ADAPTATION FUND

AFB/PPRC.12/7
17 June 2013

Adaptation Fund Board
Project and Programme Review Committee
Twelfth Meeting
Bonn, 1-2 July 2013

Agenda item 4 d)

PROPOSAL FOR INDONESIA

I. 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 42 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 (OPG, Annex 3) 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. In its 17th 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.

6. 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.

7. 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.

8. The following project concept titled "Adapting to Climate Change for Improved Food Security in West Nusa Tenggara Province" was submitted for Indonesia by the World Food

Programme (WFP), which is a Multilateral Implementing Entity of the Fund. This is the first submission of the project concept. It was received by the secretariat in time to be considered in the 21st Adaptation Fund Board meeting. The secretariat carried out a technical review of the project proposal, assigned it the diary number IDN/MIE/Food/2013/1, and completed a review sheet.

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

10. The secretariat is submitting to the Project and Programme Review Committee 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.

Project Summary

Indonesia – Adapting to Climate Change for Improved Food Security in West Nusa Tenggara Province

Implementing Entity: WFP

Programme Execution Cost: USD 520,125.00
Programme Total Cost: USD 5,520,125.00
Implementing Fee: USD 469,210.00
Financing Requested: USD 5,989,335.00

Programme Background and Context:

The overall objective of the proposed project is to secure community livelihoods and food security against climate change-induced rainfall variability leading to more intense and frequent climate events. The project, focusing on Lombok Island's Dodokan watershed, is planning to target up to 20,000 households and hundreds of community, local and national officials.

The project would aim to improve institutional capacity at village, district, and province level in developing climate-sensitive integrated watershed management plans, involving multi stakeholders. It would also build climate resilient livelihoods of rain-dependent farming households and develop alternative livelihoods in the upstream and downstream areas. The project would plan to deliver outputs on the ground that include increased local availability of food as well as its accessibility, livelihoods that could withstand current and future climate risks, more information on risks and adaptive strategies, better connectivity to early warning and risk forecasting and a more efficient agriculture extension service informed by climate change.

Component 1: Improving knowledge and institutional capacity of local and national governments to develop and implement integrated land and water resource management under conditions of climate stress (USD 1,200,000)

Component 1 aims to increase the capacity of local and provincial governments in developing knowledge, capacities, and plans for climate-sensitive, integrated watershed management, with involvement at the local level of community leaders, farmer organizations and other user groups. It also seeks to improve the quantity and quality of resource transfers from national to local governments for supporting climate adaptation. Five outputs are proposed: 1) Assessing climate risks of the Dodokan watershed under different land use scenarios and developing options for improving the management of land and water taking climate into account; 2) Training community members, farmer organizations, extension workers, and local government officers at village and district levels and mobilizing them to design, implement and monitor local climate adaptation plans; 3) Integrating local food security and adaptation plans with district and provincial development plans, and developing a master plan for the Dodokan Watershed; 4) Designing, implementing and maintaining an early warning system for climate-induced disasters in target sub-districts; and 5) Sharing lessons learned from community and local experience and using them for refining and prioritizing provincial and national climate change adaptation actions.

Component 2: Building climate resilient livelihoods of rain-dependent farming households in the upstream and downstream areas of Dodokan watershed, covering up to 20,000 households (USD 3,800,000)

Component 2 would aim at identifying and promoting specific economic activities based on technical characteristics of the watershed, social characteristics of the community, and resilience to climate change, that minimize the dependency on forests, with a focus on improving agricultural productivity and diversifying rural incomes. Five outputs are proposed: 1) Improving crop management and animal husbandry practices to adapt to new climate risks; 2) Increasing capacity of community in using climate information for coping with extreme climate events; 3) Providing off-season income opportunities for vulnerable groups in the upstream and downstream areas of Dodokan watershed through building physical and natural assets (through food and cash for work; 4) Promoting climate-resilient alternate income sources for women and disadvantaged groups; and 5) Establishing community based information centers.

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: REGULAR PROJECT

Country/Region: **Indonesia**
Project Title: **Adapting to Climate Change for Improved Food Security in West Nusa Tenggara Province**
AF Project ID: **IDN/MIE/Food/2013/1**
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): **5,989,335**
Regular Project Concept Approval Date: **n/a**
Anticipated Submission of final RP document (if applicable): **n/a**
Reviewer and contact person: **Mikko Ollikainen**
Co-reviewer(s): **Jean-Marc Sinnassamy**
NIE/MIE Contact Person: **Chandra Panjiwibowo**

Review Criteria	Questions	Comments on 16 May 2013	Comments on 4 June 2013
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?	Requires clarification and likely, modification. The proposal concentrates on improving agriculture-based food security in the Dodokan watershed in Lombok, Indonesia. As is explained in the proposal, forests in the watershed have been seriously degraded due to illegal activities and agriculture encroachment. Climate change would add a new layer of challenges to the underlying situation. The proposal suggests two categories of activities to address the challenge: 1) improving knowledge and institutional capacity, and 2) building climate resilient livelihoods. There are two reasons why the set of suggested activities does not appear suitable for Adaptation Fund financing. Firstly, the proposal does not comprehensively address the underlying drivers that have caused the degradation of land and increased the vulnerability of the population to climate change. The proposal does not explain how it would tackle the existing problems of deforestation and land degradation, and if that is not done, the sustainability of the currently proposed activities would be seriously undermined. Secondly, the proposal is very heavy on development of information, knowledge and methodologies, capacity building, and planning, and it does not include many concrete outputs. Therefore, the proposal does not appear to represent	**CR1:** Not adequately addressed. The proposal has some activities related to improved crop management practices and agroforestry but those activities seem to focus at the farm/settlement level and it is not clear how they would be coordinated at the higher geographic level. The proposal refers to past and on-going government efforts outside the scope of the project to reforest degraded slopes (p. 28) and it alludes that such activities would be sufficient to halt deforestation and degradation. As the net change of forest cover in the Dodokan watershed during 1995-2010 has been negative however (p. 7), it is unlikely that reforestation activities and livelihoods development are sufficient to reverse the negative trends in catchment management. As the forest encroachment activities that would undermine the project outcomes are illegal (p. 11), the approach to tackling the issue should be more serious, and consider more engaging ways to protect the forests. A more detailed explanation would be needed of the barriers to halt deforestation in the past and how the proposed project and any external interventions would be able to sustainably overcome those barriers. In other areas, law enforcement and community commitment to forest protection have been found useful.

		concrete adaptation activities, as would be required for it to fulfil Adaptation Fund's mandate. In addition to these overarching design issues, the proposal has a sub-component for training executing entity staff and other national level stakeholders, which does not appear connected to the overall objective to the project, and therefore, does not appear to be justified. **CR1:** Please reconsider the project design from the point of view of addressing the underlying drivers of deforestation and land degradation, as well as necessary actions to tackle illicit practices. **CR2:** Please reconsider the project design from the point of view of producing concrete (tangible and visible) adaptation outputs. **CR3:** Please reconsider the output 1.5 which does not seem to directly contribute to the project objective and as such cannot be considered justified. **CR4:** Please explain how the problem tree on p. 10 (figure 15) was developed and whether it has been previously published.	**CR2:** Not adequately addressed. Despite a change to move US$ 200,000 from Component 1 to Component 2 since the previous version of the proposal, the proposed design is still very heavy on development of information, knowledge and methodologies, capacity building, and planning, and it does not include many concrete outputs. Output 2.3 is the only output that is clearly concrete but the other outputs are either clearly not concrete or it is not possible to conclude based on the anticipated expected results how concrete they are. The proposal should shift its focus to include and better illustrate visible and tangible adaptation activities. While the results framework is not reviewed as part of a project concept review, it is noted that some indicators in the current concept measure activities and not results. **CR3:** Not fully addressed: while some contents of the output 1.5 have been omitted, an activity to train national level government officers, which does not contribute to the project objective has been simply moved to be under another output (1.6 renamed 1.5) and should be justified or removed. **CR4:** Addressed.

	3. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations?	The proposed project could produce some benefits in these areas but those benefits would likely be short-lived if the underlying drivers of watershed degradation are not addressed. In particular, it is not clear how the proposed outputs would produce the listed environmental benefits, and if those do not materialize, the listed social and economic benefits would be at peril, too. **CR5:** In the revised proposal, please elaborate on how the proposed outputs would be adequate to produce environmental benefits and improve ecosystem services for better soils and better yields, and long term effects on the agricultural productivity. It is not clear who among the communities, apart from women, constitute vulnerable groups (despite e.g. reference to “vulnerable villages” under output 2.5). **CR6:** In the revised version, please explain which communities or groups are vulnerable, and how they are identified.	**CR5:** The revised proposal still does not provide enough information to assess the adequacy of the scope of the proposed interventions to address the landscape scale problems. The proposed activities seem diverse but it is not clear whether they would together form a coherent design of adequate scale that could address the watershed level issues. For some activities, it is not clear whether the suggested budget would be adequate, e.g. US$ 200,000 for an early warning system. Also the way the project includes measures to tackle deforestation and degradation, or links to activities outside of the project to do so (CR1) is not well elaborated. **CR6:** Addressed.

