestation based on trees species adapted to new climatic conditions.

For the project to comply with the necessary permissions in Togo, it will have to engage the following Ministries and Institutions: -

a. **Ministry of the Environment and Forest Resources (MERF: Ministère de l'Environnement et des Ressources Forestières);**
b. **National Environmental Management Authority – Tog (ANGE: Agence Nationale de Gestion de L'Environnement)**
c. **Ministry of Urban Development and Housing (MUHCV: Ministère De L'Urbanisme, de L'Habitat et du Cadre de Vie),**
d. **Ministry of health and Social Protection (MSPS: Ministère de la Santé et de la Protection Sociale).**
e. **Ministry of Hydraulics, Sanitation and Water Access in Rural Areas (MHAAEZR: Ministère de l'Hydraulique, de l'Assainissement et de l'Accès à l'Eau dans les Zones Rurales)**
f. **Ministry of Agriculture, Livestock and Hydraulics (MAEH: Ministere de L'Agriculture, de L'Elevage et De L'Hydraulique).**
g. Ministry of Commerce, Industry, Private Sector Promotion of Tourism (MCIPSPT: Ministère du Commerce, de l'Industrie, de La Promotion du Secteur Privé et du Tourisme)
h. **Togolese Water Company (TdE: Société Togolaise des Eaux).**
i. **Togo's Electricity Sector Regulatory Authority. (ARSE: Autorite De Reglementation Du Secteur De L'electricite).**
j. **Miunicipality of Mandouri**
k. **Togolese Institute for Agronomic Research (ITRA: Institut Togolaise de Recherche Agronomique).**

Ministry of Environment compliance

The MERF's ANGE (NEMA Togo) is the competent agency concerned with the issuance of Environmental Compliance Certificates, and for Monitoring the implementation of the environmental management plan. It is the structure on which the Framework Law on the environment entrusts the implementation of the national system on environmental assessments including the impact assessment studies, strategic environmental assessments and environmental audits.

During reviews for compliance, all sectoral Government Ministries are involved, with NEMA's coordination.

The Togolese Republic does not at present have environmental standards. The standards for the project will therefore be those drawn from international best practise with specific examples including WHO, European Union or IFC guidelines for drinking water, gases and particles, noise, etc. These will thus be applicable when doing risk assessments and management of project activities.

The Mandouri Project has already been endorsed by the Togolese government, and a Certificate of compliance issued by NEMA Togo. A copy of the certificate is attached as Annex 2.

Compliance with requirement of other relevant Government Ministries and Departments

At the start of project implementation, the project management will be required to contact the sectoral / regional institutions dealing with infrastructure construction standards, the water code, agricultural development guidelines, the master plans of the territory, and any other relevant institution for clearing with the requirement of each sub-sector. This is as per Act No. 2007-011 of 13 March 2007 on Decentralization and Local Freedom. In article 2, the Act organizes Togolese territory into local and regional authorities, which are: the region, the prefecture and the municipality; and in Article 40 the State transfers to the territorial collectivities, in their respective territorial skills in the following subjects: local development and spatial planning; town planning and housing; infrastructure, equipment, transport and communications; energy and hydraulics; management of natural resources and protection of the environment; trade and crafts; education and vocational training; health, population, social action and civil protection; and sports, leisure, tourism and cultural action.

Approach to comply with national standards for construction:
Regarding the construction of buildings, it should be noted that Togo does not have a national code of urban planning governing buildings. In place of the code, it is the municipalities that issue building permits. The process consists in applying for a building permit to the municipality in this case, the Municipality of Mandouri. Once received, the Mayor of Mandouri will seek technical advice of the services of the MUHCV; and MERF and ANGE for the certificate of Environmental Compliance. Based on the technical advice of the planning departments, the Mayor of Mandouri will decide to authorize the construction of the buildings required by the project.

Approach to comply with the Water Code:
Water extraction from a river as is the case under this project, it is governed by the Water Code (Law 2010 number 004 of 2010. According to the general provisions of the Water Code, the use water in the public domain is subject to the following regimes:

a. the regime of free use;
b. the regime of declaration;
c. the regime of authorisation;
d. the regime of concession.

Since this project involves the construction of a reservoir and a tank to supply the perimeter of 100ha in the dry season, the use of water is governed by the authorization regime. The application for authorization is addressed to the Minister MHAAEZR. Authorization is granted by the Minister in charge of water, after public inquiry and prior consultation with the other concerned Ministries, including the MERF regarding Environmental Compliance – obtained in turn from ANGE. Approval is granted subject to the rights of third parties for connection by TdE.

In case of authorization, an order from the Minister for MHAAEZR specifies the limits of potential use that present a danger or an impact on water resources or aquatic ecosystem. Authorization to take water from the river is conditioned on acquisition of Certificate of Environmental Compliance from the ANGE Togo.

Steps to comply with Togo standards for processing agricultural products
There is no code that properly governs the agri-food processing sector. Instead, the MAEH gives the authorization after receiving an application. The project will, in due course, send an application for agri-food processing authorization to the MAEH and will take all the necessary steps with the various Ministries and Departments concerned to obtain the authorization to operate agri-food products.

Steps to comply with power generation standards
All independent power generated in Togo is regulated by the Electricity Sector Regulatory Authority (ARSE). The project will take all the necessary steps to comply with ARSE regulations.

The following permits[33] will be acquired from the listed institutions at the start of project implementation thus.

a. Obtain soil survey from National Laboratory of Building and Public Works (LNBTP: Laboratoire National des Batiments et Travaux Publics). The architect will request a soil study to ensure that the proper soil is reached for the foundation of the new constructions.
b. Apply for construction permit at the Municipality of Mandouri.
c. Request and obtain inspection of construction from the Municipality of Mandouri.
d. Obtain construction license from the Municipality of Mandouri
e. Apply for water connection from the TdE. The situation plan (plan de situation) must the submitted.
f. Obtain occupancy permit from Municipality of Mandouri after requesting for an occupancy permit (demande de permis d'habitation).
g. Obtain license for the solar power generation from ARSE.
h. Obtain Commercialization Certificate from Ministry of Commerce's Directorate of Internal Trade
i. Obtain health certificate from the Ministry of health and Social Protection (MSPS: Ministère de la Santé et de la Protection Sociale).
j. Obtain a Certificate of Product Quality from MAEH's Togolese Institute for Agronomic Research (ITRA: Institut Togolaise de Recherche Agronomique).

[33] Adapted from 'Doing Business 2018. Reforming to create jobs. Togo Economy Profile. World Bank'.

k.

F. Describe if there is duplication of project with other funding sources, if any.

The project does not overlap with or support activities that are already supported with other funding sources. Furthermore, the project will complement, build on and learn from a number of ongoing projects, where opportunities for mutual exchanges or synergies exist. These initiatives already existing or under implementation include:

- **Project to support agricultural development in Togo (PADAT) co-financed by BOAD; the Agricultural Productivity Program in West Africa - Togo project (WAAPP - Togo);**
- **the Project to support the agricultural sector (PASA); and**
- **the initiatives planned for agricultural Development Zones (ZAPP).**

Furthermore, the project activities will be in synergy with those of the regional project for the promotion of smart agriculture in West Africa promoted by BOAD and the ECOWAS, as regards the mastery of good agricultural practices, and collection and use of weather data.

The project will support the population through the establishment of plant nurseries for the development of fruit trees. In this context, the project will build on the Women Leaders Network for Disaster and Risk Reduction for the implementation and management of this component. It should be noted that the issue of the provision of fruit plants is a request of the population.

Table 8: Projects with similar interventions

Project	Objective	Components	Possible Synergies
Project to Support Agricultural Development in Togo-PADAT (2011-2016)	• To contribute to the improvement of food security and incomes of small farmers through the improvement of production and productivity of the targeted farms rice, maize and cassava as well as through the promotion and marketing targeted agricultural production.	• supporting production and productivity • promotion of products • adaptation of agricultural production to climate change	• adaptation to climate change component; • Integrated soil fertility management component; • development of lowlands and watersheds; • establishment of storage and marketing infrastructure; • diversification (market gardening, small livestock and fish farming) • Environmental Protection; • management of pastoral areas for transhumance operation (water points, reception area, • transhumance corridor);
Planned areas for agricultural development (ZAPP)	• Occupation of land all year • Avoid pressure on the forest during the dry season • Exceeding 6 tons / hectare production of rice often obtained from the site, ZAAP Mandouri	• Development and Support for the production and processing	• Partnership with products that enhance the forest

Project	Objective	Components	Possible Synergies
Project to support the agricultural sector (PASA)	• Rehabilitate and strengthen the productive capacities of targeted *beneficiaries in selected sectors • Promote an institutional environment suitable to the development of the agricultural sector in Togo.	• Promotion of strategic food crops, export crops and inland fish production • Revival of the livestock sub-sector • Support for capacity building and sectoral coordination	• diversification (cash crop, livestock, fish); • institutional and actor's capacity building; • Environmental Protection development and • issemination of technologies resistant to climate change
Agricultural Productivity Program in West Africa – Togo Project (PPAAO - Togo)	• Generate, adapt and disseminate a range of improved sustainable production technologies of the main plant products (corn, rice, sorghum, cassava, yam, cowpea, groundnut, tomato, pineapple, cashew) and animals (poultry, small ruminants and swine); • Improve the efficiency and performance of agricultural research by strengthening agricultural research institutions capacity in technical, administrative, financial and planning field; • Enhance the efficiency, performance and sustainability of agricultural extension services to make them more operational.	• Promotion of conditions for sub regional cooperation in the creation, dissemination and adoption of agricultural technologies • Strengthening adaptive technology transfer and research capacity. • Support for demand-driven technology Support for demand driven technology generation, dissemination and adoption, via the priority-based funding agricultural research and advisory services in the participating countries, and complementing the activities of the core program	• dissemination of the system of rice intensification(SRI);
Project for the strengthening of the role of conservation of the national system of protected areas in Togo (PARFT)	• Strengthen the management of the system of protected areas of Togo in order to improve its contribution to the conservation of biodiversity by applying effective approaches for the rehabilitation and management of AP.	• Improvement of the framework of action, legal and institutional framework of the field of AP covering approximately 578.000 hectares; • To promote the effective management of the complex of AP OKM (with 179.000 ha in area of protected areas) to counter the threats that the poaching, the lights not controlled and grazing pose on biodiversity.	• Sustainable management of protected areas
Hydro-agricultural development projects • PARTAM • PBVM • PDPRK • PDRPD • PDRI-Mô • PATA - OTI	• Increase agricultural production; • Contribute to improving incomes and living conditions of the beneficiary populations.	• Study, monitoring and • control and overall project supervision Rehabilitation works and areas development • Support to Agricultural Production Environmental measures and support • Awareness, organization, training and support	• irrigated land; • Rice; • Management development; • organization of producers, • microcredit
Project of hydro-agricultural development - PATA-	• Increase agricultural production, including rice and contribute to the	• Development and rehabilitation of the perimeters	• Agricultural Sector / vegetable production and fishing

Project	Objective	Components	Possible Synergies
OTI	improvement of incomes and living conditions of the beneficiary populations.	• Support to agricultural production (rice) • Construction of rural tracks • Awareness, extension and training	
Draft hydro in agriculture in the lower valley of the River Mono (PBVM)	• Contribute to the improvement of the food security and to the reduction of the poverty of rural populations through the increase of agricultural production of food crops, particularly rice	• Amenities in the perimeters and related equipment • Monitoring and control of the work • Support to the development and commercialization	Agricultural Sector/vegetable productions: cereals (rice, maize), legumes (peanut, cowpea) and vegetables
Project for the development of rice production in the Kara (PDPR-K)	• Increase the income of producers in the rice sector and reduce the level of imports through the improvement of the self-supply the national market	• Strengthening the organizational capacity of the producers of the chain • Hydro-agricultural • Support to the development of sites • Marketing and valuation of products	Rice
Integrated Rural Development Project (IRDP) of the plain of mô	• Contribute to the reduction of poverty through the improvement of access to basic social services and in agricultural incomes in the conditions of sustainable development, with particular attention to the disadvantaged.	• Structuring of village organizations • Sustainable development of agriculture • Strengthening of infrastructure	Agriculture, Livestock, transport, education, health, environment, crafts, water, AGR, sanitation,
Program of Rural and Agricultural Development (ProDRA)	• Ensure the establishment of pilot models for the agro-food carriers, micro-rural enterprises and promote sustainable production systems	• Promotion of Carrier Sectors • Promotion of small and medium-sized enterprises as well as capacity building of attendants • Promotion of the production of biomass and of agroforestry • Support-council in the regulatory framework and in the planning	Support to agricultural production -Training, Awareness, and extension
Presentation of the draft rural development of the plain of the ITO, Zone 4 and Zone 5 (PDRO-4)	• To intensify agricultural production mainly rice, diversify the speculation, while improving access to basic social services;	• Development of irrigated agricultural lands • Support to agricultural production • Training, Awareness, and extension	Rural infrastructure and agriculture
Development of the plain of Djagblé	• Intensify the culture of rice and the achievement of related works with a view to contribute to the creation of wealth	• Development of Agricultural Land • Support to agricultural production • Training, Awareness, and extension	Rural infrastructure and agriculture
Project for the development and	• Increase agricultural production, including	• Development and rehabilitation of the	Agricultural Sector / vegetable production and

Project	Objective	Components	Possible Synergies
rehabilitation of agricultural land in the area of Mission Tové (PARTAM)	rice and contribute to the improvement of incomes and living conditions of the beneficiary populations.	perimeters; -support to agricultural production • Awareness, extension and training	fishing
National project for the promotion of rural entrepreneurship and medium (PNPER)	• Diversify and strengthen the instruments for the development of the rural entrepreneurship; • Improve the supply of quality services in training, support Council, intermediation by NGOS, private firms and the public structures; • Increase the production of quality goods and services by the members	• Facilitation of access to non-financial services • Facilitation of access to financial services	Rural Entrepreneurship upstream and downstream of the carrier sectors
Draft Education and Technical and Vocational Training (Agricultural EFTPA)	• Ensure the anchor of a sustainable system of qualification and training of farmers in the PNIASA.	• Improved the skills of stakeholders for the development of a policy EFTPA. • The capitalization and dissemination of good practices in the field of agricultural training in Togo • Development of Priority Reforms EFTPA in cooperation with relevant public institutions, the private sector and the OPA.	Entrepreneurial training and agriculture
Project for the integrated management of disasters and land (PGICT)	• Strengthen the institutional capacity of the targeted institutions to manage the risk of flooding and land degradation in rural and urban areas targeted. • Extend the sustainable land management (GDT) in the targeted landscapes and in areas vulnerable climatically of Togo	• Restoring the natural channels of the water flow by dredging rivers • Bank stabilization by reforestation with Rhizophora and bamboo; • Channelling of waters of rain by the construction of gutters in areas vulnerable to flooding • Promotion of good practices of sustainable management for the improvement of agricultural yields thus allowing to recover the degraded land or uncultivated • Securing the vegetation cover existing on the promotion of community forestry with improvement of governance, the valorisation of forests by the development of beekeeping, and ecotourism • Extension the vegetative cover on the bare land by the reforestation of	• Sustainable management of the land • Sustainable management of forests • Disaster Risk Reduction

Project	Objective	Components	Possible Synergies
		the flanks of the mountains, banks, rural land etc. • The promotion of improved homes	

Mandouri project's micro-credit facility

As mentioned in Part II: Component 2, a micro-credit scheme will be implemented in the Mandouri project to the tune of USD 116,000 in order to facilitate access to inputs for agricultural and income generating activities. These funds will be placed in micro-credit institutions.

To date, the three microfinance institutions are operating in the project area. These include: -
- **Union des Caisses Mutuelles d'Epargne et de Crédit des Savanes (U-CMECS);**
- **Coopérative d'Epargne et de Crédit Mandouri (COOPEC MANDOURI) affiliated to FUCEC-TOGO Network;**
- **Coopérative d'Epargne et de Crédit pour le Soutien aux Initiatives des Femmes pour l'Autopromotion (COOPEC SIFA), and**
- **Fonds National de la Finance Inclusive (FNFI).**

From discussions with community members at the project site, issues raised concerning micro-credit included –
- **High interest rates of up to 18%.**
- **Loans given too little i.e. FCFA 30,000 or approximately USD 50.**

A key weakness of most micro-credit institutions is the fact that many cooperatives for instance are promoted by outsiders and are overly dependent on government or donor support[34]. Other weaknesses of microfinance institutions (MFIs) include the fact that microfinance is not is not financially sustainable for the MFIs, especially those that also want to serve the very poor. Microfinance is also potentially harmful to women's well-being as domestic abuse may result from husbands' jealousies of their wives' new financial power[35].

The Mandouri micro-credit scheme thus will have to be different to be sustainable and make meaningful impact for the local communities. It will have the following embodied tenets -

- **A "Strategy for self-sustainability" will be included with development a collective asset base. To become sustainable, the identified partner MFIs should identify more members and form clusters / groups whereby they can identify dynamic markets and commercialize in a close and open circle all their produces.**

- **Development of capacity for business analysis and risk taking, through training of both MFIs/cooperatives and the targeted community members**

- **Avoid being isolated in its / their business operations mostly in their communities, by getting resourceful (useful) contacts and networks beyond their community. This will expand their resource base especially in terms of human and social capital, in turn expanding the scope of ventures and ability of the MFI/cooperatives progressing in a sustainable manner.**

- **Work hard to have certification of their products. This means, be more engaged in GAP (Good**

[34] Enabling rural cooperatives and producer organizations to thrive as sustainable business Enterprises Collection of contributions received. Discussion No. 82 from 12 July to 3 August 2012. http://www.fao.org/fsnforum/sites/default/files/file/82_cooperatives/PROCEEDINGS_82_Rural_cooperatives.pdf

[35] Microfinance in Africa. Overview and Suggestions for Action by Stakeholders. UN office of the Special Adviser on Africa. February 2013. http://www.un.org/en/africa/osaa/pdf/pubs/2013microfinanceinafrica.pdf

Agricultural Practices), therein they will be able to conquer internal and external markets.

G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

The project idea is based on building community capacity regarding climate risks analysis and climate change impacts integration into local and national policies and cultural practices in order to improve people's means of livelihoods. Thus, the component 3 and to a lesser extent the component 1 of the project include Knowledge Management and Learning activities. The component 3 aims, among other things, to establish a Knowledge management (KM) system in order to document lessons learned from this project, but also from ongoing and recently closed projects in the country and to disseminate this knowledge. That's why a knowledge-sharing system will be developed. It will include information related to climate change; information, education and communication programs related to climate change; and also, the achievements of the project.

This will concretely consist of -

a. **Assessing the existing knowledge,**
b. **Collecting all the sheets and training modules for all capacity building activities carried out under the project for dissemination, in order to replicate them throughout the region;**
c. **Dissemination of knowledge on project activities through, workshops, scientific for a, etc. and**
d. **Establishment of a computerized system for the collection and management of meteorological information.**

More specifically, the knowledge management system will articulate the level of the project's intervention area at the global, local, sub-national, national and regional levels. It relies on online and offline activities. The offline activities will enable the data generated by the project to be collected from the actors at the operational and strategic levels on a half-yearly basis. They will be gathered in the online platform set up with the project. The online activities will consist of sharing knowledge through online platforms/networks. Data will include community farm management practices, sustainable agronomic practices, and practices for managing hydro-farming equipment. They also address the management of environmental and social risks and include gender. Once collected, the data is processed by the project team to produce practical knowledge / lessons. This knowledge / lessons are documentaries in the form of policy briefs, videos. The target groups for the dissemination of knowledge produced within the project are policy makers at local, national and international level, producer organizations, NGOs, central and decentralized government services techniques, administrative and local microfinance institutions, development agencies. With regard to broadcasting, programs in the mainstream media (community radio stations at the local level, print media, TVs), social networks, online platforms, workshops at national level and international fora will be used.

A map index with simplified financial management and crop techniques adapted to climatic shocks will be made available to agricultural cooperatives for duplication of good management practices and crop techniques with water control.

The project will organize study trips for the benefit of farmers, in areas with the same problems of vulnerability and the area of direct intervention of the ongoing projects in Togo including PADAT project, to understand the strategies that have been developed there in order to replicate them.

This will allow interactions and experience exchanges between Mandouri's farmers and other farmers. In addition, BOAD as RIE will, through the executing entities and NGO in charge of capacity building, report all activities and educational tools in order to ensure that the community will benefit and use day to day lessons learnt and other knowledge coming from the project.

Furthermore, BOAD will conduct a final evaluation of all projects six months after the end of the project in order to draw lessons learned on the project. The conclusions of this evaluation are

disseminated at the country level and projects and lessons are systematically taken into account in the following projects:

ASCENT periodically conducts retrospective evaluation of projects to measure their performance and their impact on the beneficiary communities. This assessment is validated at the end of a workshop of information sharing with beneficiaries; the findings are disseminated to all stakeholders and on various websites.

The knowledge acquired in the project will be posted on the MERF, BOAD and ASCENT's websites.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

The project follows a demand-driven and bottom-up approach. Thus, communities' opinions, needs and concerns determine priorities. Communities are actively involved in project identification, planning, development and will be at the heart of the project implementation.

Consultative process methodology
A wide range of stakeholders were consulted during the development phase of the project. They included communities through their organisations (smallholder's organisations, women organisations, youth organisations), traditional and local leaders, governmental services, NGOs etc. Two major techniques have been used to carry out consultations: focus-groups and individual interview. To implement each of these techniques, two tools have been used: the stakeholder analysis grid and the interview guide.

- **The stakeholder analysis grid is a tool that i) identifies stakeholders, ii) assesses how relevant each stakeholder is for the project through analysing their capacity of influence and level of interest in the project. It has been applied in focus-groups. This tool results in a prioritization of stakeholders based on their interest and influence capacity of the project.**

- **The interview guide tool consists of a set opened and semi-opened questions tailored to the interviewee. It has been used for both focus-groups and individual interviews. The focus-groups gathered a maximum 12 persons. Focus-groups and individual have been conducted following gender criteria like sex and age as in the presence of men and of adults and elders, voices and concerns of women and young people in particular are not heard.**

Identification of stakeholders has been done in concert with sectoral government staff at the regional and local levels, traditional and local leaders including women and youth leaders, and with lead NGOs because of their macro position and comprehensive view of the stakeholder landscape. The main criterion of identifying stakeholders was the level of their stake (especially for community members), their experience in development, and more specifically climate adaptation projects.