	4. Is the project / programme cost effective?	Unlikely. As mentioned above, the project design does not seem to adequately address the underlying anthropogenic drivers of vulnerability. The proposal explains (p. 22) that it would "focus only on those additional actions required to address climate change-induced risks and the additional capacity needs to reduce vulnerabilities associated with those risks". It is unlikely that excluding consideration of non-climatic drivers of vulnerability would lead to a viable project design. The proposed project duration of three years is considered very ambitious. **CR7:** Please explain why the selected project approach and general design was prioritized among other adaptation issues in the country and in the province. **CR8:** In the revised proposal, please ensure the coherence of the components and their various activities. **CR9:** In the revised proposal, please explain why the project duration of three years was chosen, and confirm whether it is feasible.	**CR7:** Addressed at the macro level. While issues on project scope and content (CR1, CR2) remain unresolved, the project design process has considered other approaches, though at the general level. **CR8:** Not addressed. As noted above, the project design still does not represent a coherent approach to climate change adaptation at the watershed scale. The project reasoning should be considerably strengthened, with a strategic analysis of drivers and problems, and the justification of choices that are made. **CR9:** Mostly addressed. The project duration is ambitious and may need to be reconsidered with a more comprehensive and coherent design.

	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?	The proposal refers to national climate change action plans. It does not relate to poverty reduction or sectoral strategies and plans, e.g. agriculture, the main livelihood proposed to be tackled by the project. **CR10:** Please explain how the proposed project would be in line with 1) agricultural and forest management related sector policies and strategies, as well as 2) land tenure and 3) poverty reduction policies and strategies. The proposal aims at contributing to the sub-national development plans at the provincial, district and watershed level but it does not clearly explain what plans currently exist and which barriers have prevented mainstreaming of adaptation concerns into them so far, and what the proposal would do to overcome those barriers. **CR11:** Please explain what sub-national development plans relevant to the proposed project currently exist and which barriers have prevented mainstreaming adaptation concerns into them so far, and what the project would do to overcome those barriers.	**CR10:** Addressed. The proposal explains that the policies and strategies in those sectors have been "captured and integrated" into the National Action Plan on Climate Change Adaptation (RAN-API). **CR11:** Addressed.
	6. Does the project / programme meet the relevant national technical standards, where applicable?	Relevant national technical standards seem to have been identified, and compliance stated.	

	7. Is there duplication of project / programme with other funding sources?	Donor funded activities have been broadly outlined. The proposal refers to provincial and district governments putting in place programmes to address land-use related issues and local governments promoting more sustainable farming practices (p. 14). However, these are said not to be sufficient. **CR12:** In the revised proposal, please elaborate what government programmes relevant for the sectors of the proposed project are under implementation in the NTB Province and Dodokan watershed, and how the proposed project would not duplicate their activities but build on them with synergies.	**CR12:** Addressed from a non-duplication point of view. However, concerns remain (CR1) as to whether the proposed project in its current form and the government interventions are together sufficient to address the problems of deforestation and degradation.

	8. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	The proposed project has a component on improving knowledge and institutional capacity of local and national governments. As mentioned above, the overall share of non-concrete activities seems excessive from the point of view of Adaptation Fund's mandate, and a big proportion of those activities is in Component 1. Regarding regular climate forecasts that are already being produced, as well as the dynamic cropping calendar, the proposal mentions (p. 16) that their dissemination is weak but does not analyse the barriers. Further, the proposal suggests (p. 17) to include "*discussions with relevant stakeholders […] to identify the institutional barriers and challenges for adoption*" as a project activity. Such important community consultations should not be delegated into project implementation phase, as they would likely produce information that would inform the project design. **CR13:** In the revised proposal, please explain which factors have led to weak dissemination and uptake of climate data, and how the proposed project activities would be the right ones to overcome such barriers. In the section which deals with knowledge management, the proposal reads: "WFP will take the lead in all activities related to monitoring, evaluation and knowledge management". While specific project	**CR13:** Addressed.

		institutional arrangements are not a subject of review at the concept stage, please note that M&E activities include both the actual on-the-ground monitoring which should be carried out as part of the execution function, and supervision of M&E which is part of the implementation function. If WFP is planning to take on execution duties, the Adaptation Fund Board decision B.17/17 on capping execution costs at 1.5% of project budget would apply.	
	9. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations?	Yes, the project design process has included consultation that is adequate for the concept stage.	
	10. Is the requested financing justified on the basis of full cost of adaptation reasoning?	Requires clarification. Though many of the activities, taken separately, could be seen as promoting resilience, as mentioned above it is unclear whether the project could help solve the underlying anthropogenic factors that have rendered communities more vulnerable to climate change. **CR14:** In the revised proposal please revisit the full cost of adaptation justification, and ensure that the project will have the necessary and robust activities that ensure meeting the stated objectives with the requested funds.	**CR14:** Not addressed. As explained above, the proposal does not seem to include all the necessary activities, organized in a coherent design that would meet the full cost of adaptation justification.

	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?	Questionable. As observed above, the project is designed to focus at adaptation issues mainly at the watershed level but the proposed activities may not include the necessary measures to influence practices outside of farms, such as deforestation and land degradation. Also, as observed above, it is not clear what the barriers at the planning and enforcement level have been. In the sustainability section, the institutional and financial arrangements for the maintenance of the project assets have not been elaborated, apart from the community centres. **CR15:** In the revised proposal, please elaborate through which kind of sustainable institutional arrangements and with which kind of sustainable financing the assets proposed to be developed through the process would be maintained after the project's end.	**CR15:** Not fully addressed. While the revised proposal attempts to address sustainability of the project outputs individually, the explanation for the sustainability mechanism for each activity is not aligned with the description of those activities earlier on in the proposal. Further, rationale for sustainability of the activities at the farm / household level should be strengthened.
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	Yes.	

	project/programme budget before the fee?		
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	Yes. While specific project institutional arrangements are not a subject of review at the concept stage, it is observed that the proposal makes references to WFP possibly taking some execution functions. Please note that if WFP would take on execution duties, the Adaptation Fund Board decision B.17/17 on capping execution costs at 1.5% of project budget would apply.	
Eligibility of NIE/MIE	4. Is the project/programme submitted through an eligible NIE/MIE that has been accredited by the Board?	Yes.	
Implementation Arrangement	1. Is there adequate arrangement for project / programme management?	(n/a)	
	2. Are there measures for financial and project/programme risk management?	(n/a)	
	3. Is a budget on the Implementing Entity Management Fee use included?	(n/a)	
Eligibility of NIE/MIE	4. Is an explanation and a breakdown of the execution costs included?	(n/a)	

Implementation Arrangement	5. Is a detailed budget including budget notes included?	(n/a)	
	6. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators?	(n/a)	
	7. 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?	(n/a)	
	8. 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?	(n/a)	
	9. Is a disbursement schedule with time-bound milestones included?	(n/a)	

Technical Summary	The overall objective of the proposed project is to secure community livelihoods and food security against climate change-induced rainfall variability leading to more intense and frequent climate events. The project is planning to target up to 20,000 households and hundreds of community, local and national officials. The project would aim to improve institutional capacity at village, district, and province level in developing climate-sensitive integrated watershed management plans, involving multi stakeholders. It would also build climate resilient livelihoods of rain-dependent farming households and develop alternative livelihoods in the

	upstream and downstream areas. The project would plan to deliver outputs on the ground that include increased local availability of food as well as its accessibility, livelihoods that could withstand current and future climate risks, more information on risks and adaptive strategies, better connectivity to early warning and risk forecasting and a more efficient agriculture extension service informed by climate change. This is the first submission of the project concept. The initial technical review found that the proposal had gone through an extensive preparation process and had several merits. However, the focus and scope of the proposed project in its form did not lend themselves well to Adaptation Fund financing, particularly, as the non-climatic anthropogenic drivers of vulnerability had not been addressed, and as most of the activities did not represent concrete adaptation activities as required by the Fund's mandate. The initial technical review made the following clarification requests: **CR1:** Please reconsider the project design from the point of view of addressing the underlying drivers of deforestation and land degradation, as well as necessary actions to tackle illicit practices. **CR2:** Please reconsider the project design from the point of view of producing concrete (tangible and visible) adaptation outputs. **CR3:** Please reconsider the output 1.5 which does not seem to directly contribute to the project objective and as such cannot be considered justified. **CR4:** Please explain how the problem tree on p. 10 (figure 15) was developed and whether it has been previously published. **CR5:** In the revised proposal, please elaborate on how the proposed outputs would be adequate to produce environmental benefits and improve ecosystem services for better soils and better yields, and long term effects on the agricultural productivity. **CR6:** In the revised version, please explain which communities or groups are vulnerable, and how they are identified. **CR7:** Please explain why the selected project approach and general design was prioritized among other adaptation issues in the country and in the province. **CR8:** In the revised proposal, please ensure the coherence of the components and their various activities. **CR9:** In the revised proposal, please explain why a project duration of three years was chosen, and confirm whether it is feasible. **CR10:** Please explain how the proposed project would be in line with 1) agricultural and forest management related sector policies and strategies, as well as 2) land tenure and 3) poverty reduction policies and strategies. **CR11:** Please explain what sub-national development plans relevant to the proposed project currently exist and which barriers have prevented mainstreaming adaptation concerns into them so far, and what the project would do to overcome those barriers. **CR12:** In the revised proposal, please elaborate what government programmes relevant for the sectors of the proposed project are under implementation in the NTB Province and Dodokan watershed, and how the proposed project would not duplicate their activities but build on them with synergies.