Consultations were held on May 16th and 17th 2017 and then again on November 23rd 2017.

The consultation was done in two stages in Lomé (Capital of Togo) and then in the project area (Mandouri).

Consultations in Lomé.
These included focus groups and individual interviews with the Departments of Environment and Agriculture, where the purpose, methodology and content of the study was presented. It is noted from these meetings that the project is one of the priorities of the Togolese Government in its efforts to increase climate resilience and ensure food security. A total of 42 persons were engaged met in May 2017.

Consultations in Mandouri.
A total of 25 people were interviewed including the agents of the Kpendjal Prefectural Environmental Directorate, the Secretary General of Kpendjal Prefecture, the Kpendjal Prefectural Agriculture Director, the leaders of the COOPE-ZAAP groups, the Chief Canton of Mandouri and the members of the groups operating the ZAAP was met.

a) With the agents of the prefectoral direction of environment, consultations consisted of questions-and-answers on the project, environmental problems in the locality, floristic species adapted to

the project area and the involvement of women in agricultural activities.

b) With the Secretary General of KPENDJAL Prefecture, discussions focused on the project and its components, the then current stage of preliminary studies including the ESIA, its purpose and objectives. And updates on the degree of involvement of women in activities at the level of the ZAAP was also discussed during the exchanges.

c) With the Prefectoral Director of Agriculture. This involved exchanges around crops grown in the project area, problems encountered by farmers, cultural practices (use of agricultural inputs, pesticides, etc.). Management of the transhumance phenomenon in the project area was discussed.

d) With the leaders of the groups of the cooperative operating the ZAAP, a meeting was held in the presence of the canton chief of Mandouri. During the meeting the project's objectives and components were presented. The potential impacts and risks of the project were addressed. The meeting provided the consulting team with input on their project, concerns and grievances.

e) With farmer group members, including women. A meeting with representatives of the farmer groups, in which hee project's objectives and components were presented. The potential impacts and risks of the project were addressed. The meeting allowed the consulting team to gather the opinions of women working in the ZAAP, their concerns and their grievances about the project.

At the end of each mission, a restitution session was organized with the General Secretariat of KPENDJAL Prefecture to review the progress of the mission, the main findings and recommendations, as well as the prospects for the finalization of the study.

Results of the consultations. The following are main concerns and suggestions from the Prefectural Director of the Environment, the Chief Canton, the various cooperatives, members of various groups including women and youth, and local NGOs. The way the project addresses them is also presented here.

- Farms suffer from transhumance because of the damage to crops caused by animals in search of food and water. As noted in Part II, Section A; Component 3; and Activity 3.1.3, the project site is not located near transhumance corridors according to the map of transhumance corridors of the Savannah region. However, conflicts have been documented the project area due to stray wandering animals from Fulani herders in farming period. The AF project has proposed a fencing-off of the project area to reduce negative impacts of transhumance on agriculture, and also reduce the risk of conflicts between the farmer and the pastoralists.

- During the consultations process, communities strongly suggested to equip COOPE-ZAAP with a trailer, a combine harvester and a seeder. This concern is taken in charge by the project as machinery and mechanical kits will be acquired. The issue raised about access to agricultural inputs like seed, fertlizers is also addressed by the project and each of plot beneficiary will be equipped with such inputs.

- **The water need in the project might not be met, especially in the dry season. To tackle this issue, the AF project has proposed to improve a natural depression near the project site into a reservoir, to reduce this risk.**

- **The project may increase lack of access to water for domestic uses, especially water from wells. This concern is even more crucial given that, the population of Mandouri currently doesn't not have enough access to drinking water. The AF project in its component 1 will bring potable water to project beneficiaries.**

- **The need to emphasize individuality in the collective farm. This matches the project option to give to each beneficiary a personal plot.**

- **Concern were raised on the possibility that, significant draining of the river's water, and the resulting low flows, could cause water-use related conflicts. The AF project will mitigate this by using flood waters captured and stored in an improved natural depression during high flows (floods) for use in times of low flow.**

- **It emerged that women strongly adhered to the project and were quite involved in the work at the ZAAP. In support of this claim, the ZAAP Chair provided data for the 2017-2018 campaign, during which, of the 37 people who grew, 17 were women. They were willing to be trained on the management of the project facilities if the training took place in their locality. The project takes this into account in its component 1.**

- **Community members requested that in addition to growing rice, market gardening should be added. The women requested that training be given to them on methods of conservation of the products. The project has addressed this concern through gardening and market access activities. Market access activities which include training on agricultural products conserving address the issues related to the population, training on parboiling and of making at disposal staffing in scales and in hygrometer that communities raised during consultations process in order to know the ideal temperature for the decortication of the rice.**

- **Communities also raised the issue related to high rates of loans. Recipients of similar projects struggled to repay their loans to financial institutions. They requested that the loans granted to them be at reduced rates. The financial mechanism that the AF project has planned will aim at giving out loans that are adapted to the local people's capacities. Moreover, communities agreed that with the construction of the new store, there is more guarantee for the repayment of these loans, since their produce will be stored; the loans will therefore be repaid just after the sale of the produce before the rest of the money is returned to the producer.**

- **Communities also noted that for them to own the AF project, it is necessary to ensure their involvement throughout the process, including an agreement on the crops to be exploited on the ZAAP. Indeed, the institutional arrangement of the project includes representation of the AF project beneficiaries. Moreover, the PMU will be based in the field to ensure fluid and regular communication with beneficiaries. Regarding choice of crops, this has been done in close collaboration with local stakeholders during technical studies in May 2017.**

The meeting minutes show the presence of key stakeholders in discussions on the project design. The project feasibility phase allowed the stakeholders and direct beneficiaries to express their views. There is a consensus on the usefulness of the project, not only on the part of beneficiaries whose livelihoods will no longer depend on weather conditions, but also from institutions who see the consistency of the project with national developments that have targeted this area, as part of local development priorities.

In accordance with BOAD projects cycle instruction, a team of experts in the areas of adaptation, environmental and social and Rural Engineering conducted a field visit and was able to confirm that there was no social blockage or technical constraints that could jeopardise the feasibility of the project.

The BOAD evaluation team put a lot of emphasis during site visits, in meeting women groups, to ensure that their views had been taken into consideration during the stakeholder consultation phase of the feasibility study.

For the project feasibility phase, the main consultations were held as follows:
1. Consultations were held at the regional, prefectural and village levels. They have included

environmental data collection (impact and mitigation measures) and discussions with beneficiaries. Three (3) public consultations have been undertake to date. They included Individual interviews with officials of the Ministries of Environment and Forestry Resources (Regional Director, Director and Head of Post Prefectural Forest); the Ministry of Agriculture and its specialized departments (Regional Director, Director and Head of Prefectural CITA); Projects and Programs teams; NGOs and associations working in the project area; and key informants from diverse backgrounds. These interviews focused on the project components.

2. **For the ESIA Phase: The talks focused on the organizational framework of the implementation of the identified development and environmental measures planned in the Environmental and Social Management Plan. These consultations were also held at the regional, prefectural and village levels. Village public workshops were held for each village involved in the project. These workshops brought together: -**
   a. **the managers of local technical services (agricultural representative, representative ICAT, DP Farmer, Chief ranger station),**
   b. **the district chief and his secretary,**
   c. **members of the Village Development Committee,**
   d. **farmer groups and women representatives.**

   Discussions with local populations focused on project activities; the positive and negative impacts of the project; and mitigation measures.

During each of the consultative sessions, an attendance list was prepared, and these are attached as Annex 3.

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I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

Regarding information provided by the 2nd (pages 56-57) and the 3rd (pages 27-39) national communications to UNFCCC, combined with Togo's INDC Report (page 6), the project area is strongly vulnerable to climate change. It's expected that the extreme north-eastern of Togo where the project area is located (Mandouri), will be affected by the increase of temperature (RCP 2.6: 28.8-29.3°C (2025), 35.6-36°C (2050), 35.6-36.2°C (2075), 35.6-36.2°C (2100); RCP8.5: 35.4-36.0°C (2025), 36.4-37.0°C (2050), 37.6-38.2°C (2075) and 39.0-39.6°C (2100). In the meantime, rainfall is likely upsurge, causing extreme weather and climate events such as floods, etc. that will increase vulnerability of Mandouri community and landscape more than ever. In the same perspective, it's projected that agricultural sector will be affected by the loss of incomes, land degradation, loss of biodiversity, the invasion of insects harmful to crops and livestock, loss of wetlands, etc. jeopardizing once again Mandouri community and landscape resilience. That's why, this project will improve adaptation strategies by providing the possibilities to develop and sustain rainfed agriculture by water control during the wet season, diversification (because up to now, no gardening activities were possible during the dry season due to lack of water control). The warehouse will allow Mandouri's farmers to store their crops with a threefold advantage: first, access to crops during lean periods; then, keep them in a safe place that respect building standards, away from heat and moisture, and finally, do not discount their crops as in the past; all these issues will contribute to food security concern in Mandouri.

The project plans to go deeper in vulnerability issues with appropriate tools at the beginning and realize a baseline study for better quantifying vulnerability assessment of project site.

Component 1: Improved planning and management of water resources and production (without the project):
In general, the levels of productivity and crop yields are low, for both food crops and cash crops. They vary from 1 to 2 tons / ha for cereals; from 0.5 to 1 ton / ha for pea family crops and about 10 ton / ha for tubers (yam and cassava). These yields are less than 50% of the levels achievable in optimal culture conditions. The result is a low level of value of production per hectare, which is between 330,000 and 440,000 FCFA / ha. The best value gross returns per hectare are crops of yam about 1.8 million FCFA / ha. Production has increased substantially with the extension of cultivated areas and much less with improved yields[36].

ABIP (Agri-Business Information Point) at constant prices per agricultural worker in 2014 is 315,378 FCFA substantially equal to the GDP per capita (326,689 FCFA[37]).

The years 2007 and 2008 were particularly marked by the disastrous floods with social and economic consequences for the country: it was noted the loss of human lives, the massive destruction of roads, residential houses and fields. These phenomena, formerly located in the Maritime Regions (Gulf, Zio Lakes) and Savannah (Kpendjal) have become widespread in recent years across the country. However, the two above-mentioned areas remain the major risk areas and vulnerable.

At the prefecture of Kpendjal Mandouri which is the County Headquarter, irrigated agriculture in the project area remains to be developed. In addition, agricultural production is still characterized by low levels of agricultural mechanization and malfunctioning of some equipment and the effect of weather conditions. The planning studies and development of lowlands launched by the Support Project for Agricultural Development in Togo (PADAT) led to the identification of several sites whose construction has not yet been realized.

[36] Ecowap+10, 2015
[37] Chiffres du comité de PIB

In September 2007, the drama endured by the populations of prefectures Kpendjal to Tône and Oti, caused the death of 20 people and caused several wounded, 24,000 displaced people, destroyed 22,129 boxes, 111 broken bridges and culverts, smashed or swept away. Also 46 educational institutions (schools and colleges) were damaged or destroyed, 3 clinics were closed. In 2007, the number of flood victims throughout the national territory was estimated at more than 231,147 (flood report in February 2008).

Situation with the project: The project will enable people to adapt to Climate Change by improving the access and the control of water for the production, with total water control throughout the year. In addition, the project will provide to the beneficiary's agricultural equipment and assistance for the adoption of good agricultural practices for improving rice yields, expected to reach 6 to 10 tonne/ha. For this purpose, synergies will be created, including the regional project, to promote smart agriculture promoted by BOAD and some ongoing projects in Togo especially ADAPT.

Component 2: Support to the diversification of livelihoods
Baseline: To date, the crop calendar in the project area is completely dependent on rainfall. Moreover, the remoteness of the area imped the correct flow of goods and the lack of infrastructure for storage, force producers to sell at a loss. Their production obtained during good rainy seasons. On the top of that it should be noted that the supply of input is not ensured due to the fault rate of payment and the debt ratio of the population. For these reasons the population has very limited access to micro agricultural credit.

Situation with the project: with better management of water resources, crops can be diversified and can be produced throughout the year. This will ensure the producers' food security, through better means of subsistence. Through innovative funding mechanisms such as microfinance activities oriented towards new farming techniques, new seed varieties, access to micro-credit will be facilitated to ensure a sustainable supply of inputs and yields will be improved. The strengthening of capacities planned in Component 3 sensitizes beneficiaries on how to use these credits funds and the necessity to reimburse them. For this purpose, simplified financial management training will be provided.

Component 3: Institutional support, capacity building and knowledge management
Reference scenario: local institutions and rural communities are not sufficiently sensitized to the problems which climate change posed in the agricultural sector in Togo. Given the non- existence of this type of project in the project area, the response capabilities of the actors are insufficient regarding to the variability of rainfall and the production, the processing and marketing of products.

Situation with the project: The project will allow:
- **Managers of national administration and local decision-makers to take full extent of these impacts on agricultural output and food security;**
- **Producers to understand the impacts of climate change and learn managing strategies.**

The project will also capitalize on the experience of adaptation projects underway in Togo and to make available to communities one of the good practices database that will be broadcast through local media, exchange sessions.

J. Describe how the sustainability of the project outcomes has been taken into account when designing the project.

The sustainability of the project results will be done through a close collaboration with communities to ensure that their needs in terms of adaptation to climate change and variability have been properly considered. The innovation in the project is the fact that the project is not thought for the communities but thought with communities to solve their problems. Communities were involved together to identify the main constraints and solutions to them based on their expertise in the early stages of project identification. At this level, consultations were held with all communities across different groups (old adults; women; youth) to ensure that everyone's needs are properly addressed. The diagnosis based on endogenous dynamics of communities is an important pillar of sustainability of the project results.

In addition, the project area is characterized by the existence of some development projects which can induce a low level of population susceptibility. To this end, the project beneficiaries should receive support throughout the project to improve the structure and capacity building through awareness and training sessions on management and local governance to allow greater participation in implementation and ownership of the results of the sustainability pledge project.

There are already organized and functional groups in various areas in Mandouri and its surroundings. The daily management of the infrastructures will be assigned to these groups, like other similar projects in the areas or drinking water supply projects. The mechanism is the following: the groups will be trained and supported by existing support organizations (ICAT, NGOs, etc. ITRA) in technical and financial management (use and servicing), books and rural organization (setting up of management and advice committees). A revolving fund will be set up and supply by regular contributions of group members (beneficiaries) under conditions defined by them. These funds will be used for expenses related to the management and maintenance of infrastructures. For major repairs, state technical organizations will be solicited.

This mechanism described in Part II, A. Component 2 Expected Concrete Output 2: Strengthening financial management of cooperatives and beneficiaries; maintenance of engineering equipment, is envisaged to ensure the sustainability of the facility. It has two advantages namely:

- **For micro credit institutions: as the project resources are donations, they will improve their ability to respond;**
- **For beneficiaries: the mechanism will allow access to credit at a reduced rate. Finally, to support the implementation, monitoring and sustainability of the mechanism, the parties directly involved will benefit from capacity building.**

Table 9: Sustainability measure per project output

Project Components	Expected Concrete Outputs	Sustainability measures
1. Improved planning and management of water resources and (agricultural) production	1.1 Construction of the basin and furrow irrigation system powered by solar power on 144 ha of land 1.2 Production yields improved through mechanized means of production and improved agricultural practices by:- 1.2.1 The purchase of equipment (2 vehicles for delivery of products are acquired to facilitate access to market; 4 agricultural production kits are made available to producers) 1.2.2 The training of at least **576 farmer households** in improved agricultural	• The project will support the scaling up of farm-based pilots where these are producing surpluses and providing benefits to people, linking them to markets to improve returns. This bottom-up approach which rewards successes with economic benefits will be self-sustaining. • Mainstreaming adaptation practices into the existing systems of the Ministry of Agriculture / extension services supports scaling up and sustainability.

Project Components	Expected Concrete Outputs	Sustainability measures
	techniques 1.2.3 The training of 10 to 20 local technicians on driving, installation, repair and maintenance of irrigation and solar equipment half of whom are women	
2. Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries	2.1 Income-generating activities are practiced, and products are promoted and sold, i.e. 2.1.1 The surplus cereal production (rice and corn) and the garden production (tomatoes, peppers, etc.), are processed for marketing 2.1.2 Credit lines dedicated to financing agricultural and other income generating activities are available from MFIs.	• The project will support the scaling up of farm-based pilots where these are producing surpluses and providing benefits to people, linking them to markets to improve returns. This bottom-up approach which rewards successes with economic benefits will be self-sustaining.
	2.2 Basic social infrastructure is realized for the project beneficiaries. i.e. 2.2.1 Construction of a mini-network of drinking water supply coupled with fountains and 1 borehole equipped + 1 mini network + 1 water tower + 3 fountains + solar pumping system 2.2.2 Three (3) latrines are built for the benefit of the beneficiary communities	
3 Capacity building, Environmental and Social Measures, and Knowledge Management	3.1 Local institutions and communities are more aware and climate change issues are better understood and considered in local development policies, i.e. 3.1.1 Capacity building programs are offered 3.1.2 The capacity of members of the Conflict Management Committee are strengthened in conflict management and awareness 3.1.3 Mandouri and Kpendjal populations are sensitized on the joint management of water resources 3.1.4 Mandouri and Kpendjal populations are sensitized on conflict management on pasture, crop production-livestock production conflicts, etc. 3.1.5 The environmental and social management plan is implemented, and beneficiaries are aware and trained on the implementation of the ESMP and environmental monitoring (ecological and human health aspects, management of fertilizers and pesticides, etc.)	• The project will design innovative education and awareness materials that will be educational, desirable, and re-useable.
	3.2 Lessons learned from projects in progress at the national level are capitalized on and a system to disseminate the knowledge acquired in the project is implemented at the local	• Capacity building activities will use the Action Learning approach, which is tied to practical implementation. This will extend the reach of the project beyond its own

Project Components	Expected Concrete Outputs	Sustainability measures
	level, i.e. 3.2.1 A system of information sharing of knowledge related to climate change is implemented 3.2.1 Information, education and communication programs related to climate change and the achievements of the project are developed	activities, as all who participate will be empowered to take climate change adaptation into their own work. • Providing platforms for lessons-sharing will catalyse learning, sharing and networking, investing in the development of a culture that supports adaptation. This will support learning beyond the project. • The local database will be handed over to the Ministry of Agriculture. This Ministry has the mandate to develop agriculture, livestock and hydraulics in Togo. The database will be integrated in its database to ensure an appropriate management of the database.

K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project

The ESIA carried out within the framework of the development of the project has identified some potential adverse environmental and social impacts as presented below. Despite the fact that these potential adverse impacts appear not to be significant as they are few in number, not widespread, reversible and can be mitigated, it should be noted that the project site of more than 100 hectares is located in a Sudanese climate region and adjacent to the sensitive Oti-Keran-Mandouri wildlife reserve.

The Oti-Keran Mandouri wildlife reserve is also categorised as a UNESCO Man and the Biosphere Reserve and is also a Ramsar site. Water uptake for the project, will be from the River Oti, about 3km NE of the project site. The water will then be transported via a buried pipe passing through the Oti-Keran-Mandouri reserve.

Project impacts were re-examined during the updating of the existing ESIA at the full proposal stage of the project in May-June 2017. Technical studies undertaken between 2012 and 2014 were also updated during the same period. Initially, the technical studies had as outputs 7 sub-sector reports including an agro-economic report, an ESIA report, a fisheries report, a hydrological report, a pedological report, a topographic report, a socio-economic report, and the design of main technical development report. The key areas re-visited in 2017 technical studies were the ESIA so as to incorporate the solar power component, and the design of the irrigation component.

Household representative were also interviewed, and their views sought on the solar powered irrigation project, and project activities, including desired crops to grow and assistance sought; and also, on their social wellbeing. Rice was the number one crop in the project site followed by maize, cowpeas, sorghum and millet. Poultry and goats led in livestock production followed by cattle, sheep and donkeys. Malaria, eye infection, ulcers, toothache and pneumonia topped the diseases mentioned. Though most basic infrastructure is accessible in the project site (electricity, water, church, mosque, nursery and primary schools, chemist, dispensary, etc.), tertiary institutions, big markets for produce, public library, etc. are not available. Vegetable production is also scanty. Big markets for produce mentioned include Koundiare 22 km away, and Simou 17km. Issues raised concerning services and infrastructure included the need for improved social services, availability of drinking water, construction of a library, a youth centre for training and information and leisure, and a toilette.

The water uptake system will consist of a mixture GI and uPVC pipes for conveyance from the River Oti and distribution at the site. Since there is no open water channel through the wildlife reserve, there will be minimal disturbance to biodiversity, except for a little distraction when laying down the pipe. The buried pipe will also minimize on evaporation and also on water-borne disease vectors.

However, it was noted in the ESIA, that irrigation comes with potential negative impacts. These include the danger of over-abstraction from the River Oti, resulting in reduced water downstream. Irrigation can also potentially interfere with soil structure and also potentially cause salinization. In addition, use of agro-chemicals can result in pollution of water and soil. Eliminating the dry season gap and creating a wetter micro-climate can also result in increased pests and plant diseases. And the elimination of the natural vegetation will also result in a loss of biodiversity.

Potential social impacts of the project will include a population influx due to job attraction and agricultural production opportunities. Given the location of the project site this could even be international immigration i.e. involving people from Benin and Burkina Faso. With businesses and the proposed operations of the irrigation project, coupled with the increase in the influx of population, a tremendous rate of production of solid waste is expected. During the operating phase, the livestock in the area of the project could damage the crops in the irrigated area, resulting in conflicts. The

increase of the population which results in the project area is likely to lead to many commercial activities in the region, with a potential increase of cases of insecurity. Malaria is already a concern in the area of the project. If not well managed, the irrigation project can increase waterborne diseases such as bilharzia and diarrhoea, among others. The increase in the growth of the population with the social change associate may also lead to communicable diseases such as STDs, HIV / AIDS, etc.

Baseline data on flora and fauna indicate that, the Oti-Keran-Mandouri is today a pale shade of its former glory due to the socio-political disturbances that the country had in the 1990s. A few animals have been reported including the Kob (Kobus kobkob), the desert warthog (Phacochorus aethiopicus), teals and wild ducks. Although the natural reserve of Oti-Keran near does not have a lot of wildlife currently, the anticipated increase in the population could increase the anthropogenic pressure on the reserve.

Projects social and environmental assessment results

Table 9 highlights a brief description of the potential environmental and social impacts and risks, on the various aspects of the environment and proposed mitigation measures. The impacts of the project have been generally grouped into those related to socio-economic, environmental and climatic aspects; and considering the various phases of the project implementation i.e. construction, operation and decommissioning.