	CR13: In the revised proposal, please explain which factors have led to weak dissemination and uptake of climate data, and how the proposed project activities would be the right ones to overcome such barriers. **CR14:** In the revised proposal please revisit the full cost of adaptation justification, and ensure that the project will have the necessary and robust activities that ensure meeting the stated objectives with the requested funds. **CR15:** In the revised proposal, please elaborate through which kind of sustainable institutional arrangements and with which kind of sustainable financing the assets proposed to be developed through the process would be maintained after the project's end. The final technical review finds that while the concept has improved since the initial version, there are still areas that would need to be addressed, especially related to coherence of the project design and to concreteness of the proposed outputs. A revised proposal should address the following issues: - The proposed activities seem diverse but it is not clear whether they would together form a coherent design of adequate scale that could address the watershed level issues and that would meet the full cost of adaptation justification. The project reasoning should be considerably strengthened, with a strategic analysis of drivers and problems, and the justification of choices that are made. - As the non-climatic landscape level problems include forest encroachment activities that would undermine the project outcomes and are illegal (p. 11), the approach to tackling the issue should be stronger, and consider more engaging ways to protect the forests. A more detailed explanation would be needed of the barriers to halt deforestation in the past and how the proposed project and any external interventions would be able to sustainably overcome those barriers. In other areas, law enforcement and community commitment to forest protection have been found useful. - The proposed design is very heavy on non-concrete activities, and a revised proposal should shift focus to include and better illustrate visible and tangible adaptation activities. - An activity to train national level government officers, which does not contribute to the project objective, should be justified or removed. - The explanation for the sustainability mechanism for each activity should be aligned with the description of those activities and the rationale for sustainability of the activities at the farm / household level should be strengthened.
Date:	5 June 2013

ADAPTATION FUND

DATE OF RECEIPT:

ADAPTATION FUND PROJECT/PROGRAMME ID:

(For Adaptation Fund Board Secretariat Use

PROJECT PROPOSAL

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	**Regular**
Country:	**Indonesia**
Title of Project/Programme:	**Adapting to Climate Change for Improved Food Security in West Nusa Tenggara Province**
Type of Implementing Entity:	**Multilateral Implementing Agency**
Implementing Entity:	**World Food Programme**
Executing Entities:	**Provincial Government of West Nusa Tenggara** **Indonesia Climate Change Trust Fund – National Development Planning Agency (ICCTF – BAPPENAS)**
Amount of Financing Requested:	**US$ 5,989,335 (over 3 years)**

PROJECT BACKGROUND AND CONTEXT:

West Nusa Tenggara (Nusa Tenggara Barat - NTB) is one of the poorest provinces in Indonesia with 18.63% of households considered very poor (BPS, 2012). NTB's Human Development Index (HDI) ranks 32 out of total 33 provinces in Indonesia. Indonesia's HDI as a whole is that of a middle-income country, while NTB's (at 64.66%) is that of a least developed country. According to UNDP (2002), NTB is the least developed province in Indonesia. It is also a priority province for the national development agenda (Master Plan of Acceleration of Indonesian Economic Development, or MP3EI), focused on food security and tourism.

Livelihood in NTB is overwhelmingly dependent on agriculture. More than 90% of income is derived from agriculture. And agriculture is still largely rain-fed and supported by poor technology and services.

Agricultural production is still highly dependent on natural resources. The ratio between rain-fed and irrigated areas is 1.0:2.5 (Crop and Horticultural Division of NTB Agriculture Office, 2012), and 60% of the irrigation facilities are estimated to be damaged (NTB Public Works Office, 2012). As a result, climate variability and extreme climatic events such as flooding and drought highly influence agricultural production and food security.

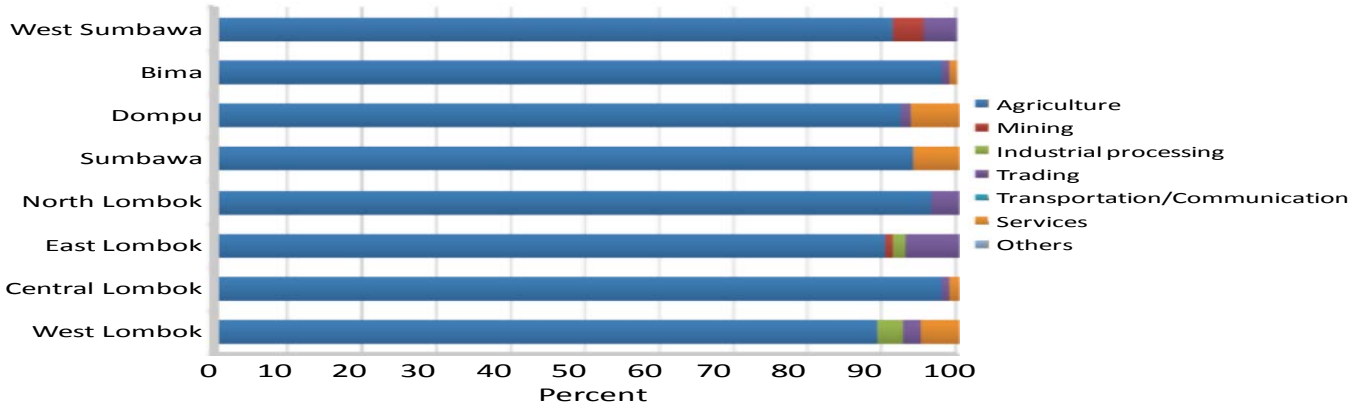


Figure 1. Source of income by sector in West Nusa Tenggara (NTB Provincial Government, 2011)

Climate variability in NTB, like other Indonesian regions with monsoonal rainfall, is to a significant degree influenced by the El Nino and Southern Oscillation (ENSO; Figure 2). El Nino corresponds with the delayed onset of the rainy season, longer dry spells and less rainfall, while La Nina corresponds to extreme wetness during rainy seasons (Boer and Subbiah, 2005; ADB and Bappenas, 1999 and Quinn et al., 1978).

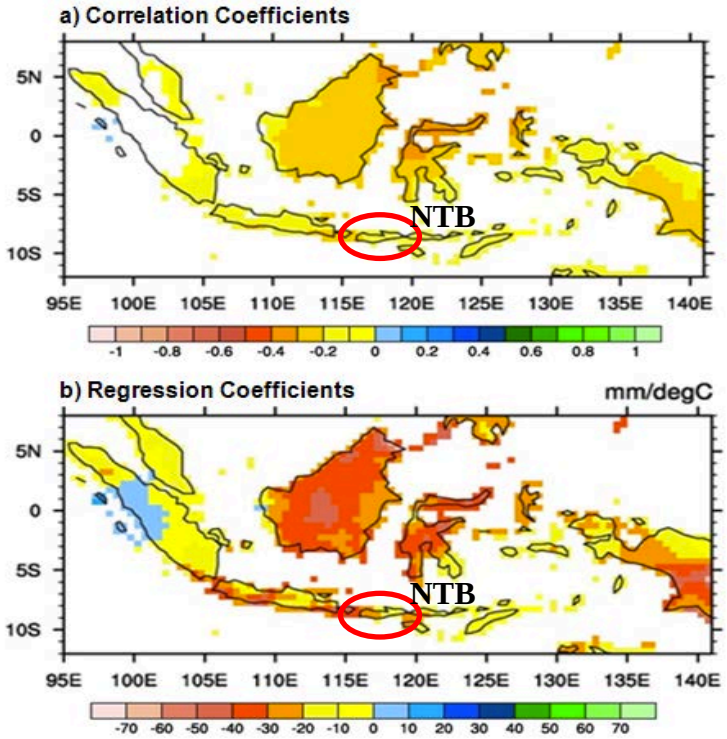


Figure 2. ENSO impacts on rainfall variability in Indonesia represented by significant a) correlations coefficients, and b) regression coefficients between rainfall and sea surface temperature anomaly in Nino-3.4 region (Source: National Action Plan on Climate Change Adaptation, 2012)

Some scientists, such as Timmerman *et al.* (1999) affirm that greenhouse forcing will result in "more frequent El Nino like conditions and stronger cold events (la Nina)". Recent analysis from NOAA (2007) showed that the top 10 El-Nino of this century mostly occurred after the 1970s. Therefore, the extreme regional weather and climate anomalies associated with El Niño may be exacerbated by increasingly higher temperatures (Hansen *et al.* 2006).