Table 10: Environmental and social impacts and their mitigation

Domain	Aspect	Issues	Responses
SOCIO-ECONOMIC	Labour rights (Immigration / influx of workers)	• Immigration due to the economic attraction of the zone / Influx of population (immigrant workers)	• Awareness campaigns by project management in collaboration with the local administration to sensitize the local people on the various dimensions of the project to enable them embrace immigrants in line with AF Principle 4 – human rights, and indeed the Constitution of Togo. • Control of immigration by the village committee • Engagement of local administration
		• Competition for resources i.e. housing, waste management, water, etc.	• Awareness campaigns by local administration to sensitize the local people on the various dimensions of the project to enable them embrace immigrants in line with AF Principles 2 – Access & Equity; 4 – Human Rights; and 6 – Core Labour Rights and the Constitution of Togo. • Sensitize workers on local culture • Fill job opportunities with locals as much as possible • sensitize the immigrants to respect the culture of the local people • Increase economic activities which will also increase employment opportunities, income earnings and market capital stock formation
		• Cultural erosion	• Awareness campaigns on socio-cultural aspects
	Agricultural production	• Exacerbation of the land pressure	• Strict control of the zone of irrigation • Stakeholder engagement plan • Support with the organization and the territorial installation of the zone to avoid land speculation
		• Monopolization of the plots by the financial elites to the detriment of local populations not assignees of plots	• Establishment of Committee of plots attribution
		• Monopolization of plots by men	• Establishment of Committee of plots attribution • Ensuring gender equality mainstreaming
		• The exacerbation of the conflicts between established groups	• Management by the village Committee and establishment of codes of conduct
		• Loss of produce value due to poor storage & lack of timely markets	• Construction of a community storage facility.
	Livestock-Crop	• Destruction of crops by livestock	• Fence off the project area and reinforce fence with trees.

Domain	Aspect	Issues	Responses
	production conflicts	in the cropping season	• Encourage formation of community policing and neighbourhood associations • Strengthened Grievance Resolution mechanisms • Conflict resolution committees for dialogue between farmers and Fulani stockbreeders whose livestock occasional stray into farmlands though the project site is not in a transhumance corridor.
	Health	• Accidents and injuries	• Awareness creation on health and safety risks • First aid training / first aid kits on site • Provision of personal protective equipment (PPE) • Store hazardous phytosanitary chemicals in a central lockable store • Enforce occupational health and safety standards
		• Sanitation	• Provide adequate sanitation facilities on site for project workers Provide clean water for project workers
		• Waste management	• Waste management awareness campaign for all workers • Provide adequate waste collection facilities on site • Dispose of collected waste regularly
		• Disease transmission (e.g. HIV/AIDS, other)	• Awareness campaigns on health among the populations • Awareness campaigns on socio-cultural aspects • Provision of toilets & clean water for all workers
		• Development of diseases related to the stagnation of water	• Awareness campaigns on health among the populations • The combined basin and furrow system of irrigation will limit the development of parasites along open water channels.
		• Harm from phyto-sanitary chemicals for both humans and household animals	• Store hazardous phytosanitary chemicals in a central lockable store • Awareness campaigns and training
	Micro-credit impacts	• Social exclusion if the loans are not given in an equitable basis to beneficiaries	• Development of capacity for business analysis and risk taking, through training of both MFIs/cooperatives and the targeted community members, of whom 50% must be youth and women as per Principle AF ESF principle 2 on Access and Equity • Micro-credit will offer affordable interest rates (< 18%.) than currently available microfinance. • They will also offer reasonable loans (> USD 50). • Partner MFIs will identify more members and form clusters/groups whereby they can identify dynamic markets and commercialize in a close and open circle all their produces.

Domain	Aspect	Issues	Responses
			• Avoid being isolated in its / their business operations mostly in their communities, by getting resourceful (useful) contacts and networks beyond their community. • Work hard to have certification of their products. This means, be more engaged in GAP (Good Agricultural Practices), therein they will be able to conquer internal and external markets. **(USP to be handled in project implementation for evidence-based risk assessment)**
		• Danger of magnification of the impacts of use of agricultural inputs due to improved credit status i.e. water and soil contamination, pollution, invasive species, etc.	• Use of organic rather than chemical fertilizers to the extent possible • Development of a Fertilizer / Pesticide Integrated Management Plans at project inception • Training on irrigation and agricultural inputs-use techniques • Development of manuals on irrigation, ecological and health hazards. • Implementation of the Environmental and Social Management plan • Develop an integrated invasive species (pest & weeds) management plan
	Gender equality	• Women empowerment could result in tension in the mostly patriarchal society	• Awareness programs on gender equality • Stop placement of girls in fetishist convents • Ban unnecessary mourning rites for windows • Act on gender violence cases • Full participation by women in project • Project to assign a quota of plots to women and / or women's associations • Training in value-addition of agricultural products
		• Mainstreaming equality for all including women, youth and the poor	• Provision of comparable social and economic benefits (access to credit, land and agricultural inputs)
ENVIRONMENTAL	Development of water reservoir	• Increased water availability for irrigation	• Natural ox-bow lake NE of the project site will be dredged to form a water storage basin • Basin will be filled by flood waters in the rainy season • Stored flood water will be used in the dry season for agriculture (irrigation and livestock) • When full, extra water will drain into River Oti from the SE part of the basin

Domain	Aspect	Issues	Responses
		• Environmental considerations of basin creation	• Basin a potential breeding ground for disease vectors (malaria, trypanosomiasis, etc.). • Micro-habitat for water fowl • Will require regular maintenance dredging to maintain required depth and prevent basin stratification leading to methane generation • Planting of grass (e.g. Vetiver) round basin to stabilize banks and check siltation • Modelling of evapotranspiration rates • Development of a water use management plan **(USP = to be handled at project implementation)** To conclusively determine any biodiversity loss, habitat loss, and any secondary impacts that might be related to the development of the reservoir, an EIA will be done at project implementation.
	Water abstraction	• Downstream water availability	• Flood waters will be used in the rainy season; stored flood water will be used in the dry season. • Water use awareness campaigns will be conducted against wastage. • Full control of water regime through irrigation. • To increase the availability of water downstream, a natural depression potentially capable of storing a minimum of 470,000 m^3 of water, is proposed. This alternative source of water will be captured during the high flows (floods) for use during low flow months.
	Main pipe / infrastructure	• Habitat destruction	• The main pipeline through the nature reserve will be buried. As many trees as possible will be left in the pipe laying process to reduce habitat destruction as per AF Principles 9 and 10 on Protection of natural Habitats and Conservation of Biodiversity respectively. Main conveyance pipes have diameter between 550-560mm.
	Fencing / enclosing the irrigation bloc	• Loss of vegetation / habitat destruction	• Barbed wire fence reinforced with green hedge (trees) will form barrier to keep livestock away from irrigation block • Plant dual purpose trees as green hedge
		• Restriction of movement	• Proper site planning **(USP to be handled in project implementation for more comprehensive outlook).**

Domain	Aspect	Issues	Responses
	Water use in irrigation	• Ecological and health hazards	• Practising of International good practice in irrigation as per AF Principle 13 on Public Health • Training will be given to both men and women on irrigation and agricultural inputs-use techniques • Manuals will be developed on irrigation and ecological and health hazards. • Application of modern irrigation techniques (basin & furrow) will result in a controlled water-use.
		• Water balance - evaporation	• Water use awareness campaigns against wastefulness will be incorporated in farmer training. The will be full control of water regime through irrigation.
	Soils	• Modification of soil structure	• Good maintenance of the canal and irrigation infrastructure; • Adoption of conservation and good tillage systems to control hardening and improve infiltration as per AF Principle 15 on Lands and Soil Conservation. • Use of soil erosion control techniques which disperse erosive energy and avoid concentrating by providing good vegetative cover to disperse the energy of rain drops and contour drainage to slow down surface runoff,
		• Waterlogging and salinization	• The use of improved irrigation technologies including the combined furrow and basin design will increase water application efficiency to mitigate water-logging and salinization occurrences
		• Pollution	• Safe storage and disposal of agro-chemicals must be observed • Development of an integrated invasive species (pest & weeds) management plan
		• Contamination of the soil by pesticide residues and chemical fertilizers	• Implementation of the Environmental and Social Management plan • Development of a Fertilizer / Pesticide Integrated Management Plans at project inception • Use of organic manure (practise composting) • Water quality monitoring
		• Soil compaction	• Use of soil erosion control techniques which disperse erosive energy and avoid concentrating by providing good vegetative cover to disperse the energy of rain drops and contour drainage to slow down surface runoff,

Domain	Aspect	Issues	Responses
			• Proper maintenance of canal and the irrigation infrastructures, • Adoption of conservation tillage systems and ripping to control hardpan and enhance infiltration and seepage • Proper maintenance of canal and the irrigation infrastructures, • Adoption of conservation tillage systems and ripping to control hardpan and enhance infiltration and seepage
		• Contamination by machinery / equipment	• Set aside a designated area for parking all construction equipment • Service all construction equipment in one designated spot • Set aside a specific area for solid waste and re-use, recycle or dispose of in an environmentally sound way
	Air	• Pollution at construction and decommissioning stages	• Excavation only at areas of construction • Control speed and operation of construction vehicles; reduce unnecessary idling • Spray water on excavated areas. • Provide workers with PPE (dust masks, work gloves) • Sensitize drivers to avoid off road driving. • Stockpiles of sand and soil should be covered, watered daily, or treated with non-toxic soil binders • Trucks hauling construction materials should be covered to reduce spillage • Stop excavation work if wind threshold velocity has been exceeded
		• Methane emissions / $C0_2$ / N_20 (Pollution at operational stage)	• Controlled water regime through irrigation (basin and furrow) to lessen methane production as per AF Principle 11 on Climate Change • Compost inputs for organic fertilizer (e.g. rice stalks) before use in farm plots to reduce methane production • Avoid dumping organic matter (e. rice straw) in rice fields before composting • Use agricultural bye-products (e.g. rice straw) as organic fertilizer after composting • Control the use of fertilizer
		• Carbon footprint (overall pollution)	• Solar energy, a non-polluting source of energy, will be used for irrigation championing AF Principle 11 on Climate Change.

Domain	Aspect	Issues	Responses
			• Controlled agricultural input use will be practised to reduce carbon footprint
	Biodiversity	• Loss of vegetation when clearing for project fence / enclosure	• Barbed wire fence reinforced with green hedge (trees) will form barrier to keep livestock away from irrigation block • As many trees as possible will be left standing
		• Loss of vegetation when clearing for agriculture	• As many standing trees as possible will be spared when preparing the irrigation blocks • Replanting of trees along the edges of the project site. • Awareness will be created on biodiversity conservation • Horticultural crops will be Incorporated in the project area • Incorporate green areas and forestation within the edges to ensure maintenance of biodiversity. • Implementation of the Environmental and Social Management plan
		• Seeds and Plant Diseases / Invasive Species	• Formulation of an Integrated Invasive Species' management Plan in Line with AF Principle 10 on Conservation of Biological Diversity • Reduction of inputs and the release of nutrients (nitrogen and phosphorus) from cultivated fields • Use of organic rather than chemical fertilizers to the extent possible. • Remove invasive species on detection
	Pollution prevention and resource efficiency	• Energy use	• The use of solar energy instead of thermal power for pumping water, and for value addition ventures is in line with AF principle 12, on maximizing energy efficiency.
		• Resource use	• Use of the combined basin and furrow irrigation system will allow real water savings by avoiding infiltration and evaporation during transportation and streamlining distribution. This system will minimize the use of water. • Development of local capacity to use organic manure to limit the use of chemical inputs and enable effective recycling of agricultural and livestock by-products.
		• Pollution	• Development of a pesticides management framework and adaption at the local level for better pollution management, • Designation of solid waste collection points in the project site
CLIMATE	Adaptation &	• The planned integrated	• Dimensioning of the works

Domain	Aspect	Issues	Responses
	resilience building	protective actions, measures and practices.	

Categorization of the project according to the Fund's ESP
Projects/programmes likely to have significant adverse environmental or social impacts that are for example diverse, widespread, or irreversible should be categorized as Category A projects/programmes. Projects/programmes with potential adverse impacts that are less adverse than Category A projects/programmes, because for example they are fewer in number, smaller in scale, less widespread, reversible or easily mitigated should be categorized as Category B. Those projects/programmes with no adverse environmental or social impacts should be categorized as Category C.

The community has donated the land for the project, and there has been considerable awareness and community engagement. Thus, there will be no involuntary resettlement nor physical displacement. Instead, there will be a temporary disturbance for project construction works, for those plots that will be in agricultural production. A stakeholder engagement Plan will be formulated that at the start of project implementation, to handle the assignment of temporary plots until the end of works.

Based on the above characteristics of the potential negative impacts, including the microcredit activities and their local effects on the environmental elements impacted, the project is classified in **Category B** according to the fund's environmental and social policy as well as BOAD's environmental and social policy.

Proposed mechanism for risk identification for potential USP activity during implementation
Risk identification for potential USPs will be done in line with the Mandouri Agricultural Resilience Project Environmental and Social Risk Management Plan (MARP_ESRMP) highlighted in **Part III. Section C.**

The identified list of potential USPs includes the following: -
a. The development of a water retention basin in a natural depression that will trap water during high flows for use during low flows
b. Construction of a 500-600m^3 water head tank for temporary storage and to enable water flow by gravity to the irrigation plots. Water will be pumped from the basin into this tank;
c. Fencing / enclosure round the irrigation zone; and
d. Construction of a communal storage warehouse.

The afore-mentioned USPs will be tackled at the onset of project implementation.

As per the MARP-ESRMP, the plan clearly defines the actions to be taken with on the onset of project implementation. Project partners (NIE, EE, PMU) will be trained, and operating manuals will be developed. Project beneficiaries will also be sensitized (training) with the overall aim of building local capacity to be able to contribute to the design of sub-component activities and have awareness of any risk-related issues should these arise.

The plan aims at integrating risk forecasting and screening in project management, to a point where funds disbursement for activities are tied to component risk management plans. Where minor risks that can easily be mitigated are detected, the EE may be required to develop a sub-Environmental and Social Risk Management Plan, commensurate with the severity of the risk associated with the relevant sub-component activity. The EE will need to know that costs associated with this can be provided within the project budget, and this will need to be approved by the NIE.

The EE will report any unintended social and environmental risks that are detected through the project monitoring, evaluation and reporting processes to the NIE via the PMU, together with a proposed risk management plan that shows how these risks will be mitigated. In response to this, the NIE and PMU may propose the redirection of project funds to risk management activities, or the

withholding of the next tranche of payment until satisfactory risk management actions are determined and agreed.

This risk screening process will ensure compliance with the principles of the AF ESP and National legislation. All quarterly forecasts, including risk assessments, will be reviewed by the PMU with support of the M&E officer. These reviews will be tabled with recommendations to the PMU and NIE for approval.

The MARP-ESRMP further provides a working framework on risk assessment and risk management.

Analysis of project activities against the principles of the Adaptation Fund

Table 11: Project activities analysed against AF principles

Checklist of environmental and social principles as per AF Policy	No further assessment required for compliance	Potential impacts and mitigation measures - Further assessment and management required for compliance
1. Compliance with the law	No project component or activity contravenes any laws or regulations currently in force in Togo. The project will comply with Togolese national law and possibly international standards when national standards are lacking, as described in Section E of Part I. The project complies with the country's legal framework for Agriculture, Water and Environmental Protection.	An Environmental and Social Impact Assessment (ESIA) update was conducted in May-June 2017 to factor in the solar component of the project. The ESIA update has notably assessed and proposed mitigation for project impacts on natural habitat and biodiversity in the target area, as well as ensuring that relevant national permit requirements and international laws are respected. The results of the assessment of the risks and impacts of the project components analysed according to the 15 AF principles will be used to refine the Environmental and Social Management Plan (ESMP) of the ESIA – the Environmental and Social Management Plan (ESMP) of the project. Further environmental and social impact assessments will be required at project implementation for Unidentified sub-project (USPs) that include micro-credit impacts, development of the water storage basin, and impacts of fencing/closing off the irrigation block.
2. Access and Equity	The project will not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions to any group of the population. The pressure on the distribution of land could be at the origin of conflicts. The Local Advisory Committee (LAC) as presented in Section A of Part III will notably ensure a fair and equitable access to the project benefits. Priority in loans and distribution of plots will be given to local villagers. This committee will also oversee settling conflicts. Further assessment will be carried out to mitigate discrimination and inequalities regarding access to micro-credit loans, taking into consideration the gender inequalities. The project implementation will guarantee access and equity to sensitive groups including women, the poor, and the youth.	Vulnerability studies and stakeholder mapping was done in May-June 2017, covering potential gender inequalities. Further environmental and social impact assessments will be required at project implementation for the Unidentified sub-project (USP) micro-credit impacts.
3. Marginalized and vulnerable groups	The project will not impose any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS. The poor, women, young, old will have the opportunity to improve	At the start of project implementation, the local Advisory Committee (LAC) and all the other proposed conflict resolution mechanisms (Stakeholder Engagement Plan, Restoration Plan and Grievance Resolution Plan) mentioned in **Part II: A, Component: expected output 1** and in **Annex 6** will be prioritised to ensure full compliance with AF principles.

Checklist of environmental and social principles as per AF Policy	No further assessment required for compliance	Potential impacts and mitigation measures - Further assessment and management required for compliance
	their income and living conditions due to the project.	
4. Human rights	The project does not have potential risks regarding human rights. The project area is not located on transhumance corridors defined by the Togolese authorities (**see map 2**). Attention will be given during the implementation of the project, on the management of conflicts (e.g. conflicts between farmers and herders). In case of conflicts between farmers and herders, the Local Advisory Committee will help to settle issues.	A strong and inclusive LAC will be key in ensuring effective conflict resolution and compliance with AF principles. Village elders will be consulted to avoid any negative impacts on human rights.
5. Gender Equity and Women's Empowerment	Women and men will be able to participate fully and equitably in the project and both will receive comparable social and economic benefits. Women's access to financial services will be strengthened notably through a preferential support that the project will provide to the existing women micro-finance. In addition, the project plans to assign a quota of plots to women and / or women's associations.	Vulnerability studies and stakeholder mapping were conducted in May-June 2017 covering potential gender inequalities. Progress with regards to women's participation and equity will be measured through the project's M&E framework, to ensure compliance.
6. Core Labour Rights	The project will be managed with respect to the Togolese labour law which forbids forced labour, child labour and discrimination, and which allows freedom of association.	Monitoring on core labour rights will be undertaken through the project's M&E framework, to ensure compliance.
7. Indigenous people	There are no indigenous peoples present in the project implementation area	N/A
8. Involuntary Resettlement	The project will not generate involuntary resettlement as there will not be physical displacement (relocation or loss of shelter) or permanent economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood). The beneficiaries of this project live together in the village. In addition, the community has donated 500 ha of land for the proposed project (see **Annex 5: Declaration of land donation by the community**). The declaration states in part that "*We, the people of the Canton of Mandouri by the way of our representatives: Mr. DJAKPERE Tignoiti, chief canton of Mandouri; Mr. OMOITI Kodjo, Chief of Lands; Mr KOMBATE Badi, President of the Village Development Committee (CVD) of Mandouri and Mr BOUKARI Bassouniyé, President of the Special Delegation of Kpendjal, by the* *present, put at the disposal of the Ministry of Agriculture, Livestock and Fisheries in the specific case of Planed Agricultural Feeding Areas (ZAAP), a land area of FIVE HUNDRED HECTARES (500 ha) on the site of "COARA" of Mandouri in Kpendjal*."	At the start of project implementation, the local Advisory Committee (LAC) and all the other proposed conflict resolution mechanisms (Stakeholder Engagement Plan, Restoration Plan and Grievance Resolution Plan) will be prioritised to ensure full compliance with AF principles.

Checklist of environmental and social principles as per AF Policy	No further assessment required for compliance	Potential impacts and mitigation measures - Further assessment and management required for compliance
	The donated land is way bigger than the surveyed 144 ha. This land extends to the west of the surveyed block (see **Annex 6**). During public participation sessions, including surveying activities on the donated land for the technical design of the irrigation area, the community was actively involved with facilitation by the Chief, Canton of Mandouri - Mr. Tignoiti, DJAKPERE. Community members thus are very aware of the project. The issue of involuntary resettlement therefore does not apply to this case. Deliberations on the AF project started in 2015. Development of the ZAAP perimeter, for which the land was originally donated for started much earlier, with the land donation finalised in late 2010. With no physical developments on the ground, a few community members might use the identified / surveyed site for agriculture in the meantime. It is these community members who will have to be moved out of the project site to allow for the development of the irrigation blocks. This will not be involuntary resettlement as the community members identified the said site together with their local leaders and the technical survey teams. The planned development a Stakeholder Engagement Plan at project implementation, is to tackle any temporary land allocation issues during the irrigation block development phase, and later any issues arising out of worker immigration, etc. Community members were actively involved in the survey of the 144-ha irrigation block. Community members are also aware of the project and any who would be farming in the specific project site will be moved to the remaining 356-ha donated land to the west of the irrigation block.	
9. Protection of Natural Habitats	The potential of the project to impact upon natural habitats is low, as the project area is in a highly disturbed area where, for many years, local populations are settled and have been practicing agricultural production, although the position of the site is closed to the boundaries of a wildlife reserve. The Togolese government is in the process of declassifying a part of this reserve and redefine the boundaries of the wildlife Reserve.	The ESIA update conducted in May-June 2017 has notably assessed and proposed mitigation for project impacts on natural habitat and biodiversity in the target area as well as water extraction from River Oti through the Oti-Keran-Mandouri wildlife reserve; and the possible contribution of the project to local emissions. Further environmental and social impact assessments will be required at project implementation for Unidentified sub-project (USPs) that include micro-credit impacts, development of the water storage basin, and impacts of fencing/closing off the irrigation block.

Checklist of environmental and social principles as per AF Policy	No further assessment required for compliance	Potential impacts and mitigation measures - Further assessment and management required for compliance
10. 10: Conservation Biological Diversity	The project will not generate significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species. The project area has been exploited for many years and biological diversity is already low. The project will not significantly disrupt the current biodiversity. Reforestation activities in the project area will improve biodiversity. No invasive species will be introduced into the area, and the type of crops to be used in the project are those currently used.	Additional technical studies were done in May-June 2017 and the perimeter of the boundary of the 144-ha actualized, taking into considerations the Oti-Keran-Mandouri wildlife reserve. The ESIA update done in May-June 2017 included an assessment of project impacts on natural habitat and biodiversity in the target area as well as the water extraction from River Oti through the Oti-Keran reserve; their mitigation; and the possible contribution of the project to local carbon emissions. Further environmental and social impact assessments will be required at project implementation for Unidentified sub-project (USPs) that include micro-credit impacts, development of the water storage basin, and impacts of fencing/closing off the irrigation block. The ESIA also specifies the formulation of an invasive Species (pests & weeds) Management Plan at project implementation.
11. Climate Change	The project activities will not result in a significant or unjustified increase in greenhouse gas emissions or other drivers of climate change. The project will minimize the production of greenhouse gas by adopting solar energy instead of thermal power for pumping water from the River Oti and conduct it to the farm sites. Rice is the currently cultivated crop on the planned site for the project, using the natural seasonal flooding. The project will extend the currently exploited surfaces, but at the same time a better rationalization of the flooding of crops to offset the expansion of rice fields and extra methane emissions from rice cultivation. Furthermore, plantations of shrubs and planned reforestation will capture CO_2 and capture surplus of greenhouse gases.	
12. Pollution Prevention and Resources Efficiency	The project will maximize its energy efficiency by using solar energy instead of thermal power for pumping water. The combined basin and furrow irrigation system will allow real water savings by avoiding infiltration and evaporation during transportation and streamlining distribution. This system will minimize the use of water. All rice fields infrastructures are made from locally building	The ESIA and related ESMP propose the formulation of a pesticide management framework. This and its implementation and monitoring will be key in ensuring compliance, and pollution prevention and resource efficiency. There must be effective awareness and education for both core project management and project beneficiaries.

Checklist of environmental and social principles as per AF Policy	No further assessment required for compliance	Potential impacts and mitigation measures - Further assessment and management required for compliance
	materials. Inorganic amendments can be precisely distributed in the irrigation system, thus limiting to the quantities strictly necessary. For better pollution management, a pesticides management framework will be adapted at local level. Building local capacity to use organic manure will limit the use of chemical inputs and enable effective recycling of agricultural and livestock by-products in a circular ecology system.	
13. Public Health	The project ESIA has identified some potential health impacts of the project, mainly during the construction phase (e.g. impact of dust, noise, STD/AIDS propagation with the arrival of foreign workers to the zone). These impacts are subject to mitigation measures presented in the ESMP. The project also plans to build up the capacity of health services at the village level and improve access to potable water that will reduce water-borne diseases and improve hygiene. Improved toilettes will also be constructed to improve sanitation. The choice of combined basin and furrow type of irrigation system will limit the development of waterborne parasites as there won't be any open water channels.	Preventing any health hazards will depend on effective implementation and monitoring of the ESMP. There must be effective awareness and education for both core project management and project beneficiaries.
14. Physical and Cultural Heritage	The project and its components are not in an area known to have physical cultural resources, cultural sites, and sites with unique natural values. In case of discovery of any cultural resources, the Togolese Ministry of Culture will be notified for further dispositions.	N/A
15. Lands and Soil Conservation	Measures to prevent mitigate or control soil erosion and degradation will be implemented during the implementation of the project. For example, the project will include anti-erosion measures such as protection of banks of rice fields with shrubs that will prevent soil degradation. The project will also contribute to the restoration of soil fertility by promoting the use of organic manure instead of chemical fertilizers. The existing soils are in most cases already used for agricultural purposes, there will be no significant change on land use.	Preventing soil degradation and conservation will depend on effective implementation and monitoring of the ESMP. There must be effective awareness and education for both core project management and project beneficiaries.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project implementation.

Contracting authority and Promoter

The contracting authority of the project is the Government of Togo (GoT), represented by the Ministry of Environment and Forest Resources (MERF). The Executing Entity is appointed by the MERF or AF Focal Point. BOAD is obliged to contract the Executing Entity (EE)[38] appointed by the Government of Togo through the Adaptation Fund Focal Point. The EA reports to BOAD and coordinates all project activities.

Division of Responsibilities:

- **BOAD** is the **Implementing Agency (IA)** for this AF project. BOAD shall in its role of AF Implementing Agency as a Multilateral Implementing Entity (MIE) accredited by the Adaptation Fund Board, provide project oversight to ensure that AF policies and criteria are adhered to and that the project fully meets its objectives and achieves expected outcomes in an efficient and effective manner. It shall also in partnership with the Ministry of Environment and Forest Resources, Ministry of Agriculture, AGETUR and other key project partners engage in promoting the project to mobilize resources and create partnerships.

- Project supervision missions by the Task Manager shall constitute part of the project supervision plan. BOAD will perform the liaison function between Togo and the AF Secretariat and report on the progress against milestones outlined in the approval letter to the AF Secretariat. BOAD shall inform the AF Secretariat whenever there is a potentially substantive implementation change (i.e. one affecting the project objectives, the underlying concept, scale, scope, strategic priority, conformity with AF criteria, likelihood of project success, or outcome of the project). It shall rate, on an annual basis, progress in meeting project objectives, project implementation progress, risk, and quality of project monitoring and evaluation, and report to the AF Secretariat through the Project Implementation Review (PIR) report prepared by the Executing Entity (EE).

- **Africa Sustainability Centre (ASCENT) is the Executing Entity (EE)** In line with the relationship between the Ministry of Environment and Forest Resources (MERF) and ASCENT. ASCENT is the premier African sustainability think-tank providing solutions to foster innovation and interdependence in Africa.

  ASCENT the premier African sustainability think-tank providing solutions to foster innovation and interdependence in Africa. The organisation believes that the best way to address challenges and provide a healthy and sustainable future in Africa is through regional solutions that foster a just society in harmony with nature – sustainable, healthy, and with a strong rule of law. Taking into account the quality of its management constituted of the founder and chairman (Dr. Bakary Kante) and its board of Directors (http://www.africasustainability.org/board-of-directors), as well as exemplary in-house and associated expertise, ASCENT will execute the project successfully.

  ASCENT will participate fully in the successful implementation of the Project and in close collaboration with BOAD in order to achieve all Project Objectives and in strict compliance with the budget lines. Under the direction of BOAD, ASCENT will be able to represent it where necessary, in accordance with the Protocol governing their relations. The Project Coordinator and more generally the project management unit are under the authority of the Executing Entity.
  The Executing Entity (EE) shall take responsibility to ensure that the project is implemented in accordance with the agreed objectives, activities and budget and deliver the outputs and

[38] The Government of Togo has appointed an Executing Entity who will have a contract with BOAD to execute it on BOAD's behalf

demonstrate its best efforts in achieving the project outcomes. For that purpose, the EA will sign a MOU with the relevant national stakeholders.

ASCENT will also advise all stakeholders including the PSC in line with institutional capacity development.

- **AGETUR Togo** will assist the contracting authority in the implementation of the engineering activities.

The management setup of the project will comprise of the following bodies: -

A national Project Steering Committee (PSC) responsible for the strategic direction, monitoring and supervision of the implementation of the project will be established to oversee the AF agricultural resilience project in Togo. As an indication, the PSC will consist of:

Members

- Minister of MERF or representative (Chair)
- AF – Operational Focal Point (OFP);
- Representative of farmers organisation
- GEF Operational Focal Point
- Representative of the AGETUR
- Ministry of Agriculture, Livestock and Water (MAEH);
- A representative of each of these ministries:
  - Ministry of Territorial Administration and Decentralization and Local Government to involve local administrative officials in assisting beneficiary communities
  - Ministry of Economy and Finance (MEF);
  - Ministry of Development Planning (MPD);
  - Ministry of Social Action, Advancement of Women and Literacy (MASPFA);
  - Ministry of Commerce, Industry, Promotion of the private sector and Tourism;
- Representative of the Private Sector, elected by peers
- Project Coordinator (as rapporteur);
- Executing Entity as appointed by BOAD
- Two representatives of civil society chosen by the stakeholder platforms to be established in the project area
- Representative of researchers

The Project Steering Committee (PSC) will be chaired by MERF, and will meet twice a year, or extraordinarily as may be warranted to from time to time. The Steering Committee is composed of representatives of key stakeholders. The NSC provides general supervision, guidance, inter-sectoral coordination and monitoring of compliance of project activities with national sector policies and strategies. The two times a year meeting are to review and approve the Work Programmes and Annual Budgets and the activity reports and audit of Project accounts. The PSC reports to the President of the CPP, the Minister of the Environment and the BOAD.

The roles of the PSC include:

a. Provide overall guidance and ensure coordination between all parties;
b. Provide monitoring of project implementation progress;
c. Review and adopt the annual work plans and budgets prepared by the Project Coordinator and Technical Adviser, in conformity with the project objectives and subject to the rules of AF and BOAD;
d. Review the biannual progress reports to be prepared by Project Coordinator and oversee the implementation of corrective actions, when necessary;
e. Enhance synergy between the AF project and other initiatives being implemented in the project areas; and
f. Provide advice on policy and strategic issues to be taken into account during project

implementation.

INTERNAL MANAGEMENT STRUCTURE

A Project Management Unit (PMU): The Executing Entity (EE) will create a PMU which will be responsible for project implementation. The PMU will be lodged in the city of Dapaong. The management of the project will be provided by the Project Management Unit equipped with an administrative and financial autonomy. This Unit will be headed by a Project Coordinator who meets the requirements set out in the TORs appointed by EA, approved by the PSC, and assisted by a Financial Manager / Project accountant as well as a Rural Development expert-Agronomist/agricultural engineer and a Monitoring, Evaluation and learning expert to work to follow on technical activities and to document and promote the project's evidence to a wider audience.

The Project Coordinator will provide overall direction for contractual, technical and administrative aspects of the project, in accordance with annual work plans and budgets adopted by the Project Steering Committee. The Project Coordinator, who will respond to the EA, will be responsible for day-to-day operational and administrative aspects of the project within the Project Area and for ensuring the achievement of project outcomes, the delivery of project outputs and the realization of project activities and expenditures in accordance with the Annual Work Plans and Budgets (AWPBs) approved by the Project Steering Committee. The Project Coordinator will lead the development of the project M&E plan to be adopted by the PSC.

Individual roles:

- Project Coordinator
- Rural development expert- Agronomist/agricultural engineer
- Environmental officer
- M, E & Learning Expert
- Financial Management Officer/Project Accountant (locally recruited).
- An expert in procurement
- Driver (ideally a Ministry Staff).

The internal management roles are further elaborated in **Annex 6 - Consultants to be hired for the project.**

- **The Project Coordinator** and the Financial Management Officer/Accountant will be recruited competitively by a joint selection committee whose members are representatives of ASCENT, BOAD and 1 or 2 identified key stakeholders.

- **MERF – EA – AGETUR Tripartite quarterly coordination Process**: A quarterly coordination meeting is established between the 3 agencies to ensure that the project is delivering as planned but most importantly delivering according to the national project objective and in line with the deliverables agreed between the 3 entities. This meeting will provide corrective measures as necessary in consultation with BOAD. The EA may represent either by its Chairman or the Project Coordinator. The 3 institutions can also conduct joint monitoring of project activities.

- **Fiduciary responsibilities:** The financial management and procurement responsibilities will be defined by the provisions of the Project Coordination Agreement (PCA) between BOAD and the Executing Entity (ASCENT). The BOAD ensures that procurement and accounting of funds and equipment is carried out in accordance with the procedures and agreements in force between the Executing Entity and the BOAD.

- **ASCENT** through the Project Coordinator will be jointly responsible for ensuring that procurement, and accounting for project funds are conducted in accordance with national Executing Entity (EE) procedures and agreement signed with BOAD.

Technical Committee (TC)

The Technical Committee (TC) includes representatives of major technical bodies involved in the implementation of the project. The Technical Committee provides technical monitoring of the implementation of project activities and make recommendations to improve project implementation and report to the Project Steering Committee. It includes representatives of the MERF, AGETUR, MEF, the Ministry of Agriculture, Livestock and Water (MAEH), ANGE, MFIs and their support structures and control (CASIMEC and APIM), local relay Agencies (RLA).
To implement the project, the TC will be expanded to Promotion Agency of the SME Guarantee and Financing / PMI (ANPGF). The TC is chaired by the AGETUR.

EXTERNAL STRUCTURE

- **Collaboration with other projects:** The project has been prepared, and will be implemented, in close coordination with other projects working in the area. Coordination with other key projects by the relevant ministries will be achieved at the Steering Committee Meetings and by holding regular technical coordination meetings to ensure administrative efficiency, streamlining of budgeted annual work-plans and close coordination of activities. The project will establish a technical working group on specific thematic issues and the Steering Committee will guide the project team in choosing the appropriate

- **Engagement of local CSOs, Service Providers and Private Sector.** Many CSOs, service providers and private sector actors are active in the Project area although there are only one or two active around some of the PAs. They are key implementing partners for activities. The PMU will engage the services of CSOs / service providers and the private sector as needs arise. The Project will "contract" CSOs / local service providers / private sector to support local community groups to implement agreed activities on the ground. ASCENT will negotiate Conventions with these organizations / service providers using procedures adopted in the PSC.

- **Engagement with local stakeholders:**
  At local level, various stakeholders groups will play important role in the project execution. These include among others:

  - **Community based organizations (CBOs)**

  These are various local organizations in the project region whose role is important in the social balance of the communities. Under the project, their role will be to:
  a. Bring together the social conditions for the execution of the project in their respective localities and offer to draft a framework for dialogue and Community Exchange.
  b. Create a basis for commercialising smallholder farming to run agro-based businesses
  c. Contribute to the resolution of possible conflicts in the context of the implementation of the project
  d. Help the beneficiaries of the project in decision-making activities

  - **Youth groups**

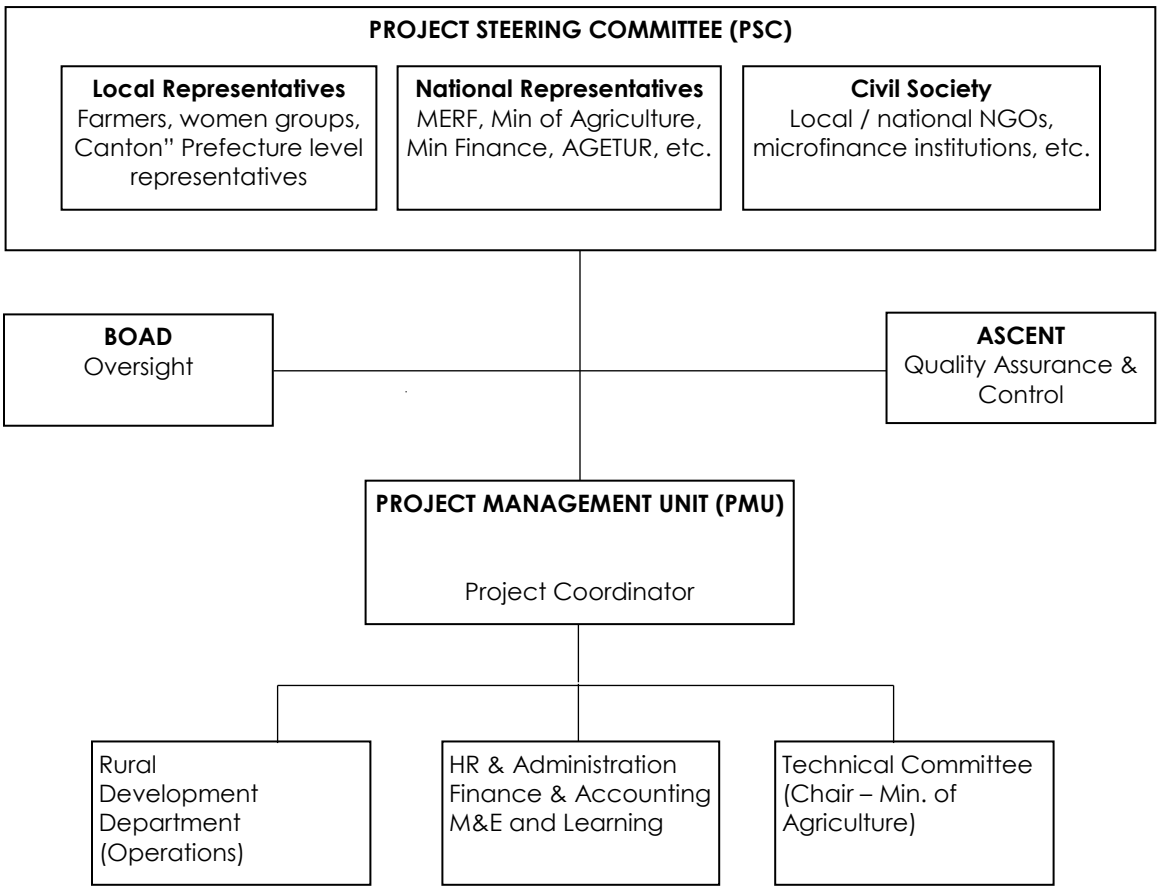
  These groups will play an important role in project activities. They will specifically:
  a. Contribute to the planning of activities targeting the youths particularly components 2 and 3.
  b. Stimulate and encourage the participation of youth in capacity-building and knowledge sharing sessions.
  c. Participate in the follow-up of the activities of the project and collection of necessary information related to youth involvement in the project
  d. The management of assets, equitable access to community facilities acquired or installed through the project.

  - **Organised women groups:**

These groups will be important in ensure that the activities designed for women of properly carried out and the expected results are fully achieved. Their role will be specifically to:

a. Contribute to activities for women by ensuring equitable membership and participation of women in organised groups and the participation of these groups the activities to be performed.
b. Stimulate and encourage the participation of women in capacity-building, business development and knowledge sharing programmes and sessions. For this purpose, women's groups will participate in the diagnosis leading to the identification and evaluation of their training needs in order to effectively design appropriate capacity-building programmes.
c. Participate in the follow-up of the activities of the project through their availability to collect and provide the necessary information related to women and the project activities in which they are involved
d. The management of assets, equitable access to community facilities acquired with the project. These groups of women will be adequately trained to do so.

Fig. 7: Project organizational structure



- **Coordination:** The following components will require close coordination with other Ministries, Projects and partner organizations. The relationship between the GEF Project and these partners will be governed by Memorandums of Understanding (MoUs) to be negotiated during Project

Inception phase.

During implementation, ASCENT will draft MoUs for the implementation of the various sub-components listed above where BOAD/AF project intends to collaborate with other partners (as identified above) and negotiate with identified partners as required.

OVERSIGHT MECHANISM

The project Steering Committee will receive periodic reports on progress and will make recommendations to BOAD concerning the need to revise any aspects of the Results Framework or the M&E plan.

Project oversight to ensure that the project meets BOAD and AF policies and procedures is the responsibility to the Task Manager in BOAD-DEFIC. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Details of Project Monitoring & Evaluation, including external evaluations are provided in various other sections.

A national technical planning workshop will be organized once a year, prior to the first session of the Project steering Committee. This workshop will bring together all actors involved in the technical implementation of the project.

PMU Launching of tender documents

This involves the preparation, approval and launching of Tender Documents. Given the specificity of equipment, implements and of installation, work will be done by the PMU. During this stage, the PMU will select, in accordance with the regulations in force in Togo and procedures of AF and BOAD, companies for the acquisition of equipment, development work and accompanying infrastructure. To ensure the quality of work and guarantee the operation of equipment, the Technical Committee will comprise consulting engineers to be recruited by the project. Within the framework of the project the irrigation equipment (semi-California channel network, solar panels and accessories), the surface preparation of land, the planting as well as monitoring and supervision of works are fully covered. Component 2 and 3 covers enabling of farmers to commercialise and diversify agricultural practices. An aspect of creating a framework for MFI arrangement is also factored with seed capital availed by the project to specifically offer credit to smallholder farmers.

Implementation of the Project

The perimeters and hydraulic work arrangements will be performed by selected companies. The training will be provided by the competent technical services and/or by external service providers. The other operations (reforestation, IGA of women, institutional support) will be carried out by the Project Management Unit with, if necessary, the support of local technical services (water and forestry services, rural engineering, hydraulics in particular) on the basis of memoranda of understanding. Short-term loans will be made by financial institutions present in the area on their own resources, with, if necessary, the contribution of the beneficiaries of the project. The investments, including the rehabilitated and developed areas, will be given to beneficiary organizations which will be organized for their operation with the support of competent technical consulting services for their care and maintenance. A network of craftsmen maintainers will be set up at each administrative area concerned in order to ensure the monitoring and maintenance of solar equipment.

Roles and stakeholders' interventions

- The Ministry of Environment and Forest Resources (MERF) through the Directorate of Environment and Forestry Resources and the National Agency of Environmental Management (ANGE) ensure the effective implementation of the project, environmental monitoring, the analysis of environmental parameters and the implementation of the environmental and social management Plan (ESMP). The Ministry also has the AF FP and is a member of both the PSC and

TC.

- The Ministry of Mines and Energy (MME), will speak through its Directions notably through the Directorate General of Energy (DGE), the Electric Power Company of Togo (CEET) and the Sector Regulator Energy (ARSE). These agencies will be involved in ensuring conformity and standards of the power infrastructure set up by the project for both electrification and water pumping.

- The Ministry of Economy and Finance (MEF) will assist in the establishment and operationalisation of financial mechanisms and incentives, as well as domestic banks. It will also intervene in the context of the monitoring of decentralized financial systems (SFD) through the Support Unit and Mutual Institutions Monitoring and Savings and Credit Cooperatives (CAS-IMEC) whose mission is to supervise and control the SFD. It will also help to support and facilitate the financing of businesses through the National Agency for the promotion and guarantee of funding for SMEs and SMIs (ANPGF).

- The Ministry of Agriculture, Livestock and Water (MAEH) will participate in ensuring agricultural practices are in accordance with the policy. The implementation of construction of the elaborate irrigation and water supply systems as well pesticide and fertiliser usage also falls under this Ministry. A member of the CT.

- The Ministry of Development Planning (MPD) will participate in the program through its Regional Directorates and the Directorate General of Statistics and National Accounting (DGSCN) that intervene in the monitoring and evaluation system through the realization of starting investigations, mid-term and end of execution;

- The Ministry of Social Action, Advancement of Women and Literacy (MASPFA) intervene for the integration of gender aspects and functional literacy beneficiaries through the Directorate of Literacy and non-formal education (DAENF).