According to Indonesia's Second National Communication, NTB is projected to face severe impacts of climate change and is thus a priority province for climate change adaptation. Crop failure due to extreme climate events may become more frequent. The frequency of massive drought in the country increased over the last 40 years compared to the previous decade - from once in three or four years to once in two or three years (Boer and Subbiah, 2005). Similar observations have been made for floods. Based on historical data from 1989-2008, rice crop failures due to drought increased significantly during El Nino years, particularly in Lombok Tengah and Bima districts, while flood commonly occurred in Sumbawa and Bima districts (Figure 3 and 4).

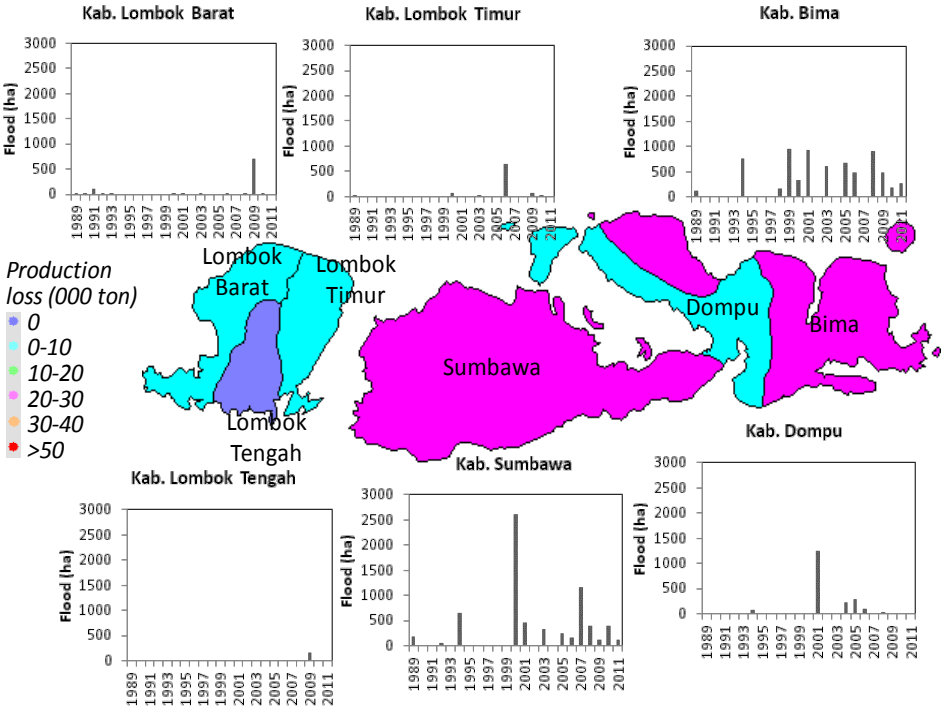


Figure 3. Affected area and estimated production loss due to floods in NTB (based on data from Directorate of Plant Protection, Ministry of Agriculture)

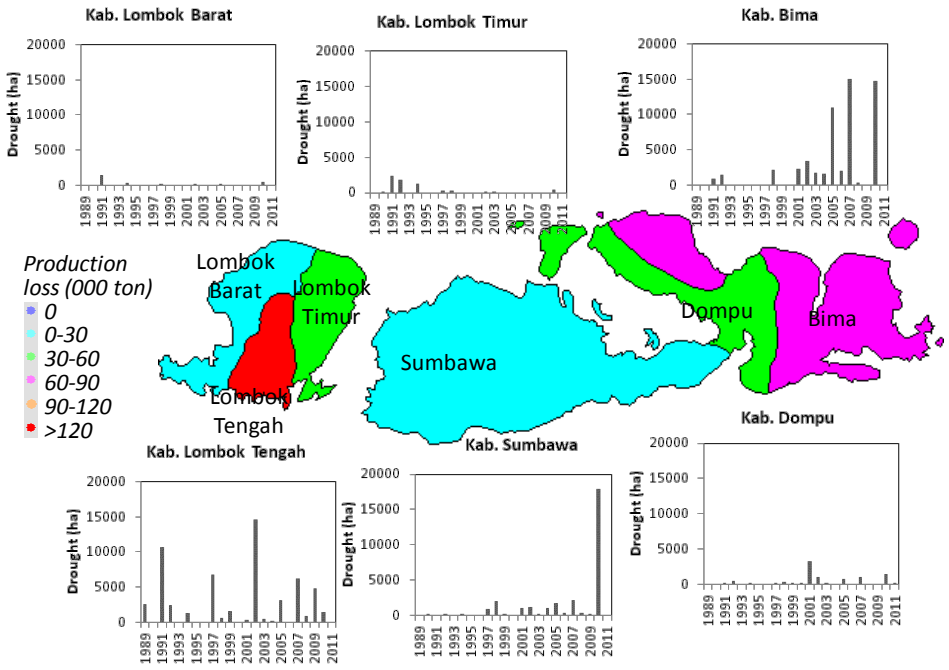
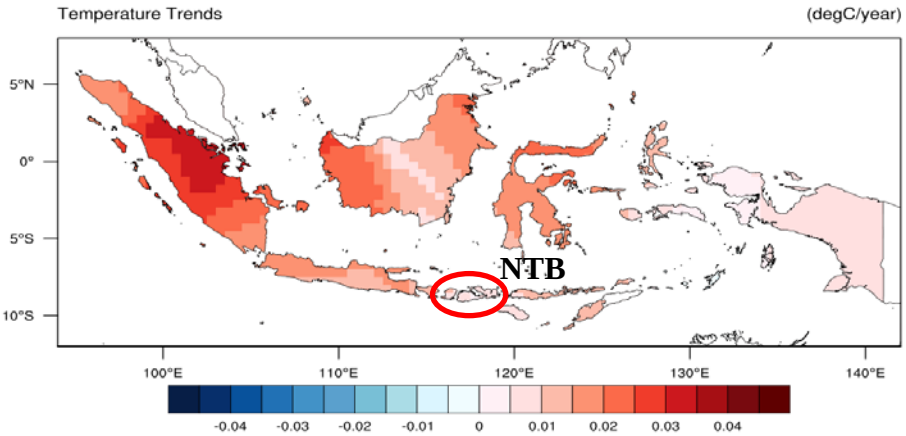


Figure 4. Affected area and estimated production loss due to drought in NTB (based on data from Directorate of Plant Protection, Ministry of Agriculture)

An increasing trend of mean temperature has already been observed in Indonesia. In the period between 1965 and 2009, the rate of mean temperature increase was about 0.016^{0}C per year (Figure 5). In NTB, in the period of between 1972 and 2010, the mean temperature has increased by about 0.5^{0}C (Figure 6). The US Global Change Research Program (USGCRP 2009) reported that a moderate increase in temperature would decrease the yields of rice, maize, wheat, sorghum, bean, cotton and peanuts. A study from the NTB Agriculture and Forestry Office (2007) indicated that a 0.5^{o}C increase in mean temperature would decrease cereals yields by about 0.5 ton/ha. Pollination and grain-set process begin to fail if crops are frequently exposed to temperature thresholds. Further, higher temperatures increase crop respiration rates and reduce carbon capture.

Figure 5. Trend of mean temperature increase in Indonesia during the period of 1965 – 2009 (CRU, 2008)



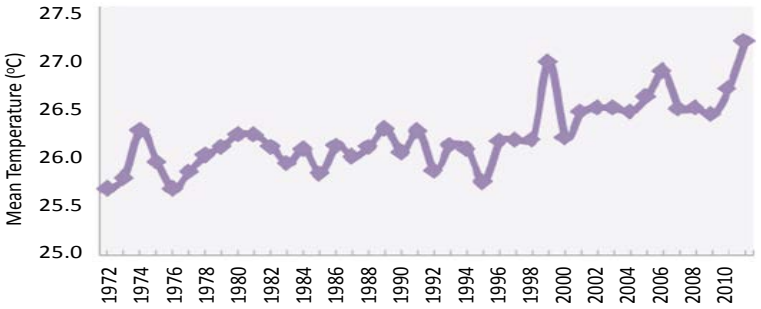


Figure 6. Trend of mean temperature increase during the period of 1972-2010 in NTB (Data from Bureau of Meteorology, Climatology and Geophysics)

Rainfall patterns of NTB have also changed. Based on a trend analysis of 355 rainfall stations from all over Indonesia (length of record of between 20-50 years, mostly started after year 1950s), in most regions of NTB, wet season rainfall (December-February) is higher, while rainfall in other seasons, particularly March-May and September-October is lower (Ministry of Environment, 2011). This partly explains why NTB is exposed to a higher risk of flood, particularly in Bima and Sumbawa (see Figure 3), simultaneously experiencing an increased frequency of drought in dry years, particularly in Bima, Lombok Tengah and Sumbawa (see Figure 4). The increasing rate of forest loss has also contributed significantly to increased flood risk.