- The Ministry of Commerce, Industry, Promotion of the private sector and Tourism will participate in the program by promoting private sector development mechanisms. A member of the PSC.

- Domestic banks and micro-finance institutions participate in the implementation of measures facilitating access to credit for businesses, youth and economic interest groups.

The beneficiaries will participate in the design and implementation of the project.

B. Describe the measures for financial and project risk management.

Financial and project risks measures will be assessed as an on-going process throughout the implementation of the project. The primary financial, project and institutional risks, their significance and associated response measures are described in Table 12.

Table 12: Financial, project and institutional risks

Risks		Degree of perception	Measures
FINANCIAL	Ineffective management of project funds affects project implementation.	Low	A Financial and Admin officer will be appointed to strengthen the PMU and ensure appropriate management of project funds. In addition, RIE oversight audits and EE quality control will ensure that there is no ineffective use of project funds.
	Delays in the disbursement of funds, procurement and institutional inefficiencies (e.g. lengthy approval processes result in delayed recruitment of staff and delayed project implementation.	Low	The RIE and PMU will work closely to ensure optimum conditions for timely disbursement of funds, contracting, monitoring and financial reporting. The Project Coordinator and the Financial and Admin officer will develop and regularly update a Procurement Plan in line with BOAD guidelines. Key project staff will be in place prior to the project inception meeting.
	Fluctuations in exchange rate (USD - F CFA) which could affect the funding available for implementation and lead to budgetary constraints.	Medium	The Financial and Admin officer to closely monitor USD – F CFA exchange rate and communicate any implications to the Project Coordinator, for adaptive project management. The PMU and UMDM officials will collaborate closely with the RIE should exchange rates fluctuate to the extent that budget reallocations are required.
	Difficult access to credit inputs supply	Low	The project will introduce a guarantee fund for loans to farmers to facilitate their access to finance. Moreover, capacity management capabilities and financial planning will improve monitoring and repayment of loans. The project will also ensure a sustainable supply of inputs to farmers.
	Insufficient training in financial management	Middle	The project will implement measures to strengthen capacities of actors in the areas identified for improving knowledge and good practices.
PROJECT	Non-acceptance or non-support of the project by the population	Low	The project was designed on the basis of a consultation of the concerned population and the identification of their different needs. All the project activities and the work plan of the PMU will be defined by a committee composed of local authorities, NGOs and population representative.
	Insufficient training in water management and farming techniques.	Middle	The project will implement measures to strengthen capacities of actors in the areas identified for improving knowledge and good practices.
	Climate risk	Middle	The main climate risk that could have an impact on these investments is flooding. To avoid this risk, the warehouse will be built out of a flood zone and will respect the climate norms in terms of orientation, airflow, moisture. The same observations are valid for the parking station of agricultural equipment. In addition, site dedicated to rice farming is not located in the river bed and the main irrigation facilities will be buried; everything will be thought, done, and built taking into consideration the risk of flooding.

	Failure to involve adequate representation of vulnerable communities, particularly women, and therefore failure to create ownership of the project at the community level at project sites.	Low	The project will avoid a "top down" approach and create community ownership of the project interventions by building the capacity of community members at an early stage in the project. Engagement and capacity building will adopt a gender-sensitive approach. The development of detailed implementation plans will be undertaken in a participatory manner, encouraging input from all community members, including women.
INSTITUTIONAL	Lack of awareness of communities and stakeholders on climate change and its potential impacts	Low	The project will conduct awareness activities on climate change issues and strengthen the capacity of stakeholders on adaptation and mitigation and their impacts. This activity will involve all the beneficiary communities.
	Low capacity, awareness and acceptance on tackling climate change impacts among key stakeholders will limit the support for the project and also the likelihood of project outputs being mainstreamed into plans and budgets.	Low	The project includes a capacity building programme for project beneficiaries, local elected officials in the region, officials of local institutions, etc. on the importance of mainstreaming adaptation responses into planning, budgeting and policy development processes.
	Poor coordination with other climate change projects in the Prefecture / Country limits the potential to learn from and build on the experiences of related projects.	Low	The relevant institutions will be invited to the inception workshop, and the PMU and Mandouri community, with assistance from the EE where necessary, will facilitate the signing of the required data sharing agreements at the inception phase of the project.
	Limited capacity of project partners to coordinate and deliver project outputs.	Low	Project partners all have experience in coordinating, implementing and delivering outputs in their relevant spheres of expertise, as demonstrated by the successful implementation of previous projects. Additionally, the NIE will play an oversight role, providing further expertise if required.

C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Based on a screening against the stipulated principles in the AF ESP, the project is adjudged to be a Category B with possible but limited anticipated adverse environmental or social impacts. Indeed, the project is anticipated to have numerous economic, social and environmental benefits (see Section II.B for a summary of the benefits). Table 12 below summarise the risk management plan for the full developed activities.

Table 13: Risk Management Plan

Activity	Risks	Preventive measures	Implementation period	Control and Monitoring Responsibility	Indicators
Site preparation, Construction works, Development of the perimeter (Irrigation block)	Accidents at work	• Communicate risk codes; • Place copies of the system of codification of the risks outside on information signboards and other visible places; • Share with the emergency services personnel and security, in a proactive manner the information regarding the types of hazardous materials stored, processed or used in the installation; • Organize regular visits and inspections for representatives of the emergency services and local security, to familiarize them with the potential risks present;	Before and during construction	NEMA / Proponent / PMU	• Organize for a Medical Insurance Policy • Existence of tags • Number of meetings • Absence of strollers on the construction site • Number of accidents
Construction, machinery, transport of materials.	Traffic and work-related accidents	• Limit vehicle speed to 40 km/h at the crossing of the villages and the City of Mandouri; • Erect proper signage on access roads; • Regularly maintain the tracks; • Educate taxi and bike drivers to the respect signage on the tracks • Educate drivers to watch out for livestock / transhumant herds; • Raise awareness of women to take care of their children; • Always use headlights on the equipment and trucks, even in daylight; • Keep unauthorised personnel from the construction site • Warn the gendarmerie in case of accident	During the preparation and construction	NEMA / Proponent / PMU	• Speed at village-town crossing • Status of vehicles and gear • State of the headlights • Quantity of recyclable materials • Quantity of green waste on site • Amount of dredged material used • The number of bins • Effective use of waste bins • Amount of non-hazardous waste collected • Sorting of waste
Site preparation, storage of hydrocarbons	Risk of fire	• Designate specific secured area for fuel storage' • Prohibit combustible materials near fuel storage site • Installation of fire-extinguishers in fuels storage yard	During the preparation and construction	NEMA / Proponent / PMU	• No of appropriate signage on the site • Existence of fire=fighting equipment

Activity	Risks	Preventive measures	Implementation period	Control and Monitoring Responsibility	Indicators
Construction of the Pumping Station	Risk of drowning	• Awareness on the risk of drowning; • Avoid working in the water and under the rain; • Intensify work in dry season (January to May) to avoid floods • Train workers in swimming and first aid; • Train all first responders swimming; • Monitor water levels in Kompiengua dam, upstream in Burkina Faso; • Warn the gendarmerie in the case of drowning;	During the preparation and construction	NEMA / Proponent / PMU	• Number of awareness sessions • Number of Complaints • Number of workers trained • Number of cases of drowning
Site preparation, development of the Perimeter	Risk of contamination to STI/HIV/AIDS	• Educate employees on the respect of local culture; • Raise worker awareness on STDs and HIV; • Comply with the provisions of the Labour Code in the recruitment of workers to avoid child labour;	During the preparation and construction	NEMA / Proponent / PMU	• Number of awareness sessions • Number of workers trained
Increased agricultural production activities	Risk of increased pests and invasive species	• Maintain irrigation channels and banks, • Rational use of agricultural inputs; • Promote use organic fertilizers	During the operation	NEMA / Proponent / PMU	Linear of Channels maintained, hectares of banks set, quantity of agricultural inputs used
Development of the perimeter, construction of the Pumping Station	The risk of contamination of water-borne diseases	• Prohibit the workers from drinking river water directly; • Prohibit workers and project personal from swimming in the river water; • Provide potable water for staff and workers; • Employ some trained personnel in first aid and water related accidents;	During the preparation and construction	NEMA / Proponent / PMU	• Warning posters and signage in the construction site' • Potable water dispensers;
	Risk of water contamination by faeces.	• Prohibit the labourers relieving themselves in water or river banks; • Install a mobile toilet mobile construction and the empty in appropriate conditions; • Install improved toilets for use by the producers'	During the preparation, construction And Exploitation	NEMA / Proponent / PMU	• Warning signage • State of the water and banks • The presence of a toilets at the construction site • The presence of toilet for producers
Operation of the Perimeter	Risk of immigration of people / workers	• Raise the awareness of the population and the producers on the respect of local culture; • Take appropriate measures to raise awareness among populations and the producers on STDs and HIV; • Comply with the provisions of the Labour Code in the recruitment of workers to avoid child labour.	During the operation	NEMA / Proponent / PMU	• Number of awareness session • Number of Complaints

Activity	Risks	Preventive measures	Implementation period	Control and Monitoring Responsibility	Indicators
	Risk of contracting waterborne diseases	• Raise awareness among the population and the producers on water-related diseases; • Strengthen the Mandouri Health Centre in equipment and pharmaceutical products; • Put in place a program for disease monitoring	During the operation	NEMA / Proponent / PMU	• Number of awareness session • Number of Complaints • State of facilities
Exploitation of solar installations	Risk of theft of solar installations	• Raise awareness among population and the producers on the need for compliance and monitoring of the facilities; • Recruit local labour for 24/7 caretaking of facilities; • Build a strong fence around the solar facilities;	During the operation	NEMA / Proponent / PMU	• Number of awareness session • Number of Complaints
	Risk of poor management of solar installations	• Raise the awareness of the population and the producers on the compliance and monitoring of the facilities; • Create jobs in the local maintenance of facilities.	During the operation	NEMA / Proponent / PMU	• Number of awareness sessions • Number of Complaints • State of facilities • Number of trained personnel
Operation of the pumping station and solar installations	Risk of Flooding of facilities	• Build the pumping station to a dimension which allows to shelter equipment; • Build the solar park in a non-flood area.	During the operation	NEMA / Proponent / PMU	• Number of Complaints • Number of cases of flooding
Operation of the Perimeter	Risk of conflicts between producers	• Develop and put in place conflict resolution mechanism for conflicts related to the exploitation of the perimeter and its facilities; • Develop a management manual the perimeter of the area and the facilities.	Operation	NEMA / Proponent / PMU	• Existence of Conflict Resolution Mechanisms / Programs
	Risk of insecurity of land tenure in the exploitation of the Perimeter	• Acquire administrative documents required to secure the tenure of the perimeter; • Sign contracts for the exploitation of the perimeter between land owners, producers and the State.	Operation	NEMA / Proponent / PMU	• Number of Complaints • Existence of administrative documents of the land
Proponent = MERF; PMU = Project Management Unit					

The NIE has noted its responsibility to ensure compliance with the Adaptation Fund Environmental and Social Policy (ESP). It will manage this by providing relevant materials and training during project inception, and by ensuring that all project forecasting, monitoring, evaluation, reporting and governance processes are able to detect such risks timeously so that they are managed accordingly. The Mandouri Agriculture Resilience project has been carefully designed to beneficiate local communities and the environment in its focus areas and is not expected to result in any adverse social or environmental impacts. This Environmental and Social Risk Management Plan has been developed to ensure that any unintended adverse impacts are avoided, and that, where this is not the case, they are timeously detected and appropriately mitigated.

The plan will ensure that:

- adequate capacity building for risk management is provided at project start-up;
- activity forecasts are screened for potential risks and that associated disbursement is not approved where these arise;
- project reporting processes have a particular focus on detection of environmental and social risks;
- the project oversight and governance processes are designed to ensure that risks are avoided where possible and appropriately mitigated in the unlikely event of these occurring; and
- stakeholders are aware of a mechanism to raise concerns relating to risks with the Project Management Unit (PMU) and the National Implementing Entity (NIE) Steering Committee should concerns relating to risks not be adequately addressed by the Executing Entity (EE).

This is elaborated as follows: -

Project Start-up

During the project start-up phase, the NIE will engage directly with the EE and other project partners on the operating procedures that will apply to the management of the project, and that will be necessary to ensure compliance with ANGE and AF policies and procedures.

An Operating Procedures Manual will be developed to support this process.
Focus will be placed on the AF ESP, and a dedicated capacity building session will be held to ensure that the EE and other project partners are able to competently detect environmental and social risks in future project planning, monitoring, evaluation and reporting processes.

In this regard, attention will be given to ensuring that projects do not impact adversely on any priority biodiversity areas or ecosystem support areas, and that there are no negative impacts on local communities, including vulnerable groups and indigenous people. No such adverse impacts are anticipated.

Roles and Responsibilities:
NIE – lead capacity building for risk screening.
EE, sub-Executing Entities and partners, PMU – participate in and develop competencies to give effect to risk screening.

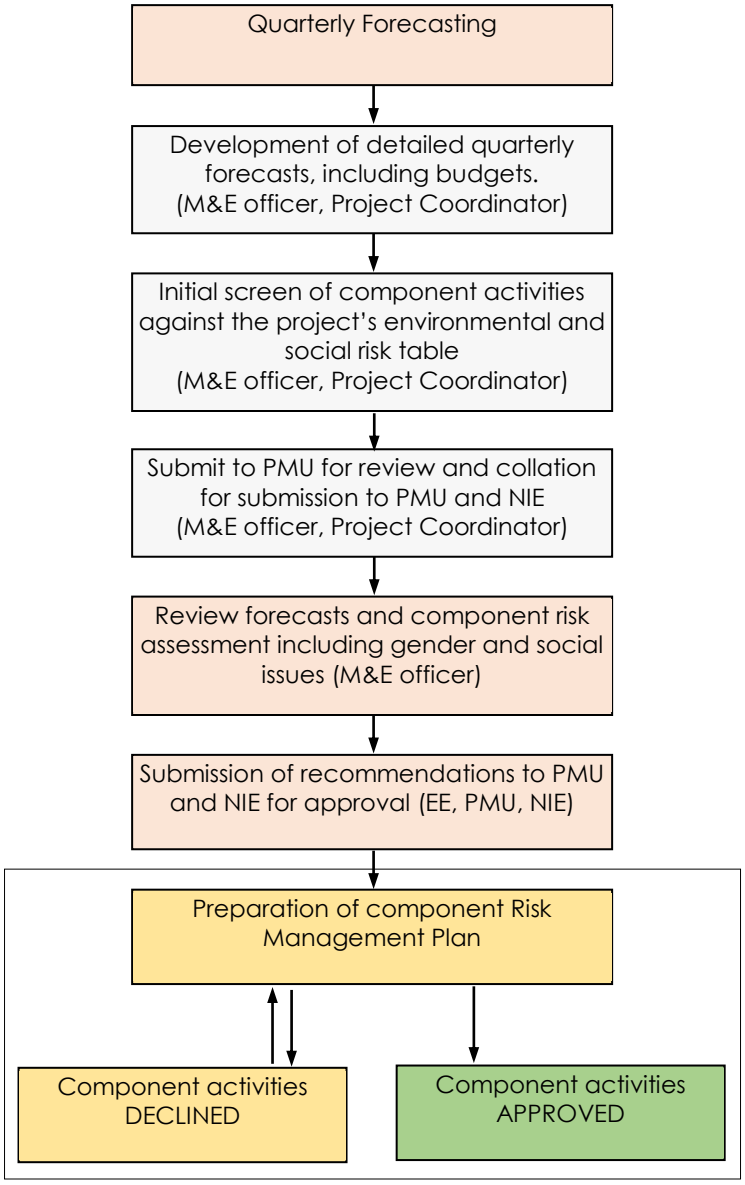
Empowerment of local communities

During the participatory planning processes that are described throughout the project, local communities will be empowered to detect and mitigate environmental and social risks, as set out in the AF ESP and the project's Environmental and Social Risk Management Plan. Processes to build local community capacity to do this will be integrated in the capacity building activities that are envisaged during the early stages of each project component, and will be essential in ensuring that local communities understand the intentions of the project and can contribute to the design of subcomponent activities accordingly, know their rights and are aware of the recourse they may have for raising any risk-related issues should these arise.

Forecasting and Screening

The project's forecasting and risk management plan is set out in Figure 8 and described below.

Figure 8: Mandouri Agriculture Resilience project risk assessment plan.



In order for funds to be disbursed, the EE will need to submit detailed quarterly forecasts to the NIE that are built up from anticipated project activities.

In an effort to strengthen risk screening, and to ensure that no unintended negative impacts are caused or not mitigated, the project coordinator and M&E officer will be required to submit a basic environmental and social risk table with their forecasts. These tables will need to be submitted to the PMU as part of the forecast approval process.

In the lead up to project inception, the EE will modify the AF"s ESP table for this purpose. All risks will be included, but the table will be elaborated upon to create a set of clear and easy to understand

activities that will need to be cross checked. This risk screening process will ensure compliance with the principles of the AF ESP and National legislation.

Project activities that pose social or environmental risks that are not easily mitigated will not be approved during the detailed quarterly forecasting process.

Quarterly forecast review and risk assessment
All quarterly forecasts, including risk assessments, will be reviewed by the PMU with support of the M&E officer. These reviews will be tabled with recommendations to the PMU and NIE for approval.

Risk Management
Where minor risks that can easily be mitigated are detected, the EE may be required to develop a sub-Environmental and Social Risk Management Plan, commensurate with the severity of the risk associated with the relevant sub-component activity. The EE will need to know that costs associated with this can be provided within the project budget, and this will need to be approved by the NIE.

Reporting
Attention will be given to the monitoring of unanticipated environmental and social risks in the quarterly reporting process. The EE will be expected to scrutinize National Executing Entity reports for such risks, and to provide the PMU and NIE with their appraisals for verification. The NIE will work closely alongside the EE to ensure that PMU staff have the capacity to undertake the required screening, and to provide the necessary scrutiny.

Roles and Responsibilities:
EE, National Executing Entities and partners – risk screening.
PMU – risk screening oversight.
NIE – capacity building, risk screening scrutiny and verification.

Mid-term and terminal evaluations
Mid-term and terminal evaluations will include a focus on environmental and social risks, and ensure compliance with no-risk assessments in terms of the AF ESP.

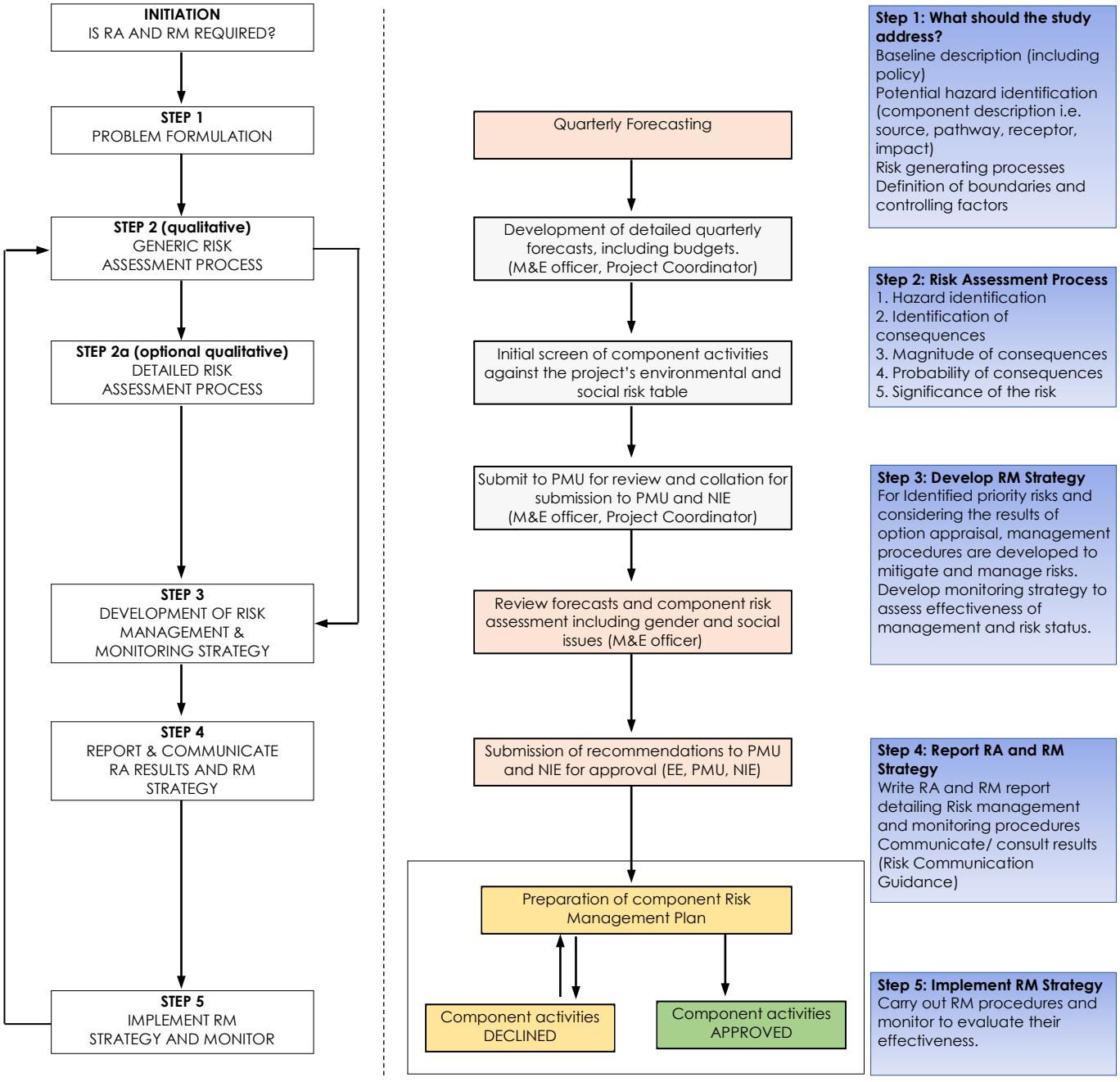
Roles and Responsibilities:
Consultants – risk evaluation.
EE, National Executing Entities and partners – risk management responses (in the unlikely event that these should arise).
PMU – risk management oversight.
NIE – risk management verification.

Governance and Oversight
The EE will report any unintended social and environmental risks that are detected through the project monitoring, evaluation and reporting processes to the NIE via the PMU, together with a proposed risk management plan that shows how these risks will be mitigated. In response to this, the NIE and PMU may propose the redirection of project funds to risk management activities, or the withholding of the next tranche of payment until satisfactory risk management actions are determined and agreed.

Grievance Procedures
During project inception workshops and the component launch workshops, stakeholders will be informed that any concerns relating to the design or management of the project, including social and environmental risks, should be raised with the PMU. Where these are not adequately addressed, these may be escalated to the EE and if necessary the NIE Steering Committee.

The overall project's framework for risk assessment and risk management is highlighted in Figure 9.

Fig. 9: Framework for Risk Assessment and Risk Management[39]



[39] Adapted from "Ecological Risk Management Framework for the Irrigation Industry. 2005".

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan, in compliance with the ESP and the Gender Policy of the Adaptation Fund.

The project will be monitored through the following M&E activities.

Project start:
A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, BOAD and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first-year annual work plan.

The Inception Workshop should address a number of key issues including:

a. **Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of BOAD staff vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.**
b. **Based on the project results framework and the relevant AF M&E tools if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.**
c. **Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.**
d. **Discuss financial reporting procedures and obligations, and arrangements for annual audit.**
e. **Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified, and meetings planned. The first PSC meeting should be held within the first 12 months following the inception workshop.**

An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Periodic Monitoring through site visits:
BOAD will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the PSC may also join these visits. A Field Visit Report/BTOR will be prepared by BOAD and will be circulated no less than one month after the visit to the project team and PMC members.

Mid-term of project cycle:
The project will undergo an independent Mid-Term Review at the mid-point of project implementation. The Mid-Term Review will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the Mid-Term Review will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-Term Review will be prepared by BOAD based on guidance from the AF. The management response and the evaluation will be uploaded to BOAD corporate systems. The relevant AF M&E tools will also be completed during the Mid-Term Review cycle.

End of Project:
An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with BOAD and AF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the Mid-Term Review, if any such correction took place). The final evaluation will look at impact and sustainability of results,

including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by BOAD based on guidance from the AF.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be prepared.

The relevant AF M&E tools will also be completed during the final evaluation.
During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:
Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Audit Clause:
The project audit will be conducted in accordance with applicable BOAD audit policies.

The costs associated with implementing the M&E system are detailed in Table 14 below.

Table 14: Budgeted M&E system

Task	Responsible parties	Timeframe	Budget US$
Inception workshop and Report	Project coordinator, BOAD	Within the first 1 month after project start up	5,000
Monitoring project site visits	Project Coordinator; PSC representatives	Twice per year (in rainy and dry periods)	50,000
Quarterly progress / status reports	Project coordinator	End of each quarter	None
Annual progress reports (Annual Project Review – APR / Project Implementation Reports - PIR)	Project coordinator, BOAD	End of each year	5,000
Meetings of the Project Steering Committee (PSC)		Every 6 months	25,000
Mid-term Evaluation (MTE)	Project Coordinator; Technical Adviser; BOAD; External evaluation team (international and national consultants).	Mid-point of project implementation	25,000

Task	Responsible parties	Timeframe	Budget US$
Final Evaluation (FE)	Project Coordinator; Technical Adviser; BOAD; External evaluation team (international and national consultants).	At least 3 months after end of project implementation	25,000
Project Terminal Report	Project Coordinator; Technical Adviser; BOAD	At least 3 months after end of the project	None
Learning and knowledge sharing (Project publication, publicizing in scientific workshops, etc.)	Project coordinator; M&E and Learning officer	After year one	20,000
Financial audit	Project coordinator, BOAD	End of project	15,000
TOTAL COST			**175,000**

113. *Agriculture Resilience Project, Mandouri - Togo*

E. Include a results framework for the project proposal, including milestones, targets and indicators.

Table 15: Results framework, milestones, targets and indicators

Project Objective(s)	Indicator(s)	Baseline	Target	Means of verification	Assumptions/risk
To improve the level of resilience of vulnerable actors in the agricultural sector in Mandouri (Savannah Region) by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production.	Number of people with reduced risk to climate change-driven floods, fires and drought, as a result of project interventions.	0 women and 0 men. 87.4% vulnerability	Direct beneficiaries: 2,880 rural population (48% men, 52 % women); Other beneficiaries: 5,203 urban population (Mandouri town) Lower vulnerability value	Review of project training and implementation material; gender-sensitive field surveys undertaken with representative populations of the target areas.	✓ Political will exists at all levels to to implement the project. ✓ All stakeholders cooperate closely to implement project activities ✓ No major disasters hinder progress of project and damage infrastructure. ✓ Timely disbursement of project funds.
Component 1: Improved planning and management of water resources and (agricultural) production					
Outcome 1.0: Improvement of food self-sufficiency and sustainable management of land through better water management for agricultural production	Increase in yield from farms and home gardens as a result of project interventions.	Average of 1-2 t/ha for cereals from current farms in project area. Average of 0.5 – 1t/ ha for pea family	Between 6 t/ha to 10 t/ha for rice from climate resilient farms in project area; and over 2 t/ha for the pea family.	Crop sampling/analysis from representative farms / community gardens in the target areas.	✓ Availability of agricultural inputs. ✓ Land security ✓ Good understanding the market functioning ✓ Existence of marketing channels and outlet ✓ Adequate conservation and packaging of agricultural products ✓ Ensuring inclusion vulnerable groups
	Increase in access to markets for Mandouri farmers as a result of project interventions.	0 access to markets for farmers	50-100 % increase in access to markets for farmers in Mandouri.	Gender-sensitive field surveys undertaken with representative populations of Mandouri	
Output 1.1: construction of the semi combined basin and furrow irrigation system on 144 hectares of land powered by solar.	Area of farms/community land in target areas in which climate-resilient project interventions are being implemented	0 ha.	144 ha	Gender-sensitive field surveys undertaken on representative populations of the project site / area. Field inspections	✓ Land security ✓ Timely acquisition of equipment ✓ Consistency in the process of building the irrigation system ✓ Holding properly farmers training on agricultural techniques ✓ Close monitoring of application by farmers of agricultural techniques
	Number of small scale farmers in target areas benefitting from climate resilient agricultural practices Introduced through the project.	0	Direct beneficiaries - 576 farmer households or 2,880 people Mandouri town residents (5,203 people)		

Project Objective(s)	Indicator(s)	Baseline	Target	Means of verification	Assumptions/risk
Output 1.2: production yields improved through mechanized means of production and improved agricultural practices	Area of project site under irrigation in the dry season	0 ha	144 ha	Gender-sensitive field surveys undertaken on representative populations of the project site / area. Field inspections	✓ Land security ✓ Set up a functioning irrigation system ✓ Beneficiaries using the irrigation system ✓ Training households on livestock practices ✓ Adoption by households of livestock activities
	No of households with improved livestock production	0 (minimal)	576 farmer households		
Component 2: Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries					
Outcome 2.0: Increased resilience of producers through the promotion of new income-generating activities, improvement of their income, and improvement of the living conditions of the beneficiary population through: - Improved availability of potable water for consumption - Improved sanitation of the city of Mandouri Reduction of water-borne diseases	Percentage of population living above the poverty line ($ 2 per day) (90.5% poverty incidence for the Savanna region)	0	576 farmer households	Gender-sensitive income and livelihood survey undertaken on representative populations of the project site / area.	✓ Adoption of income generating activities to local context ✓ Training beneficiaries in new income-generating activities ✓ Close monitoring of beneficiaries for application of new income-generating activities ✓ Community adhesion to the new potable water and sanitation system
Output 2.1: Income-Generating Activities (IGAs) are practiced and the products are promoted and sold	No of households with IGA activities	0 (minimal)	576 farmer households		
Output 2.2: Strengthening of the financial management of cooperatives and beneficiaries and maintenance of engineering equipment	No of cooperatives with credit facilities	0 (minimal)	3 Cooperatives are boosted (to administer project credit fund)	Gender-sensitive field surveys undertaken on representative populations of the project area.	✓ Community adhesion to the financial management of cooperatives ✓ Active engagement of people selected to become technicians ✓ Good quality trainings
	Community members / groups trained on bee-keeping, and access to credit	0 (minimal)	At least: 3 women groups; 3 men groups; 3 youth groups are trained on credit outlets and management		
	No of community members	0 (minimal)	20 Technicians are trained on		

Project Objective(s)	Indicator(s)	Baseline	Target	Means of verification	Assumptions/risk
	trained as technicians		maintenance of equipment		
Output 2.3: basic social infrastructures are realized for the beneficiaries	No of households with access to potable water connection	0 (minimal) households {6.0% of Mandouri canton rate of access}	1 Mini water supply network consisting of equipped drilling; solar powered	Gender-sensitive field surveys undertaken on representative populations of the project area.	✓ Timely acquisition of equipment necessary for basic social infrastructure ✓ Rigorous execution of construction work
	No of household / population with access to modern toilets	0 communal modern latrines in Mandouri	3 latrines to improve sanitation at the village level.		
	No of bread making outlets in the project area	0 (minimal)	1 large communal bakery powered by solar		
Component 3: Capacity building, environmental and social measures and knowledge management					
Outcome 3.0: Improved knowledge of stakeholders (public, local elected officials in the region, officials of local institutions, etc.) for the building of the resilience to climate change and the prevention and management of environmental and social risks	Percentage of community members in target area with increased awareness as a result of the project, of climate change adaptation and options to enhance climate resilience.	0 beneficiaries trained.	80 % (for both women and men) of beneficiaries with increased knowledge on climate change adaptation and options to enhance climate resilience.	Pre-training and end-of project assessment of representative sample of project beneficiaries	✓ Community adhesion to awareness activities ✓ Active engagement of people selected to become technicians ✓ Good quality trainings
Output 3.1: local institutions and communities are more aware and climate change issues are better understood and taken into account in local development policies	Number of project beneficiaries trained on climate change adaptation and options to enhance climate resilience.	0 beneficiaries trained.	At least: Community leaders – 10 Women groups – 5 Men groups – 5 Youth groups – 5 trained	Review of learning material; Summary reports from training experts.	
	Percentage of beneficiaries with improved knowledge of climate change adaptation and options to enhance climate resilience.	No improvement in knowledge.	Training workshop certificates issued	Review the certificates	
	Manuals and toolkits on different aspect of irrigated irrigation, crop production, livestock production and human health produced	0 manuals and toolkits	Manuals on – Phytosanitary chemicals' use Irrigation and vector borne diseases Pests and invasive weeds, etc.	Gender-sensitive field surveys undertaken on representative populations of the project area.	prevention and management of environmental and social risks

Project Objective(s)	Indicator(s)	Baseline	Target	Means of verification	Assumptions/risk
Output 3.2: lessons learned from projects in progress at national level are capitalized and a system to disseminate the knowledge acquired in the project is implemented at the local level	Number of platforms to share project outputs and experiences.	0 platforms.	At least: 8 reflection workshops; 3 learning exchanges; and 3 conferences.	Review of proceedings/summary reports from reflection workshops, learning exchanges and conferences.	✓ Stakeholders adhesion to knowledge sharing platforms and activities
	Number of national policy conferences and scaling up workshops based on project lessons learned.	0 conferences or scaling up workshops.	At least: 3 national policy conferences; and 3 scaling up workshops.	Review of proceedings/summary reports from reflection workshops and conferences.	

F. Demonstrate how the project aligns with the Results Framework of the Adaptation Fund

The project will be in harmony with the Strategic Results Framework of AF, whose general purpose is to "assist developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change in meeting the costs of projects and concrete adaptation programs to implement resilient to climate change."

Table 16: Alignment of results framework to Adaptation Fund

Project Objective(s)[40]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount(USD)
The overall objective of the project is to improve the level of resilience of vulnerable actors in the agricultural sector in Togo and in particularly in Mandouri (Savannah Region) by developing water management and irrigation technologies that reduce dependence on rainfall for agricultural production.	Number of people with reduced risk to climate change-driven floods, storms, fires and drought, as a result of project interventions.	Outcome 1: Reduced exposure at national level to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	10,000,000
		Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate	
			2.2. Number of people with reduced risk to extreme weather events	
		Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors	4.1. Development sectors' services responsive to evolving needs from changing and variable climate 4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	
			4.2. Development sectors' services responsive to evolving needs from changing and variable climate 4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	

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

		Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress	
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure (increased) access to livelihood assets	
			6.2. Percentage of targeted population with sustained climate-resilient livelihoods	
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Improvement of food self-sufficiency and sustainable management of land through better water management for agricultural production	Increase in yield from farms and home gardens as a result of project interventions.	Output 1: Risk and vulnerability assessments conducted and updated at a national level 1.1.	No. and type of projects that conduct and update risk and vulnerability assessments	5,000,000
		Output 4: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of health or social infrastructure developed or modified to respond to new conditions resulting from climate variability and change (by type)	
			4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types)	
		Output 5: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	
		Output 6: Targeted individual and community livelihood strategies strengthened in relation to	6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual or	

		climate change impacts, including variability	community-livelihood strategies	
			6.1.2. Type of income sources for households generated under climate change scenario	
	Increase in access to markets for Mandouri farmers as a result of project interventions.	Output 4: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of health or social infrastructure developed or modified to respond to new conditions resulting from climate variability and change (by type)	
			4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types)	
		Output 5: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	
Increased resilience of producers through the promotion of new income-generating activities, improvement of their income, and improvement of the living conditions of the beneficiary population through: - Improved availability of potable water for consumption - Improved sanitation of the city of Mandouri - Reduction of water-borne diseases	Percentage of population living above the poverty line ($ 2 per day) (90.5% poverty incidence for the Savanna region)	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-livelihood strategies	2,150,000
			6.1.2. Type of income sources for households generated under climate change scenario	
Improved knowledge of stakeholders (public, local elected officials in the region, officials of local institutions, etc.) for the building of the resilience to climate change and the prevention and management of environmental and social risks	Percentage of community members in target area with increased awareness as a result of the project, of climate change adaptation and options to enhance climate resilience.	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	1,317,125
			3.1.2 No. of news outlets in the local press and media that have covered the topic	

	Number of project beneficiaries trained on climate change adaptation and options to enhance climate resilience.	Output 2.1: Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events	
	Percentage of beneficiaries with improved knowledge of climate change adaptation and options to enhance climate resilience.	Output 2.1: Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events	
	Manuals and toolkits on different aspect of irrigated irrigation, crop production, livestock production and human health produced	Output 5: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	
	Number of platforms to share project outputs and experiences.	Output 2.2: Targeted population groups covered by adequate risk reduction systems	2.2.1. Percentage of population covered by adequate risk-reduction systems	
		Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.2 No. of news outlets in the local press and media that have covered the topic	

G. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

Table 17: Detailed budget showing execution costs

	Budget notes (USD)	USD
1. Improved planning and management of water resources and (agricultural) production		**5,000,000**
1.1 144 ha developed for agricultural production, equipped with a solar powered irrigation system	The budget is broken down per output. Each output is divided in items. Each item has been budgeted, which represent the sub-figures that are highlighted in yellow • *Pump - 150 kw,500 m3/hr, pump shed **(USD 10,000)**;* • *Backup pump; UPVC piping (40cm 1.5 km from R. Oti, 10 km across the 5 irrigation blocks); end caps; couplers **(USD 2,526,000)*** • *PV modules – 3000 250w, 24v; Module mounting, cabling, switches, auxiliary components; x2 Inverters - 550v DC, x1transformer - 400v 20kv, switchgear; etc. **(USD 1,318,000)*** • *Block preparation x7 blocks **(USD 200,000)*** • *Closed protection of project site work (fencing – poles, barbed wire, u-nails, and tree planting=insert budget.) **(USD 100,000)***	*4,154,000*
1.2 Improve techniques and means of irrigated production		***796,000***
1.2.1 *Acquire farm machinery kits (one 75 hp tractor + 3 discs plough + one 10x10 drive sprayer + one sub-soiler with 3 teeth + one trailer + one harvester + one rotavator + one huller)*	The following details is for 01 agricultural kit. The project aims to acquire four (04) kits • *75 hp tractor (**USD 45,000**)* • *Tractor accessories (3 disc plow = **USD 3,250;*** • *Subsoiler-2m, 7 tines= **USD 3,300,*** • *10m mounted boom sprayer – 800 litre = **USD 3,400,*** • *Trailer-18 ton tandem axle= **USD 28,200,*** • *Harvester-trailed, 2 row= **USD 36,400,*** • *rotavator – 1.8m**= USD 6,800**,* • *Huller; manure spreader – 3.0 c mu= **USD 7,500***	*535,400*
1.2.2 *Train farmers in irrigation techniques and the proper use of agricultural inputs*	• *Organize 30 training sessions for 576 farmers in improved agricultural techniques. Each training session will gather 19 farmers and will cost USD 3686,66, including the consultation and training material costs. The total will be **USD110,600*** • *Organize five (05) training sessions for 20 local technicians on 1) driving irrigation and solar equipment, 2) installation irrigation and solar equipment, 3) repair and maintenance irrigation and solar equipment. The training will be followed*	*210,600*

	Budget notes (USD)	USD
	by practical exercises. Each training will cost: • *training material **(USD5,000)**,* • *consultation services (**USD 4,000 per training**),* • *coaching of trainees **(USD 1000 per trainee**)* • *training local (**USD 5000 per training**),* • *accommodation of participants (**USD 5000 per training**)*	
1.2.3 *Produce manuals / handbooks on irrigation, expected ecological & health hazards of irrigation and disseminate the knowledge*	• *Production of 100 Manuals & toolkits on irrigation **USD 18,000*** • *Production of 100 Manuals & toolkits on expected ecological & health hazards of irrigation **USD 17,000*** • *Attending 04 international events like Fora, COPs etc. to disseminate the knowledge (including cost of side event) **USD 3,750 per event = USD 15,000***	*50,000*
1.3 Design and implement training programs for actors responsible for the operation, maintenance and repair of equipment acquired for the beneficiaries.	• *Design of training program for 1.2.2 above **(USD 50,000)***	***50,000***
2. Support for the diversification of livelihoods and the improvement of the living conditions of the beneficiaries		***2,150,000***
2.1 Promotion of the development of income generating activities		*1,246,000*
2.1.1 Design and deliver capacity building programs to cooperatives and their members for diversification of income-generating activities (gardening, guinea-fowl rearing, bee-keeping, and composting, etc.); and simplified financial management and accounting, and the management of cooperative organizations.	• *Capacity building needs analysis and design on IGA and diversification **(USD 10,000);*** • *Training of farmer cooperatives **(USD 20,000);*** • *Training of farmers-herder groups **(USD 20,000**);* • *Training of women and youth groups **(USD 20,000)*** • *Training of decentralised services (agriculture extension, livestock, fisheries, etc.) **(USD 30,000)***	100,000
2.1.2 Establish the infrastructure and equipment needed to develop the values chain of agricultural production, processing, packaging and marketing, i.e. build a warehouse(s), build drying areas, set up corn and tomato mills, train producers in processing, packaging and marketing techniques; and facilitate access to markets.	• *Build warehouses **(USD 100,000)*** • *Build drying areas **(USD 46,000)*** • *Set up corn and potato mills **(USD 400,000)*** • *Set up tomato pulp maker **(USD 400,000)*** • *Train producer in processing, packaging and marketing **(USD 50,000)*** • *Access to markets / marketing **(USD 150,000)***	*1,146,000*
2.2 Implement simplified funding		***604,000***
2.2.1 Build social infrastructures	• *Set up IGAs – crop diversification, guinea fowl rearing, bee keeping, composting for organic fertilizer, etc. **USD 57,000*** • *Set up revolving fund **USD 116,000*** • *Build fish-ponds **USD 68,000***	*304,000*

	Budget notes (USD)	USD
	• *Build fish drying area **USD 43,000*** • *Set up a tree nursery for agro-forestry **USD 20,000***	
2.2.2 Build mini drinking water supply (DWS) network	• *Set up an equipped borehole **USD 120,000*** • *Set up a mini network, water tower and fountains all solar powered **USD 180,000***	*300,000*
2.3 Build latrines for sanitation		***300,000***
	*Build 3 modern communal latrines **@ USD 100,000***	*300,000*
3 Capacity building, environmental and social measures, and knowledge management		**1,317,125**
3.1 Design and deliver capacity-building programs		***606,000***
3.1.1 Strengthen the technical capacity of local institutions' agents in the prevention and resolution of climate risk issues (bush-fires, resource use and agricultural production conflicts, sustainable management of natural resources)	• *Develop a Resettlement Action Plan **USD 179,000*** • *Develop a Restoration Plan for the production zones **USD 159,000*** • *Develop a Stakeholder Engagement Plan **USD 24,000*** • *Set up a Grievance Resolution Plan **USD 54,000***	*416,000*
3.1.2 Organize information, education and communication (IEC) sessions toward local populations on risk management techniques related to climate change	• *Information dissemination on Climate Change **USD 40,000*** • *Risk Assessment & Management **Plans** **USD 50,000***	*90,000*
3.1.3 Strengthen the capacity of cooperatives and employees of local institutions in the joint management of water resources and conflict management	• *Organize training sessions for farmers' cooperatives and employees of local institutions on water and natural resources sustainable management **USD 65,000*** • *Implement conflict management **plan** **USD 35,000***	*100,000*
3.2 Implement measures of the Environmental and Social Management Plan	• *Develop Risk Assessment & Management Plans **USD 197,000*** • *Develop Integrated Agricultural Inputs (fertilizers / pesticides) Management plans **USD 149,000*** • *Capacity building on ESMP implementation **USD 54,000***	*400,000*
3.3 Establish a knowledge management system (production, capitalization, vulgarization, etc.)	• *Create a local database for the collection, preservation and dissemination of datasheets, educational tools and training materials **USD 45,000*** • *Knowledge sharing workshops with decision makers **USD 64,450*** • *Explore and build synergies with other projects & similar interventions **USD 20,000*** • *Share disseminate via radio spots and film the good practices from similar interventions **USD 74,225*** • *Create partnerships with tertiary institutions that support students to study project interventions **USD 30,225*** • *Provide platforms for project stakeholders to share experiences nationally and internationally USD **47,225***	*311,125*

	Budget notes (USD)	USD
	• *Setup of a regional spatial database / GIS-Training* ***USD 30,000***	
Total Project Cost		**8,467,125**
Execution costs		***804,380***
Implementation costs		***728, 495***
Amount of Financing Requested		**10,000,000**

Execution Costs – Budget (USD)

Table 18: Disbursement schedule of execution costs

YEAR	2017	2018	2019	2020	
Staff	48 364	87 055	87 055	87 055	
Travel Expenses	25 137	45 246	45 246	45 246	
Equipment	120 657	0	0	0	
Monitoring & Evaluation	33 331	59 996	59 996	59 996	
Total	227 489	192 297	192 297	192 297	804 380

IE Management Fee – Budget (USD)

Implementing Entity (BOAD) Specialized Technical Services

The implementing entity fees will be utilized by BOAD to cover its indirect costs in the provision of general management support and specialized technical support services. The table below provides an indicative breakdown of the estimated costs of providing these services.