As a number of studies show that the El-Niño phenomenon may be becoming more intense and its frequency relative to La Nina has increased since the 1970's (Latief and Keenlyside, 2009; Hansen et al., 2006)[1], it seems likely that delayed starts to the agricultural season will continue to be a problem, with the potential for increasing damages from a greater incidence and intensity of cyclones (high rainfall and strong winds). Based on the analysis of 28 General Circulation Models (GCMs) under different scenarios of Representative Concentration Pathways (RCP) from the CMIP5 database, rainfall in NTB is projected to increase in the rainy season (December-January-February) and decrease in the dry season (June-July-August) by 2025 and 2050. A study conducted by Ministry of Environment, GIZ, WWF and Provincial Government of West Nusa Tenggara (2010a)[2] suggested that water supply for agriculture in Lombok island was projected to decrease by about 28% due to the rainfall changes. The situation is exacerbated by poor irrigation facilities.

Due to its geographical condition, NTB is also vulnerable to sea level rise as the province consists of several small islands. A rise in sea level leads to diminishing arable lands, increasing flood risks and salinization/salt intrusion (Nicholls and Mimura, 1998). The Ministry of Environment/GIZ study projected that sea level in the Northern coast of Lombok, the biggest island in NTB would increase by about 35 –

[1] Latif M, Keenlyside NS (2009) El Nino/Southern Oscillation response to global warming PNAS December 8, 2009 vol. 106 no. 49 20578-20583

[2] Ministry of Environment, GIZ, WWF, and Provincial Government of NTB, 2011. Study on risk and adaptation to climate change in Lombok Island, West Nusa Tenggara Province: Water Resources (in Bahasa). Project Report, Ministry of Environment, Republic of Indonesia, Jakarta

40 cm in 2100 relative to the 2000 baseline. And rice, the staple crop, ranks among the most sensitive to salinity, especially in its reproductive phase (Maas and Grattan 1999).

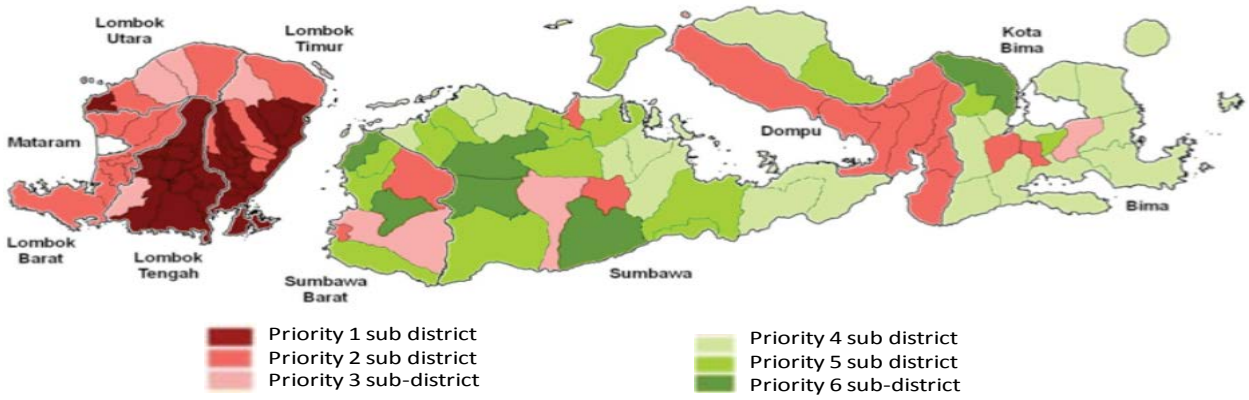


Figure 7. Food Security Vulnerability of sub-districts in 2010. Sub-districts with priority 1 are the most vulnerable (WFP and NTB Provincial Government, 2010) [3]

Sixty-four of 105 sub-districts in NTB are considered vulnerable to food insecurity. Figure 7 above shows that Lombok Island is the most vulnerable. There are four watersheds in Lombok Island (Figure 8) namely Dodokan, Jelateng, Menanga and Putih (Figure 8). Dodokan is the largest watershed covering three administrative areas, Central Lombok, West Lombok and Mataram City.

Figure 8. Lombok Island consists of 4 main watersheds: Dodokan, Jelateng, Menanga and Putih

[3] WFP, Food Security Agency and NTB Provincial Government, 2010. Food Security and Vulnerability Atlas of Nusa Tenggara Barat. World Food Programme, Jakarta.

Figure 9. Percentage of poor households in Lombok Island based on the Statistical Survey of 2006

Due to increasing population, high poverty rates, and the lack of alternative livelihoods, the Dodokan watershed is also exposed to high rates of deforestation. The number of poor households in the Dodokan ranges between 50-69%. In 2009 about 38% of the watershed was in critical condition (Figure 10)[4]. In the period between 1995 and 2010, about 17% of forested in Dodokan was converted to plantation agriculture (Suhartanto *et al.*, 2012[5]), resulting in increased soil erosion and sedimentation. It is obvious why the National Development Plan (2010-2014) highlights the Dodokan watershed as a priority for rehabilitation. (CR1)

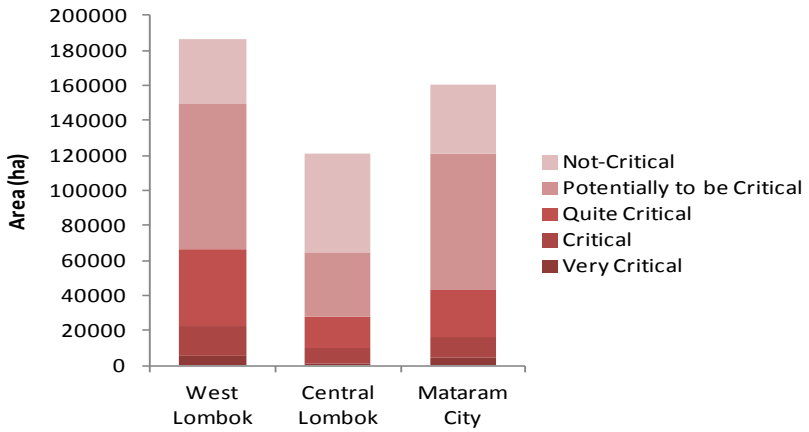
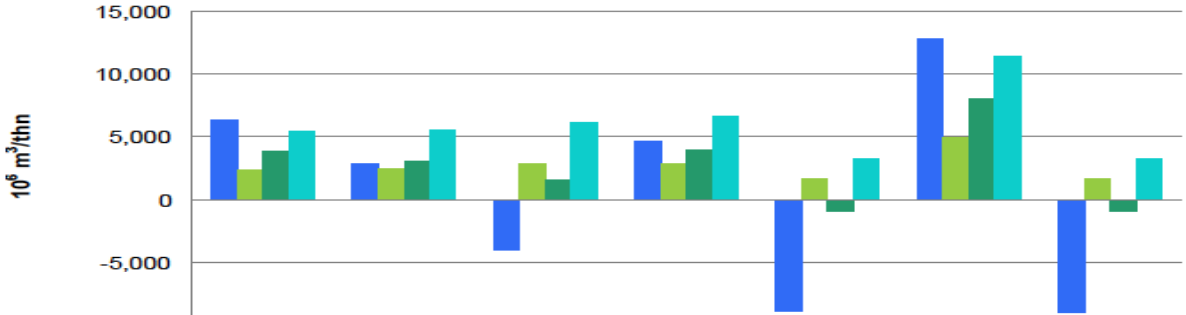


Figure 10. Level of land degradation in Dodokan Watershed in 2009 by districts (Source: Ministry of Forestry)

[4] http://www.dephut.go.id/index.php?q=id/node/4499

[5] Suhartanto, E., D. Priyantoro and Itratip. 2012. Studi penilaian kondisi das dan implikasinya terhadap fluktuasi debit sungai: studi kasus pada sub das jangkok pulau Lombok. Jurnal Teknik Pengairan, *3: 1-5*

In the three watersheds, at least 20 rivers flood during the wet season. Five are categorized as prone to heavy flooding, and another five are categorized as prone to flash flooding (Watershed Management Agency, 2010). During the dry season, however, there is water scarcity with an increasing number of waterless rivers, canals and ponds. Based on the Ministry of Environment/GIZ study, under three different climate change scenarios (SRES B1, A1B and A2), assuming no change in land use from current conditions, these watersheds, and Dodokan in particular, will face a serious water deficit. The water deficit in Dodokan is projected to be more than 8,000.10^6 m^3 $year^{-1}$ by 2080 (Figure 11). Figure 12 depicts the projection of declining water supply in Dodokan watershed due to climate change.



	1961-2007	SRB1 2030	SRB1 2080	SRA1B 2030	SRA1B 2080	SRA2 2030	SRA2 2080
Dodokan	6,269.10	2,859.75	-4,022.81	4,619.40	-8,877.14	12,757.38	-8,990.27
Jelateng	2,327.48	2,446.93	2,837.63	2,882.71	1,635.42	4,898.14	1,607.40
Menanga	3,883.46	3,063.60	1,545.72	3,942.99	-880.25	8,009.98	-936.79
Putih	5,409.79	5,539.38	6,133.51	6,578.50	3,266.89	11,384.20	3,200.09

Figure 11. Current water balance of the watersheds in Lombok Island and its projection in 2030 and 2080 based on climate change scenario IPCC SRES B1, A1B and A2 (Ministry of Environment, GIZ, WWF, and Provincial Government of NTB, 2010a).

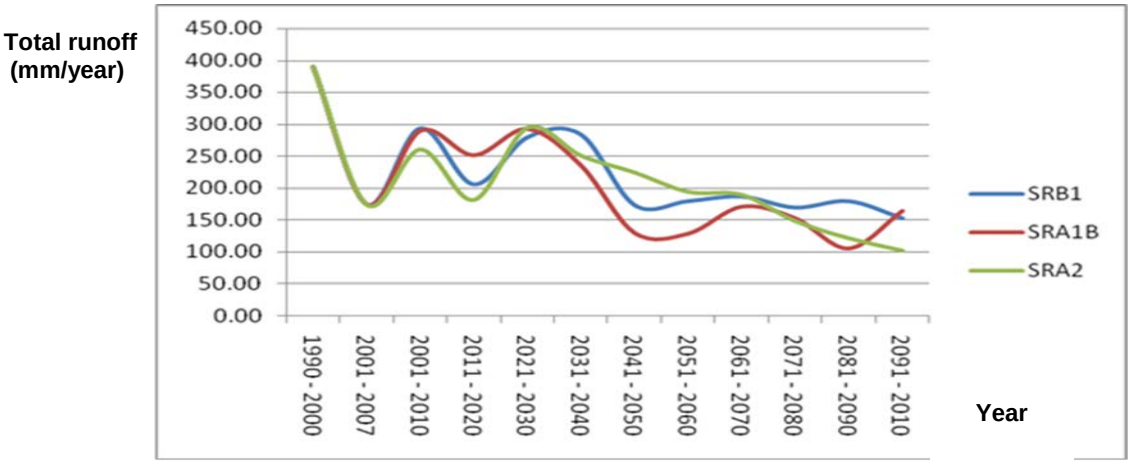


Figure 12. Projection of a declining water supply in Dodokan under 3 climate scenarios (Ministry of Environment, GIZ, WWF, and Provincial Government of NTB, 2010a)

A study conducted by AusAID-CSIRO Alliance, University of Mataram, and Government of NTB Province (2011) projects that climate change will increase the vulnerability of communities in NTB, particularly on Lombok Island, most especially in the Dodokan watershed, and particularly for those whose livelihoods rely on agriculture and fishing (Figure 13). The Ministry of Environment/GIZ study also found that agriculture in the Dodokan watershed is likely to be exposed to more severe and frequent flood, drought and strong winds. And according to the study, the risks of harvest failure due to the extreme climate events are particularly high in the downstream area of the Dodokan (Figure 14).

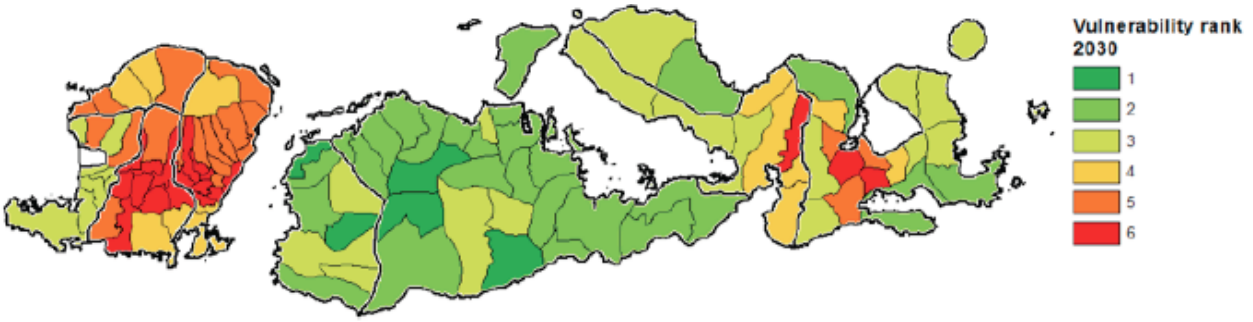


Figure 13. Projection of NTB food insecurity at sub-district level in 2030. Level 6 is the most vulnerable. Source: WFP, AUSAID, CSIRO Alliance, University of Mataram and NTB Provincial Government (2011)

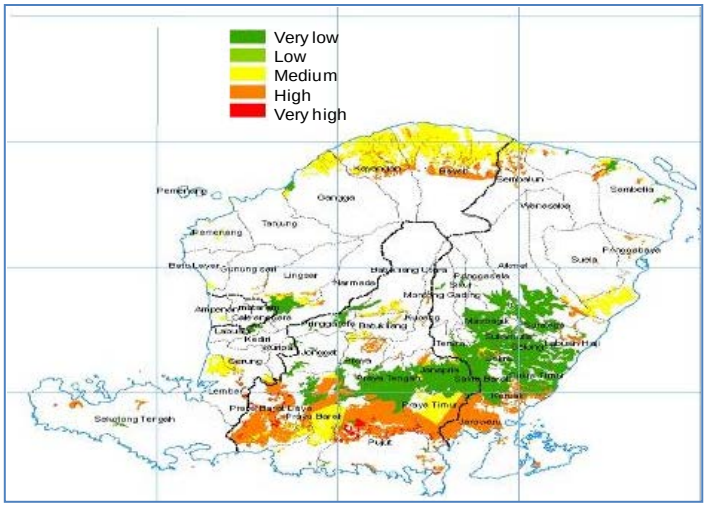


Figure 14. Level of Risk of harvest failure due to extreme climate events (Ministry of Environment, GIZ, WWF, and Provincial Government of NTB, 2010c)

PROJECT/PROGRAMME OBJECTIVES AND TARGET LOCATIONS:

There are two principal barriers to mitigating vulnerability to food security as a result of climate variability and climate change in NTB (see problem tree below). The first is that there are a limited number of programs directed to improve the capacity of agricultural systems in coping with climate risks. This is closely associated with the inability of policy makers to mainstream climate change awareness into risk reduction measures in short, medium and long term development plans. And that, in turn, is due to a limited understanding of climate change, limited availability of tools needed to assess climate change impacts and make informed decisions, and limited research and demonstration of what works and what does not. The second barrier is the low capacity of communities to manage climate risk. This is closely associated with the acceleration of environmental degradation due to poverty, lack of alternative livelihoods (CR1), and knowledge of how to effectively use climate information.

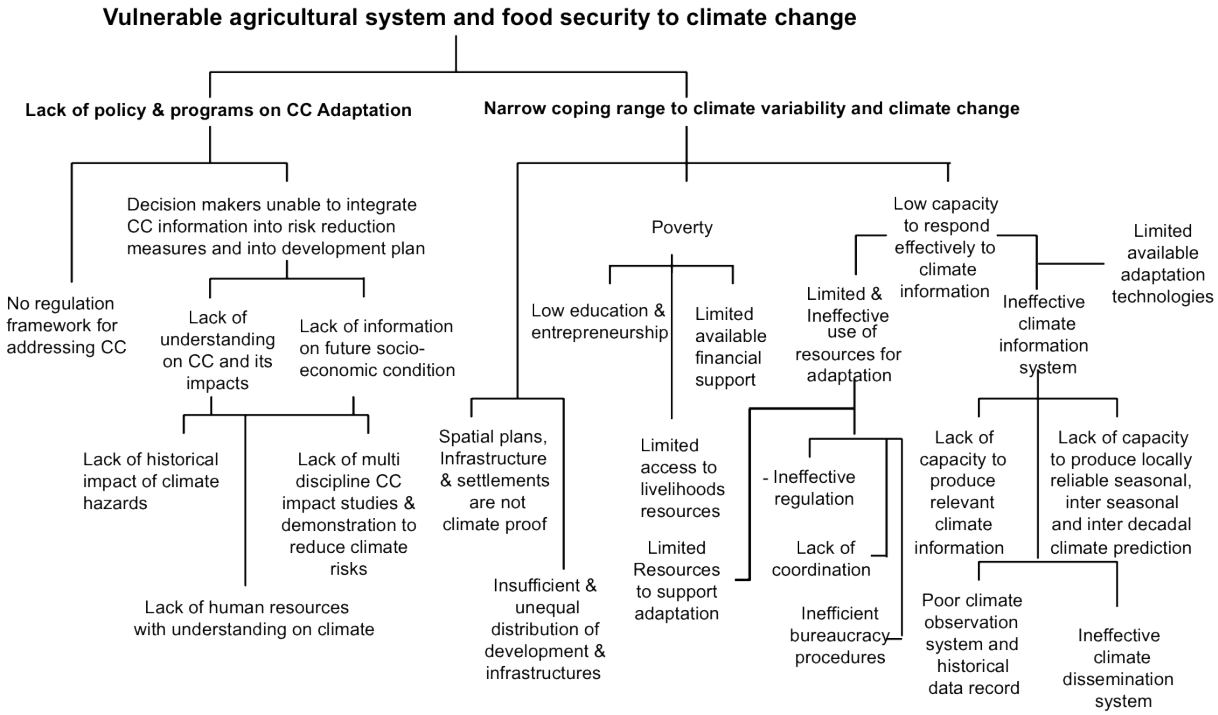


Figure 15. Barriers to Climate Adaptation in NTB (modified from Boer, 2007[6]) –CR4

The overall objective of the project is to secure community livelihoods and food security against climate change-induced rainfall variability leading to more intense and frequent climate events and support the Government's renewed, deliberate efforts to address the underlying anthropogenic drivers that have caused the degradation of land and increased the vulnerability of communities to climate change (CR1). The project will target up to 20,000 households and hundreds of community, local and national officials.