Table 19: Disbursement schedule of implementation costs

YEAR		2017	2018	2019	2020
Staff	Indicative Services Provided by BOAD	Sept-2017	Dec-2017	Dec-2018	Dec-2019
Identification, Sourcing and Screening of Ideas	Provide information on substantive issues in adaptation associated with the purpose of the Adaptation Fund (AF). Engage in upstream policy dialogue related to a potential application to the AF. Verify soundness and potential eligibility of identified idea for AF.	72,849.49	48,566.33	24,283.16	0
Feasibility Assessment / Due Diligence Review	Provide up-front guidance on converting general idea into a feasible project Source technical expertise in line with the scope of the project. Verify technical reports and project conceptualization.	36,424.75	49,637.125	49,637.125	10,000

YEAR		2017	2018	2019	2020
	Provide detailed screening against technical, financial social and risk criteria and provide statement of likely eligibility against AF requirements. Determination of execution modality and local capacity assessment of the national executing entity. Assist in identifying technical partners. Validate partner technical abilities. Obtain clearances from AF.				
Development & Preparation	Provide technical support, backstopping and troubleshooting to convert the idea into a technically feasible and operationally viable project. Source technical expertise in line with the scope of the Project needs. Verify technical reports and project conceptualization. Verify technical soundness, quality of preparation, and match with AF expectations. Negotiate and obtain clearances by AF. Respond to information requests, arrange revisions etc.	36,424.75	49,637.125	49,637.125	10,000
Implementation	Technical support in preparing TORs and verifying expertise for technical positions. Provide technical and operational guidance project teams. Verification of technical validity / match with AF expectations of inception report. Provide technical information as needed to facilitate implementation of the project activities. Provide advisory services as required. Provide technical support, participation as necessary during project activities. Provide troubleshooting support if needed. Provide support and oversight missions as necessary. Provide technical monitoring, progress monitoring, and validation and quality assurance throughout. Allocate and monitor Annual Spending Limits based on agreed work plans. Receipt, allocation and reporting to the AFB of financial resources. Oversight and monitoring of AF funds. Return unspent funds to AF.	45,233	45,233	45,233	10,000
Evaluation and Reporting	Provide technical support in preparing TOR and verify expertise for technical positions involving evaluation and reporting. Participate in briefing / debriefing. Verify technical validity / match with	36,424.77	36,424.75	36,424.75	36,424.75

YEAR		2017	2018	2019	2020	
	AF expectations of all evaluation and other reports Undertake technical analysis, validate results, and compile lessons. Disseminate technical findings					
Total		227,356.76	229,498,33	205,215.16	66,424.75	**728,495**

H. Include a disbursement schedule with time-bound milestones.

Table 20: Disbursement schedule

	Upon Agreement Signature	End of Year 1	End of Year 2	End of Year 3	End of Year 4	Total (USD)
Schedule Date (Tentative)	Dec 2017	Dec-2018	Dec-2019	Dec-2019	Dec-2020	
Project Funds	4 935,111	1,177,338	1,177,338	1,177,338	0	**8,467,125**
Execution cost	227,489	192,297	192,297	192,297	0	**804,380**
IE Fee	227,356.76	229,498,33	205,215.16	66,424.75	0	**728,495**

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

Record of endorsement on behalf of the government[41]

Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:

Thiyu ESSOBIYOU Directeur de l'Environnement du Togo	January 7th, 2016

A. Implementing Entity certification

Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

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 (PANA), Stratégie de Croissance Accélérée et de promotion de l'Emploi (SCAPE), Politique Nationale de Développement Agricole du Togo (PNDAT), programme national pour l'Investissement et l'Agriculture pour la Sécurité Alimentaire (PNIASA) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme 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 project/programme.	
Bio-SAWE Yacoubou Directeur de l'Environnement et de la Finance Climat (DEFIC) Implementing Entity Coordinator	
Date: January 10th, 2016	Tel. :+228 22 23 25 24 ybiosawe@boad.org
Project Contact Person: Mr Ibrahim Traoré Chef de la Division Finance Climat	Tel. :+228 22 23 26 92 Email: itraoré@boad.org

[41] 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.

Annex1: Letter of Endorsement

REPUBLIQUE TOGOLAISE
Travail Liberté Patrie

Ministère de !'Environnement et des Ressources Forestières

Direction de l'Environnement

ADAPTATION F U N D

Letter of Endorsement by Government

Lomé, 7th January, 2016

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 "INCREASING THE RESILIENCE OF VULNERABLE COMMUNITIES IN THE AGRICULTURE SECTOR OF MANDOURI IN NORTHERN TOGO"

In my capacity as designated authority for the Adaptation Fund in Togo, I confirm that the above 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 Banque Ouest Africaine de Développement (BOAD) and executed by Direction of Environment.

Sincerely,

Direction de l'Environnement
Le Directeur

Thiyu K. ESSOBIYOU
Director of Environment
Adaptation Fund National Designated Authority

MINISTERE DE L'ENVIRONNEMENT
ET DES RESSOURCES FORESTIERES

REPUBLIQUE TOGOLAISE
Travail-Liberté-Patrie

ARRETE n° 025 / MERF/CAB/ANGE/DEIE/CCE

PORTANT DELIVRANCE DU CERTIFICAT DE CONFORMITE ENVIRONNEMENTALE DU PROJET DE RELEVEMENT DU NIVEAU DE RESILIENCE DES ACTEURS VULNERABLES DU SECTEUR DE L'AGRICULTURE A MANDOURI AU NORD TOGO

LE MINISTRE DE L'ENVIRONNEMENT ET DES RESSOURCES FORESTIERES,

Vu la constitution de la IV^ème^ République du 14 octobre 1992 ;

Vu la loi n° 2008-005 du 30 mai 2008 portant Loi- cadre sur l'Environnement ;

Vu le décret n° 2006-058/PR du 05 juillet 2006 fixant la liste des travaux, activités et documents de planification soumis à étude d'impacts sur l'environnement et les principales règles de cette étude et de ses arrêtés d'application n° 013/MERF du 1^er^ septembre 2006 et n°018/MERF du 09 octobre 2006 ;

Vu le décret n° 2009-036/PR du 22 avril 2009 portant attribution, organisation et fonctionnement de l'agence nationale de gestion de l'environnement (ANGE) ;

Vu le décret n° 2011-041/PR du 16 mars 2011 fixant les modalités de mise en œuvre de l'audit environnemental ;

Vu le décret n° 2011-178/PR du 07 décembre 2011 fixant les principes généraux d'organisation des départements ministériels ;

Vu le décret n°2012-004/PR du 29 février 2012 relatif aux attributions des ministres d'Etat et ministres ;

Vu le décret n°2012-006/PR du 07 mars 2012 portant organisation des départements ministériels ;

Vu le décret n°2015-041/PR du 28 juin 2015 portant composition du gouvernement, modifié par le décret n° 2016-086/PR du 1er août 2016 et le décret n° 2016-087/PR du 02 août 2016,

Vu la lettre n°787/MERF/SG/DE du 10 juillet 2017 du ministre de l'environnement et des ressources forestières enregistrée sous le n° 251/DEIE du 10 juillet 2017 à l'agence nationale de gestion de l'environnement , transmettant le rapport provisoire de l'étude d'impact environnemental et social du projet de relèvement du niveau de résilience des acteurs vulnérables du secteur de l'agriculture à Mandouri au Nord Togo en vue de la délivrance du certificat de conformité environnementale ;

Vu la consistance du plan de gestion environnementale et du plan de gestion des risques prévus dans le rapport d'étude d'impact environnemental et social du projet de relèvement du niveau de résilience des acteurs vulnérables du secteur de l'agriculture à Mandouri au Nord Togo;

Vu le compte-rendu n° 969/ANGE/DEIE du 13 juillet 2017 du directeur général de l'ANGE adressé au ministre de l'environnement et des ressources forestières avec un avis technique favorable sur la délivrance du certificat de conformité environnementale

ARRETE:

Article 1^er^ : Le présent certificat de conformité environnementale est délivré à la direction de l'environnement pour servir et valoir ce que de droit, dans le cadre de l'exécution du projet de relèvement du niveau de résilience des acteurs vulnérables du secteur de l'agriculture à Mandouri au Nord Togo, qui prend en compte, de manière acceptable, les préoccupations d'environnement et de développement durable après analyse du rapport d'étude d'impact environnemental et social.

Article 2 : Les conditions d'octroi du certificat sont définies dans l'arrêté n° 025 /MERF/CAB/ANGE/DEIE/CCE du 14 JUIL 2017 portant prescriptions relatives à la délivrance du certificat de conformité environnementale pour l'exécution du projet de relèvement du niveau de résilience des acteurs vulnérables du secteur de l'agriculture à Mandouri au Nord Togo.

Fait à Lomé, le 14 JUIL 2017

Le ministre de l'environnement
et des ressources forestières

André Kouassi Ablom JOHNSON

N. B : Le présent Certificat est établi en un seul exemplaire

Annex 3: Participant lists for meetings with communities
a. ESIA update - interview sessions, 21-22 May, 2017

Number of people interviewed included 9 key informants and 41 stakeholders.

Name	Contacts / Cell no
Key informants	
1. GEVAPAF?	KADA Odane, Program manager, 20285278
2. Prefecture	KOLANI Yempabe, 90011797
3. Prefecture	Gnoithe DOUTI, Manager, 99291599 / 90346815
4. Local Authority	DJAKPERE Tignoiti, Canton Chief, 90312436
5. DPAEH / Kpendjal (Regional Directorate of Agriculture, breeding and Hydraulics/ savannas (DRAEH/S))	NADJAGOU KanfieniLalle, 90200945
6. Prefecture Department of the Environment and Forest Resources	GBENIN Kodjo Benjamin, Director
7. Committee of breeders	BARRY Arzouma, Vice-chairman, 98553444
8. Livestock market	AMADOU Amidou, Assistant Treasurer, 98555572
9. School	MAMA I Ababeni, Teacher, 90843492

Name	Sex	Cell no.
Other stakeholders		
1. LAMBONI Yendou	M	None
2. KOMBATE Syli	M	None
3. TAMBIAGA Bogra	M	90759657 / 99507352
4. KOMBATE Badi	M	90001404 / 99003908
5. ARZOUMA Boukhari	M	97489166
6. GANGA Tango	M	97239757
7. DOUTI Gnoithe	M	None
8. YALO Boudandja	M	None
9. KOMBATE Digaguibe	M	None
10. KOLANI Bayé	M	99877110
11. KOMBATE Kolanbigua	M	None
12. SANWOGOU Mary	F	90367198 / 97657911
13. Sakina OMOROU	F	90589819
14. KOMBATE Awa	F	91989387
15. MAMOUDOU Issa	M	97465881
16. KOLANI Mr. Joseph	M	90147159 / 98634722
17. KOMBATE Bibate	M	93805963
18. ABDOULAYE Dramane	M	90346978
19. GNAGOU Nanfangue	M	99805179
20. TALATA Karimou	M	None
21. Achetou ARBILA	F	93575670
22. MOUSSA Adama	M	None
23. NATCHEMBATE Dapauguidi	M	99929909
24. KOUMONGUA Dramane	M	None
25. NATCHENDE Songuimpale	M	98519533
26. SAMBIANI Goumpouguini	M	90981069 / 98049091
27. ILIASSOU Idrissou	M	99769885
28. Sabime slab	M	None
29. SANWOUGOU Dimounoba	M	99956638

Name	Sex	Cell no.
30. KOUMONGUA Fataou	F	97245005
31. MAMAH Abibah	M	91092027
32. ARZOUMA Soule	M	90724346 / 99997129
33. DRAMANI Oumorou	M	None
34. SAMBIANI Pouguimba	F	None
35. YEMBLIMA Souguetemba	M	98707480
36. ISSARBA Kambirba	M	99450079
37. NATCHEMBATI Djanle	M	96386352
38. KOMBATE Kolitchieme	M	98224453
39. SAMBIANI Boundandja	M	None
40. LAMBONI NabonleBarthelemy	M	98019257
41. SAMBIANI Boulo	F	None

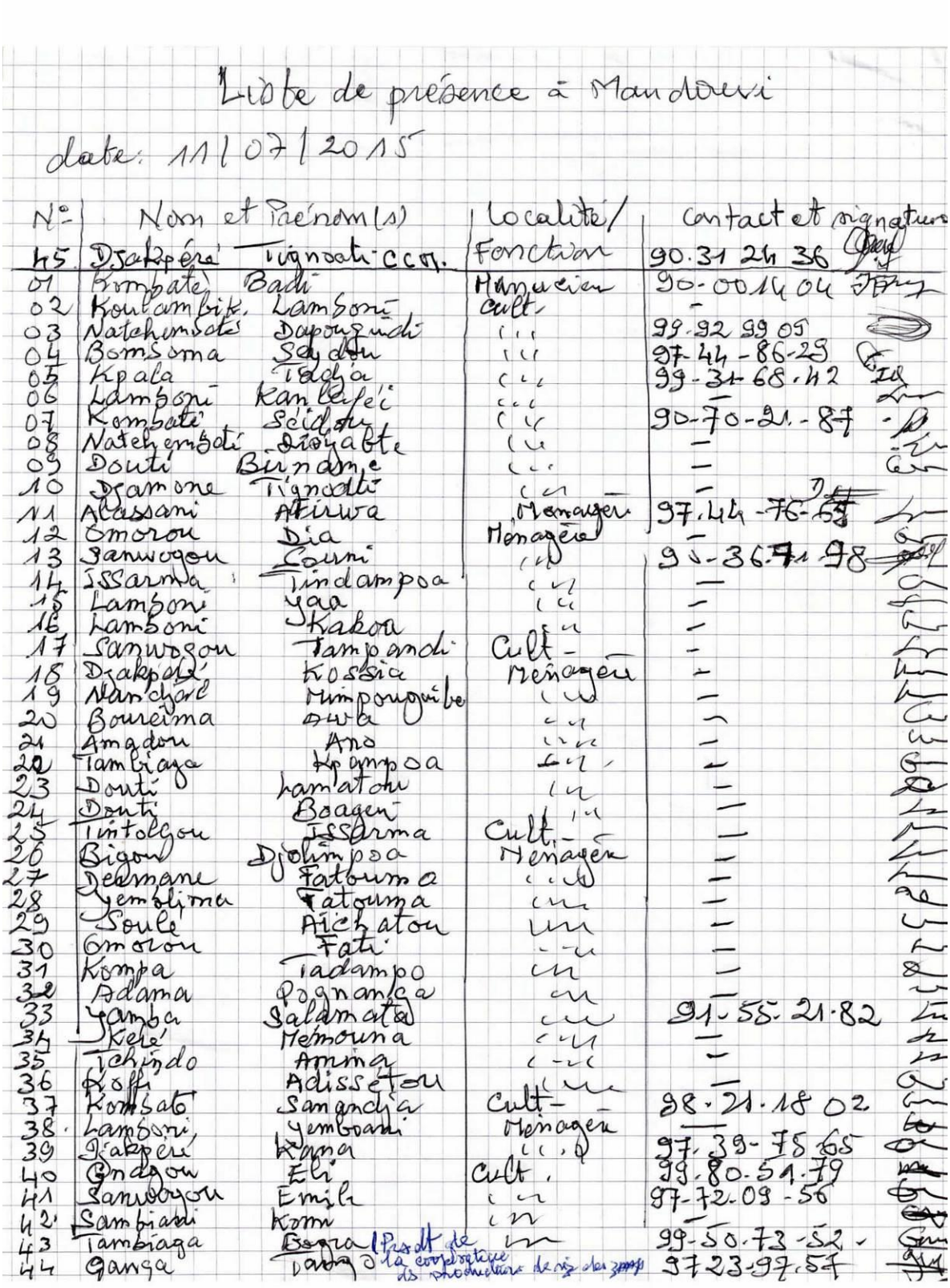
b. List of persons interviewed - November 2017

N°	NOMS	TITRE/OCCUPATION	CONTACTS
1.	TCHORO Wasso	Membre de la direction préfectorale environnement Kpendjal	90 19 61 86/99 67 58 45
2.	KOLANI B. Langbantiba	Membre de la direction préfectorale environnement Kpendjal	90 71 79 40/ 99 92 00 99
3.	Secrétaire Général de la préfecture de Kpendjal		
4.	LAMBONI Kanlafeï	Président groupement de Tolongou I	99 81 02 03
5.	LAMBONI Aimé	Président groupement de Tolongou II	98 64 01 95
6.	NADJAGOU K. Lalle	Directeur préfectoral de l'agriculture Kpendjal	90 20 09 45/98 51 84 46
7.	KOMBATE Badi	Conseiller de la COOPE-ZAAP	90 00 14 04
8.	DOUTI Biriname	Président du groupement de Koula	-
9.	NATCHEMBATE Dapouguidi	Président du groupement de Zongo	99 92 99 09
10	LARE Lene	Président groupement de Kpandimagou II	90 75 96 89
11	KOMBATE Koumboundi	Secrétaire du groupement de Kpandimagou I	99 10 95 61
12	TAMBIAGA Jean	Secrétaire du groupement de Kpandimagou II	99 31 68 19
13	KPALA Tadja	Président groupement de Kpandimagou I	99 31 68 42
14	DJAMONE Tignoati	Membre du groupement de Zongo	98 63 83 49
15	DJAKPERE Tignoati	Chef canton de Mandouri	90 31 24 36
16	TAMBIAGA Bogra	Président de la COOPE-ZAAP	90 75 96 57
17	DOUTI Birham	Membre	-
18	DOUTI Boagui	Membre	-
19	MITOIMA Biga	Membre	-
20	SAMBIANI Bolouw	Membre	-
21	MONDI Elise	Membre	-

22	MIDEMAO Kakou	Membre	-
23	DJAKPERE Kaana	Membre	-
24	PATALAKI Akati Fisher	Gestionnaire	91 87 21 69/99 65 74 56
25	KANGBENI Monique	Membre	91 12 60 26

b. Initial community consultations

Liste de présence à Mandouri :



Liste de présence à Mandouri

date: 11/07/2015

N°	Nom et Prénom(s)		Localité/ Fonction	Contact et signature
45	Djakpéré	Tignaati CCM.		90.31.24.36
01	Kombaté	Badi	Menuisier	90-00.14.04
02	Koulambiki	Lamboni	Cult.	—
03	Natchombaté	Dapongnadi	"	99.92.99.05
04	Bomsoma	Saïdou	"	97-44-86-29
05	Kpala	Tidjia	"	99-31-68-42
06	Lamboni	Kanlefeï	"	—
07	Kombaté	Scidou	"	90-70-21-87
08	Natchembaté	Diogabte	"	—
09	Douti	Bignadne	"	—
10	Djamone	Tignaati	"	—
11	Alassani	Akiwa	Menager	97.44-76-55
12	Omorou	Dia	Ménagère	—
13	Sanwogou	Couni	"	90-36.71.98
14	Issarma	Tindampoa	"	—
15	Lamboni	Yaa	"	—
16	Lamboni	Kakou	"	—
17	Sanwogou	Tampandi	Cult-	—
18	Djakpaté	Kossia	Ménagère	—
19	Nanchard	Nimpongnibe	"	—
20	Boureima	Awa	"	—
21	Amadou	Ano	"	—
22	Tambiaga	Kpampoa	"	—
23	Douti	Hamatou	"	—
24	Douti	Boagni	"	—
25	Tintolgou	Issarma	Cult-	—
26	Bigou	Djolimpoa	Menagère	—
27	Dekmane	Fatouma	"	—
28	Yembilma	Fatouma	"	—
29	Soulé	Aichatou	"	—
30	Omorou	Fati	"	—
31	Kompa	Tadampo	"	—
32	Adama	Poguanga	"	—
33	Yamba	Salamatou	"	91.55.21.82
34	Kéré	Memouna	"	—
35	Tchindo	Amina	"	—
36	Koffi	Adissétou	"	—
37	Komsato	Sangandia	Cult-	98.21.18.02
38	Lamboni	Yembadi	Menagère	—
39	Djakpéré	Kouna	"	97.39.75.65
40	Ondgou	Eli	Cult.	99.80.51.79
41	Sanwogou	Emile	"	97-72.09-56
42	Sambiadi	Komi	"	—
43	Tambiaga	Bagna	"	99-50.73-52
44	Ganga	Dabga	"	9723-97.57

Produit de la coopérative des producteurs de riz des zones

11.07.2015

136. *Agriculture Resilience Project, Mandouri - Togo*

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

REPUBLIQUE TOGOLAISE

Travail-Liberté-Patrie

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILATERALE

Réunion : Restitution de la mission BOAD d'évaluation du Projet de relèvement du niveau de résilience des acteurs vulnérables du secteur agricole.