[6] Boer, Rizaldi. 2007. National Programmes on Climate Change Adaptation. UNDP Project Report. (CR4)

The project will aim to improve institutional capacity at village, district, and province level in developing climate-sensitive integrated watershed management plans, involving multi stakeholders. It will also build climate resilient livelihoods of rain-dependent farming households and develop alternative livelihoods in the upstream and downstream areas. The project will deliver tangible impacts on the ground that include increased local availability of food as well as its accessibility, improvement of livelihoods that can withstand current and future climate risks, demonstration of good practice which can be replicated in governments' larger efforts to tackle the underlying drivers of deforestation and land degradation in the area (CR1), more information on risks and adaptive strategies, better connectivity to early warning and risk forecasting, and a more efficient agriculture extension service informed by climate change.

The project targets the most vulnerable districts to food security and the impact of climate change and districts which are prioritized by the national and provincial governments, namely a number of districts within Lombok Island's Dodokan watershed, the largest and most vulnerable to more severe and erratic weather. Dodokan is the main source of drinking water for Mataram City and principal source of irrigation water for all surrounding districts. Official data show that the Dodokan water balance deficit during the last 10 years is the highest among all of Lombok's watersheds and that 55% of droughts occur in Dodokan. Also, as mentioned above, forests in the Dodokan watershed have been seriously degraded due to illegal activities and agriculture encroachment due to high poverty rates and the lack of alternative livelihoods (CR1). If current conditions continue and are exacerbated by climate change, water availability and food security will become insurmountable problems, perhaps forcing migration out of the area. Integrated efforts to restore and sustainably manage the watershed are crucial, and these must be informed by what is happening to the climate.

PROJECT / PROGRAM COMPONENTS AND FINANCING:

PROJECT COMPONENTS	EXPECTED CONCRETE OUTPUTS	EXPECTED OUTCOMES	AMOUNT (US$)
1. Improving knowledge and institutional capacity of local and national governments to develop and implement integrated land and water resource management under conditions of climate stress.	1.1. Climate risk of the Dodokan watershed system under different land use scenarios is assessed and options are developed for improving the management of land and water resources.	Increased capacity of local communities and governments, and increased support from national government, to develop and implement integrated watershed management and adaptation measures.	200,000(CR2)

	1.2. Community members, farmer organizations, extension workers, local government officers at village and district levels are trained and mobilized to design and monitor the implementation of local climate change adaptation plans (that also address gender specific issues and vulnerable groups)		300,000
	1.3. Local food security and adaptation plans are integrated with district and provincial development plans, and a climate-sensitive integrated Master Plan for the Dodokan watershed is developed.		250,000
	1.4. An early warning system for climate induced disasters in target sub-districts is designed, implemented, and maintained.		200,000
	1.5. Lessons learned from community and local experience are shared and used for refining and prioritizing provincial and national climate change adaptation actions (CR3)		250,000

2. Building climate resilient livelihoods of rain-dependent farming households in the upstream and downstream areas of Dodokan watershed, covering up to 20,000 households	2.1. Crop management and animal husbandry practices are improved to adapt to new climate risks	Diversified and strengthened livelihoods and sources of income for vulnerable farm and landless rural families to tackle the climatic and anthropogenic drivers of vulnerability (CR1), and enhanced community ability in using climate information for managing climate risks.	1,500,000 (CR2)
	2.2. Capacity of community in using climate information for coping with extreme climate events is enhanced.		200,000
	2.3. Off-season income opportunities for vulnerable groups in the upstream and downstream areas of Dodokan watershed are provided through building physical and natural assets (through food and cash for work)		1,500,000
	2.4. Climate-resilient alternate income sources for women and disadvantaged groups are promoted and implemented.		400,000
	2.5. Community based Information centers are established		200,000
Component 1			1,200,000(CR2)
Component 2			3,800,000(CR2)
Project/Program Execution cost <9.5%			520,125
Total Project/Program Cost			5,520,1254
Project/program Management Fee charged by the Implementing Entity 8.5%			469,210
Amount of Financing Requested			5,989,335

PROJECTED CALENDAR:

MILESTONES	EXPECTED DATES
Start of Project/Program Implementation	December, 2013
Mid-term Review (if planned)	April 2015
Project/Program Closing	November, 2016
Terminal Evaluation	February, 2016

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. *Describe the project / programme 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.*

The project has two components. The first component is designed to improve climate-related knowledge and institutional capacity at village, district, and provincial levels in developing and implementing integrated watershed management involving multi stakeholders and community participation, and at national level to increase capacity of key stakeholders to prioritize climate change adaptation. The second component seeks to build resilient livelihoods of vulnerable groups in the face of more unpredictable and damaging weather and to develop alternative livelihoods to assist Governments' broader efforts to address underlying drivers that have caused the degradation of land and increased the vulnerability of the community to climate change (CR1).

Overall, the project is designed to:

1. Improve water and land use management in the watershed to overcome uncertainty and severity of drought and floods
2. Develop community local and national capacity for using climate information to cope with extreme climate events
3. Address specific vulnerabilities faced by rain-dependent farmers and other vulnerable groups, and most particularly strategies to overcome dry season food and income insecurity for women
4. Introduce and promote means to develop more diversified incomes, again with a focus on women
5. Improve agriculture infrastructure for a more climate resilient food production system and advocate for behavioral change from unsustainable to sustainable land use practices (CR1).

6. Improve the quality of agriculture advice and extension, most especially by raising awareness on climate change and technical capacity to assist with adaptation design and implementation.

Component 1: Improving knowledge and institutional capacity of local and national governments to develop and implement integrated land and water resource management under conditions of climate stress.

Increasing numbers of people and livestock, particularly in steep, mountainous watersheds, along with unsustainable farming practices, are causing uncontrolled forest conversion and forest and land degradation. The cost of such degradation is manifested in eroded soil, reduced productivity, landslides, diminished water quality and quantity, and loss of biodiversity. Provincial and district governments are putting in place programs to address the situation, however the success of these will be compromised by more severe and erratic weather brought on by a changing climate.

Local governments are promoting more sustainable farming practices, but these will not be sufficient. Measures are needed to ensure that climate change is considered in local, district, provincial and national planning.

Component 1 aims to increase the capacity of local and provincial governments in developing knowledge, capacities, and plans for climate-sensitive, integrated watershed management, with involvement at the local level of community leaders, farmer organizations and other user groups. It also seeks to improve the quantity and quality of resource transfers from national to local governments for supporting climate adaptation. Five outputs are proposed:

Output 1.1: Climate risks of the Dodokan watershed under different land use scenarios are assessed and options are developed for improving the management of land and water taking climate into account.

The output will develop local, provincial and national understanding of current land use dynamics and impacts in the project area, and an understanding of what will happen in the future based on population and livelihood trends and climate change scenarios.

Specific activities under Output 1.1 include:

1. Synthesizing and identifying gaps in available studies on land use dynamics in the watershed system of Dodokan
2. Developing climate change scenarios for Dodokan using *Representative Concentration Pathways* (RCP), the recent scenario used by the 5th IPCC Assessment Report (*Moss et al.*, 2008, 2010)
3. Developing land use scenarios that may occur in the watershed under different climate scenarios (CR1)

4. Assessing current and future climate risks in Dodokan watershed under different land use scenarios
5. Identifying relevant options for improving land and water management in the watershed to cope with climate risks (CR1)
6. Raising awareness among relevant stakeholders and policy makers of climate risks assessments in the watershed, and the potential of options for improving land and water management (CR1)

Output 1.2: Community members, farmer organizations, extension workers, and local government officers at village and district levels are trained and mobilized to design, implement and monitor local climate adaptation plans (which also address gender specific issues and vulnerable groups)

Training will include a gender sensitivity analysis and a food security analysis so that decisions are influenced by the urgent need to address gaps in these areas.