DATE : 15 juillet 2015

LISTE DE PRESENCE

N°	NOM ET PRENOM	TITRE ET STRUCTURE	CONTACT (TEL +MAIL)	EMARGEMENT
1	DJOBO Gamba	chargé dossier BOAD : MPD	91337755 djobogamba@yahoo.fr	
2	LEBIGAZA Meindou	DT AGETUR-TOGO	90100890 meindou@Yahoo.fr	
3	AZIAKA Messan	DFC/AGETUR-TOGO	90055480 maziaka-gil62@gmail.com	
4	TAMAKLOE Melissa	DGMAP, chargé OCDE	9034 8077 leofils1@gmail.com	
5	KOUGBLENOU Koffi	DFCEP ; chargé d'étude	91-94-56-90 / 22-19-38-46 ballacktime@gmail.com	
6	M'GBOUNA L. Bagnibafela	DAP/DGTCP/MEFPD	90936834 christbagni@gmail.com	

7	KOULOUMA Patchali	DGB/DAP/DGTCP/MEFPD	22381042 Koulouma c@yahoo.fr	
8	AGBAVO Sophie	DPPD / MPD	91591261 Sophie_agbavo@yahoo.fr	
9	LITAABA-KASSOU Baya	CAS-IMEC/MEFPD	96987882 bayakas@yahoo.fr	
10	BAKATIMBE Tchaamba	DE/MERF	90385874 bakatim2006@yahoo.fr	
11	ESSOBIYOU Thiyu	DE/MERF	90021935 essobiyou@hotmail.com	
12	FALL Boubacar	BOAD/DEFIC/BEI	boubafall@yahoo.fr	
13	BERGER Ronald	BOAD/DEFIC/AT BEI	ron_berger@hotmail.com	
14	MOUSSA Mamou	BOAD	22325795 mmoussa@boad.org	
15	AILECHI Sofiane	BOAD	sayi@boad.org	
16	SANSARE Fatoumata	BOAD	ftoure@yahoo.fr	
17	ATCHOLI K. Eglim	MPDAT/ACB	atchochrist83@yahoo.fr	

MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION REGIONALE DE LA PLANIFICATION,
DU DEVELOPPEMENT ET DE L'AMENAGEMENT
DU TERRITOIRE DES SAVANES
DAPAONG
BP : 04 Tél : Fax : 27-70-83-09
N°_____/2015/MPD/SG/DRPDAT – RS

REPUBLIQUE TOGOLAISE
Travail – Liberté – Patrie

Dapaong, le 10 /07/2015

REUNION D'ECHANGE ENTRE LA MISSION D'EVALUATION DU PROJET DE RELEVEMENT DU NIVEAU DE RESILIENCE DES ACTEURS VULNERABLES DU SECTEUR AGRICOLE DE KPENDJAL ET LES ACTEURS REGIONAUX DE DEVELOPPEMENT

DATE : **le 10 Juillet 2015**
LIEU : **DRPDAT / Savanes**

LISTE DE PRESENCE

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15.	NAM Pakedame	DRPDAT-RS	DR	90104845	nampakedamgo	
16.	DJOBO Gouba	Ministère Plan	chargé Dossier BOAD	91337750	djobogouba@yahoo.fr	
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MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION, DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le 7/07/2015

LISTE DE PRESENCE

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MINISTERE DE L'ENVIRONNEMENT
ET DES RESSOURCES FORESTIERES

SECRETARIAT GENERAL

DIRECTION DE L'ENVIRONNEMENT

REPUBLIQUE TOGOLAISE
Travail-Liberté-Patrie

LISTE DE PRESENCE A LA REUNION DE SYNTHESE DE LA MISSION DE TERRAIN/BOAD/ADAPTATION

****

DATE : 13 juillet 2015
LIEU : Salle de réunion de la direction de l'environnement

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MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION, DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le 7/07/2015

LISTE DE PRESENCE

Prise de contact ; Mission BOAD d'evaluation du projet de relevement du niveau de resilience

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3	KPIZING Esodong	Coordonnateur CAS-INSEC MEF		90 09 60 63	kesodong@gmail.com
4	BOLOR 120 86	bolorjean@yahoo.fr		90 09 65 42	bolorjean@yahoo.fr
5	ANIMAOU Tchiou	atchiou@yahoo.fr Directeur / ENSEED		90 02 29 58	atchiou@yahoo.fr
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MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

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DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le

LISTE DE PRESENCE

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MINISTERE DE LA PLANIFICATION DU DEVELOPPEMENT

SECRETARIAT GENERAL

DIRECTION GENERALE DE LA MOBILISATION,
DE L'AIDE ET DU PARTENARIAT

DIRECTION DE LA COOPERATION MULTILETERALE

REPUBLIQUE TOGOLAISE
Travail – Liberté- Patrie

Lomé, le

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National validation workshop – 29.06.2017

MINISTERE DE L'ENVIRONNEMENT
ET DES RESSOURCES FORESTIERES

SECRETARIAT GENERAL

DIRECTION DE L'ENVIRONNEMENT

Division de la Lutte contre les Changements Climatiques

REPUBLIQUE TOGOLAISE
Travail-Liberté-Patrie

Atelier de validation du document du « Projet de relèvement du niveau de résilience des acteurs vulnérables du secteur de l'agriculture à Mandouri, au nord du Togo » : LISTE DE PRESENCE

Date: 29 Juin 2017 **Lieu** : Salle de conférence de la BOAD à Lomé

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14	Nom : DITOATOU T. Prénoms : Kanfitine	Chargé d'études	SG/MERF	Tél : 90 96 81 39 E-mail : ditoatou@yahoo.fr	
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24	Nom : BANIZE Prénoms : Amissamtan	Chauffeur	D-E	Tél : 92-49-22-01 E-mail :	
25	Nom : Prénoms :			Tél : E-mail :	

Annex 4: Photographs from public consultation

a. 19-22 January, 2017 – MERF Mandouri site visit

Main meeting under the big tree

Discussion with women

Discussions with men

Farm land (project area) in the dry season

b. Technical studies 26 May – 2 June 2017

Farm land just before the rainy season (End of May-June)

Cattle in Mandouri

Survey team

Survey team recce

Annex 5. Land donation by the community

ACTE DE MISE A DISPOSITION DE TERRAIN

Nous, populations du canton de Mandouri par la voie de nos représentants : Monsieur DJAKPERE Tignoiti, chef canton de Mandouri ; Monsieur OMOITI Kodjo, Chef des terres ; Monsieur KOMBATE Badi, Président du Comité Villageois de Développement (CVD) de Mandouri et Monsieur BOUKARI Bassouniyé, Président de la Délégation spéciale de Kpendjal, par la présente, mettons à la disposition du Ministère de l'Agriculture, de l'Elevage et de la Pêche dans le cas précis des Zones Aménagées Agricoles Planifiées (ZAAP), un terrain d'une superficie de CINQ CENTS HACTARES (500 h) sur le site de « COARA » de Mandouri dans le Kpendjal.

Acteurs et bénéficiaires, nous attestons que le site, propriété du village ne souffre d'aucune contestation pour la réalisation de ce projet qui vient combler nos attentes.

Nous promettons faire preuve de producteurs braves pour la réussite et la continuité du projet dans le Kpendjal.

Fait à Mandouri, le 24 Décembre 2010

Le Chef des Terres,

OMOITI Kodjo

Le Chef Canton

CHEF DE CANTON DE MANDOURI

DJAKPERE Tignoiti

Le Président du CVD,

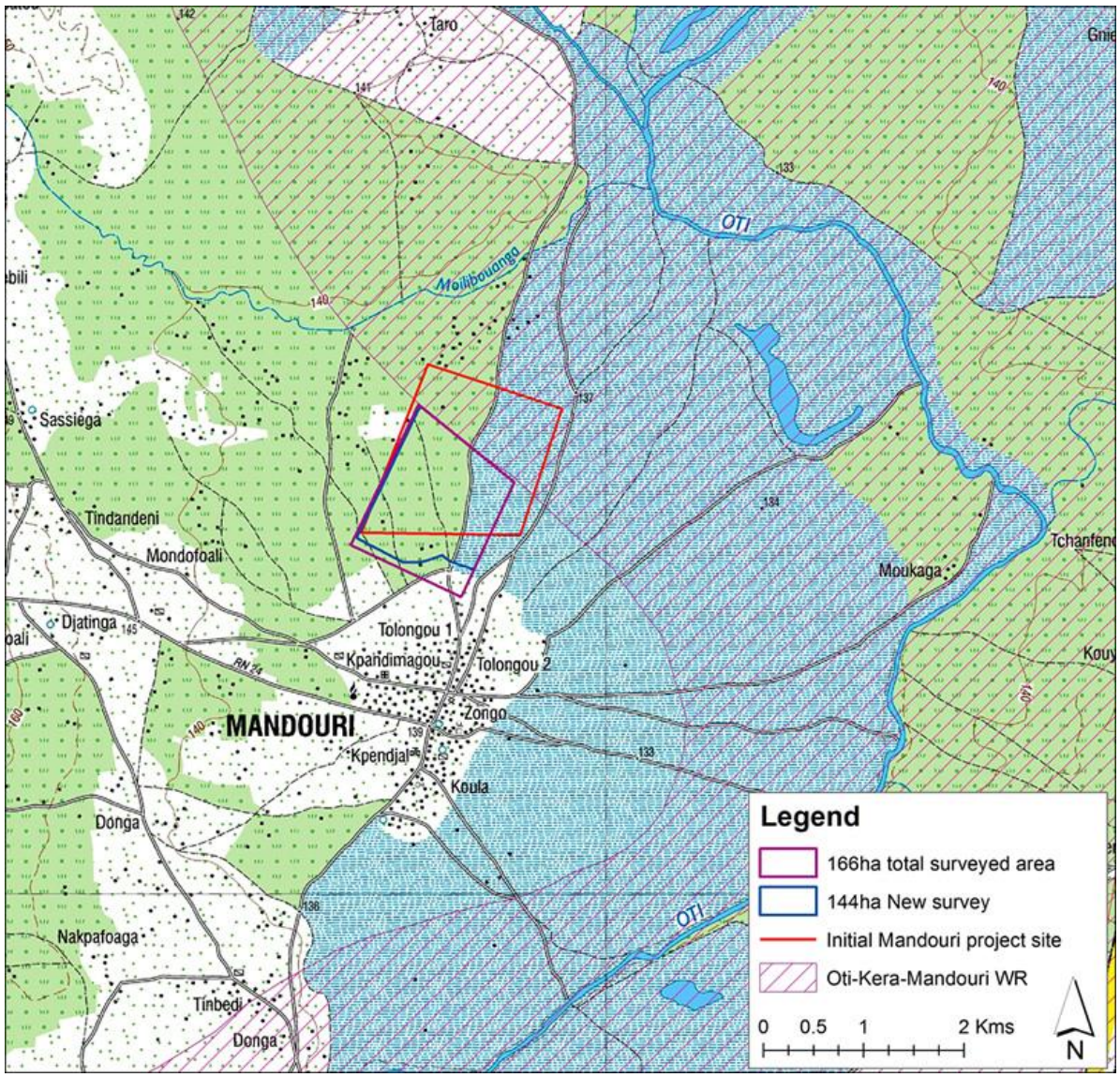
CVD LE PRESIDENT

KOMBATE Badi

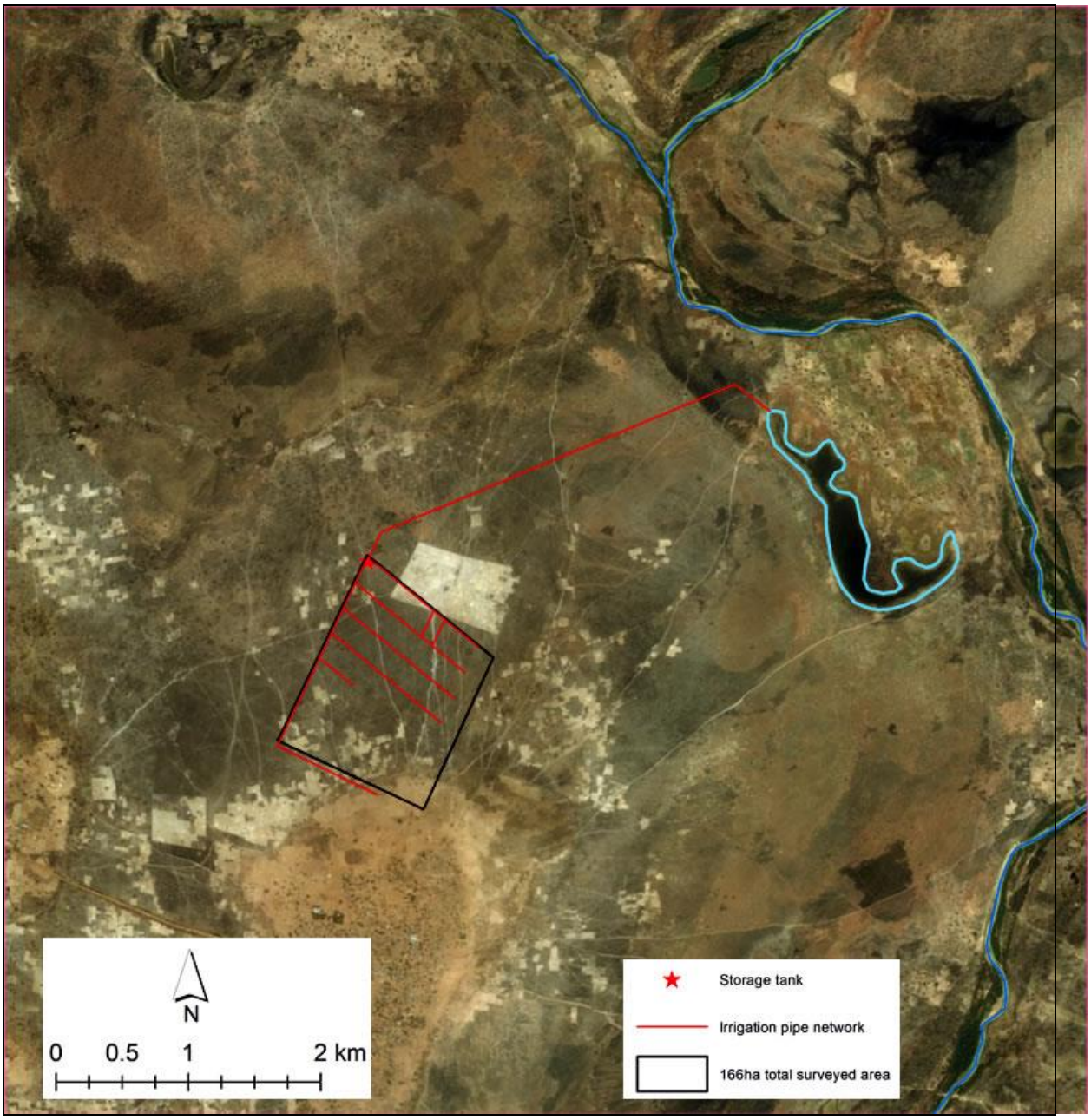
Le Président de Délégation spéciale,

BOUKARI Bassouniyé

Annex 6. Irrigation project technical design
a. New surveyed blocks on topographical map of Mandouri

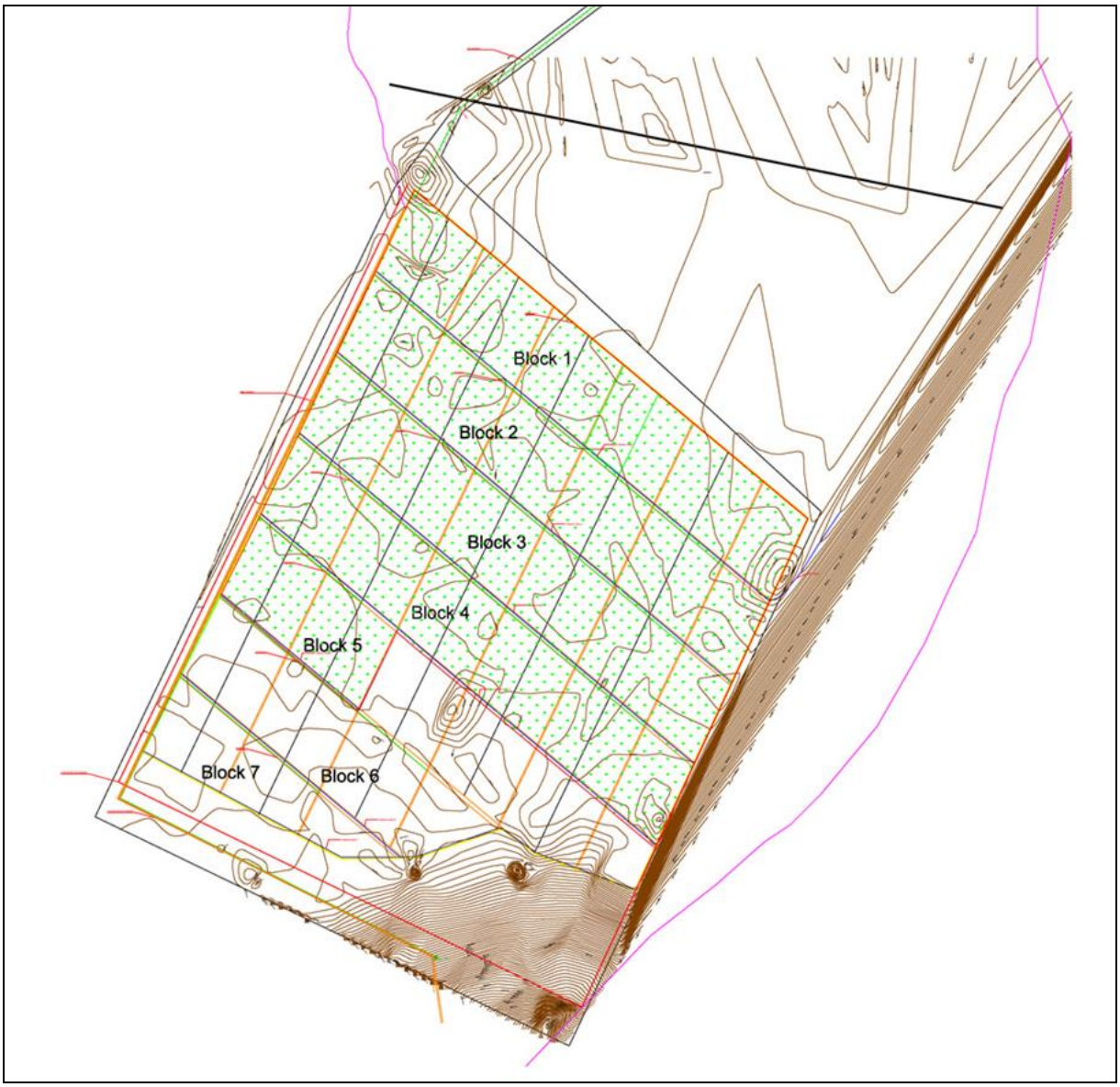


b. New survey from June 2017 showing water offtake from the ox-bow Lake



Mandouri town can be seen as the slightly elevated area to the south of the project site.

c. New survey June 2017 showing the 144ha irrigation blocks 1-7,



The system designed for Mandouri will be a combination of basin and furrow irrigation with water delivery to the blocks via GI and UPvc pipes[42]. The UPVC pipes will be buried, at a depth of 1 m and 1.2 m.

[42] For detailed information see separate report on irrigation design.

Annex 7. Key consultants to be hired for the project using Adaptation Fund resources

Note:
Key personnel will be competitively hired through placement of advertisements in relevant national and international media. To ensure required staff have the relevant competencies, each advertised position will be targeted to the listed brief tasks; with relevant educational and work experiences requirements specified, aimed at recruiting individuals who can perform the listed tasks.

Position Titles	***$/ Person Month****	***Estimated Person Months*** **	***Tasks to be performed***
FOR PROJECT MANAGEMENT			
Key personnel			
Project Coordinator	2,500	36	- Coordinate and manage the project team, and project activities in line with the project document; - Initiate and manage partnerships with other projects and programs; - Prepare periodic project activity plans and technical reports for internal and external reporting; - Consult regularly with ASCENT's president for the proper implementation of activities; - Manage consultants to be recruited under the project. - Contribute to the recruitment of experts; - Facilitate technical and managerial project meetings and prepare reports of these meetings; - Prepare TORs for services and expert for services to be outsourced; - Provide technical control of the results produced by the experts and other providers; - Provide periodic monitoring and evaluation.
Environment and Social Safeguards Officer	2,000	36	- Oversee environmental awareness and climate change mainstreaming in the project. - Conducting field visits and supporting in community consultation on environmental and social issues - Assisting in assessment of environmental and social safeguard issues in project activities; - Formulation of risk assessment and management plans - Implementation of Environmental and Social Management Plan (ESMP) - Development of Integrated Agricultural Inputs' Management Plans (fertilizers, invasive species, pests)
M&E and Learning Expert	2,000	36	- Supervise regular data collection through implementing partners and ensure quality of the data by random verifications and validations; - To record, manage and preserve monitoring and evaluation data in a safe and accessible way; - Analyse and discuss findings based on regular monitoring data; - Provide technical support on M&E and evidence-based recommendations to the relevant Project Manager and Partners. - Ensure that implementation of field activities adheres to project's monitoring and evaluation system; - Support partners in conducting baseline surveys; - Participate actively in program planning processes, budgeting, quality assurance and fundraising;
Financial Management Officer / Accountant	2,000	36	- Implement Finance and administrative systems of the Project - Preparation of periodic budgets and procurement plans; - Ensure payments are promptly remitted, received, processed and filed in an accessible manner - Facilitate preparation and carrying out of audits on the

Position Titles	*$/ Person Month**	*Estimated Person Months***	*Tasks to be performed*
			project as may be required by AF/BOAD; - Participate in meetings and to other activities relating to the project;
Water supply and irrigation engineer			- Assessment of future water demands, - Oversee agricultural activities and irrigation technologies, - cooperative farming and agricultural marketing, - training on water use and agronomic practices to the community-based organizations - to create conditions for promotion and expansion of income-generating activities - including marketing of products - rules of water **Required qualifications** An advanced degree in fields related to water resources management, and water supply schemes, notably as they relate to agricultural use. Experience in working at the community level is an essential requirement of the post.
Short-term consultants			
Agricultural Business development expert	2,000	6	- Develop an agricultural business plan for the project covering diversification in agriculture, Income generating activities (IGAs) and value addition of produce
Sociologist / Community worker	2,000	6	- Develop a Stakeholder Engagement Plan tackle issues including temporary land allocation during the irrigation block development phase, immigration issues, etc. - Develop a Restoration Plan for the production zones - Develop a Grievance Resolution Plan in of stray livestock from herders cause conflicts for instance, etc.
Procurement expert	2,000	6	- Devise and use fruitful sourcing strategies - Negotiate with external vendors to secure advantageous terms - Approve the ordering of necessary goods and services - Assist financial Management officer in coming up with procurement plans
International			
Justification for travel, if any:			
FOR TECHNICAL ASSISTANCE			
Local			
International			
Justification for travel, if any:			

REPUBLIQUE TOGOLAISE

TRAVAIL-LIBERTE-PATRIE

Ministère de l'Environnement et des Ressources Forestières

ADAPTATION FUND

N°-----007-----DNA/AF/tg

Letter of Endorsement by Government

Lomé, 16 avril, 2018

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 "Increasing the resilience of vulnerable communities in the agriculture sector of Mandouri in Northern Togo"

In my capacity as Designated Authority for the Adaptation Fund in Togo, I confirm that the above 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 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 Banque Ouest Africaine de Développement (BOAD) and executed by Direction de l'environnement du Togo.

Sincerely.

Thiyu Kohoga ESSOBIYOU
Adaptation Fund National Designated Authority