Specific activities under Output 1.2 include:

1. Training and mobilization of community members, farmers organization, extension workers and local government
2. Development of a training module to help officials and communities assess local threats
3. Identification and design of local climate change adaptation plans

Output 1.3: Local Food security and adaptation plans are integrated with district and provincial development plans, and a Master Plan for the Dodokan Watershed is developed

In coping with extreme climate events, indigenous knowledge is valuable for capturing local conditions. Identification of such knowledge will be conducted through field observations, focus group discussions and interviews

Specific activities under Output 1.3 include:

1. Integration of local food security and climate adaptation plans into district and provincial plans
2. Design of a climate sensitive Master Plan for the Dodokan Watershed
3. Training for the provincial Climate Change Task force in planning and prioritizing adaptation programs under the Master Plan
4. Facilitating the Task Force to support local governments in adopting and integrating the Master Plan
5. Supporting local governments to integrate the Master Plan into their planning processes
6. Facilitating the Task Force to make budget allocations for prioritizing adaptation plans and to identify additional investment required

Output 1.4: An early warning system for climate-induced disasters in target sub-districts is designed, implemented and maintained.

An effective climate early warning system for coping with extreme climate events and managing future climate risks is needed. There is also a need to strengthen the institutional mechanism to disseminate and translate climate information into tactical, local strategies.

At national level BMKG has been providing regular climate forecasts, and the Ministry of Agriculture has developed a dynamic cropping calendar, and assigned BP2TP (Agricultural Research Agency) at local level to disseminate and utilize the cropping calendar. However, the dissemination system remains weak. Information from BMKG is still rarely applied to field activities. During the consultation process, it became apparent that the weaknesses were mostly caused by a confusing system of coordination and dissemination between the Meteorological Agency, Agriculture Agency, and the communities who are the users of information. Also, there were difficulties in translating climate forecast data into languages local farmers understand because of the limited capacity of agriculture extension workers. Finally, there was little understanding of indigenous wisdom, knowledge and practices (CR13).

It is therefore necessary to improve the accessibility and application of national data locally, and identify local wisdom for managing climate risks. The project will begin with field observations, focus group discussions and interviews. Individuals who show appreciable knowledge of climate change and adaptation will be selected for in-depth interviews in order for project staff to carry out a comprehensive analysis of the effectiveness and challenges of traditional coping strategies. These individuals will also be supported as champions for dissemination of information (CR13)

Overall, the improvement of capacity at local level to understand and use climate information aims to support national efforts to enhance the flow of information down to, and back up from, communities. Currently, the Ministry of Environment is developing an online system for monitoring vulnerability and risks of climate change, taking its analysis from what is happening locally. (CR13)

Specific activities under this Output 1.4 include:

1. Evaluation of existing climate early warning information available for NTB province and development of an effective information and dissemination system (CR13)
2. Discussions with relevant stakeholders on the use of climate early warning systems and how to strengthen existing institutions (at all levels, down to the village and user groups) and means for utilizing information (CR13)
3. Facilitating local government to utilize climate information for early warning
4. Local dissemination of modes devised for flood and drought forecasting through local/ community radio programs (including through community based information centers established in Output 2.6)

5. Inclusion of climate change indicators into the provincial Food Security Monitoring Program in order to forecast climate-related production shortfalls and price shocks

(CR3) Output 1.5: Lessons learned from community and local experience are shared and used for refining and prioritizing provincial and national climate change adaptation actions.

The proposed project is expected to produce a number of lessons learned for replication in other areas and nationally.

Specific activities under Output 1.5 include:

1. Documentation of process and outcomes from local experiences
2. Workshops with key stakeholders on climate change adaptation at national level
3. Workshops with key stakeholders on climate change adaptation at provincial level
4. Training national government officers and key stakeholders to conceptualize and design efficient adaptation projects. The training also aims to help key stakeholders interface with international climate change adaptation funding entities

Component 2: Building climate resilient livelihoods of rain-dependent farming households in the upstream and downstream areas of Dodokan watershed, covering up to 20,000 households

Farmers in the project area are highly dependent on exploiting forest resources, and they do so mostly in an unsustainable manner. This will become even more unsustainable in the face of climate change. As mentioned, the high rate of poverty and dearth of alternative livelihoods in the area are the principal underlying drivers of deforestation. ***It is necessary to identify and promote specific economic activities based on technical characteristics of the watershed, social characteristics of the community, and resilience to climate change, that minimize the dependency on forests, with a focus on improving agricultural productivity and diversifying rural incomes*** Five outputs are proposed:(CR1)

Output 2.1: Crop management and animal husbandry practices are improved to adapt to new climate risks

Activities will support communities to take measures to make subsistence farming more resilient to extreme climate conditions. Implementation will be undertaken jointly by communities, extension services and CSOs to build trust and understanding and stimulate exchange and the blending of traditional and modern knowledge and approaches to decision making.

Indicative activities include:

1. Improving access to and application of seasonal and short term weather forecasting information by farmer groups and community leaders to better decide on cropping calendars and water use in cooperation with BMKG and the Agriculture Agency
2. Extending weather forecasting information to farmer groups using community-based information centers (See Output 2.5), extension workers and volunteers through an iterative technology development process in which indigenous knowledge on climate and science based forecasts are integrated.
3. Establishing with BPTP and farmer groups community seed banks for climate resilient local varieties. For lowland areas the focus will be on drought resilience. For mountainous areas the focus will be on varieties that are resilient to strong winds and heavy rainfall. Maintaining a diversity of crops and crop varieties will enhance resilience to crop failure.
4. Improving land management for enhanced resilience to droughts and floods, including measures to increase the water holding capacity of drought prone soils, reduce erosion for flood prone areas, increase soil nutrients through crop residue recycling, and establish agroforestry systems in upper catchment areas
5. Conducting field trials for drought resistant food and cash crops (including perennials and fruits)
6. Introducing stall feeding and corralling to prevent free-grazing livestock from degrading forests and crops
7. Introducing improved fodder management techniques for drought periods

Output 2.2: Capacity of community in using climate information for coping with extreme climate events is increased

As depicted in Figure 13, one of the reasons for the persistent narrow coping range to extreme events and climate change is the low capacity of farmers to respond effectively to climate information and to take up available adaptation technologies. For example, at national level the Ministry of Agriculture has developed a dynamic crop calendar and this is available online. However its utilization by farmers is low (see Output 1.4 in response to CR13)

Specific activities under Output 2.2 include:

1. Establishing a technical team consisting of farmer groups and extension workers that will be responsible for translating and disseminating climate information into technical or operational actions. This activity is linked to Output 1.5.
2. Supporting the technical team to develop a climate field school (CFS) module that is site specific. The technical team is also expected to participate in the National CFS forum of the Ministry of Agriculture
3. Establishing a number of CFSs for vulnerable areas

Output 2.3: Off-season income opportunities for vulnerable groups in the upstream and downstream areas of Dodokan watershed are provided through building physical and natural assets (through food and cash for work).

Through food and cash for work, farmers will have opportunities to produce small scale agricultural and rural infrastructure assets that benefit their communities. The assets will be designed to strengthen resilience to withstand shocks and sustain livelihoods and food security. The distribution of food and cash for work will be carried out during the lean season when most rain dependent farmers lack of employment and income. The design of alternative income generating activities will consider the specific characteristics of the watershed landscape, socio-economic conditions and sustainability in the face of more erratic and severe weather.

Through these income opportunities, exploitation of forests will be reduced. Indeed, communities will come to depend on sustainable forest management as a source of income (CR1).

Identification of relevant income opportunities will be based on farmer choices through consultations and the activities identified in the Master Plan (Output 1.1.) An indicative set of activities might include the following:

1. Construction of hill-top ponds, community ponds, irrigation canals, check dams, feeder roads
2. Introduction of sustainable land and soil management techniques (hedgerows, contour drains, bunds) at household and settlement levels
3. Community-based agroforestry/ reforestation activities to protect catchments for drinking and irrigation water in home gardens and catchment areas and forest buffer zones to reduce forest encroachment (CR1).
4. Advocacy and training for behavioral change (CR1)

Output 2.4: Climate-resilient alternate income sources for women and disadvantaged groups are promoted

This output will promote economic diversification, helping rural communities to become less dependent on climate sensitive livelihoods and forest exploitation (CR1). It will focus on stimulating entrepreneurship among women and linking them with established and emerging private sector actors in the supply chain.

Indicative activities include:

1. Supporting agribusiness development through improved value chains for selected products which are less sensitive to climate change
2. Promoting improved post-harvest technologies

3. Supporting women through training provided via women's groups to access microcredit for investing in alternative sources of on- and off-farm income (in cooperation with providers of microcredit such as Bank NTT)
4. Training for selected user groups within each community to develop market-based produce
5. Development of women-led cooperatives for collective marketing of non-farm produce
6. Training for skilled employment in construction, administration, tourism, and handicrafts, allowing men and women to earn additional off-farm income.

Output 2.5: Community based information centers are established

The establishment of information centers in vulnerable villages will directly support the activities of Output 2.1 – 2.4 in increasing the capacity of farmers to cope with extreme events and climate change. Through information centers, farmers will have access to immediate and seasonal forecasts, price information, and best sustainable land use (CR1) and farming practices to cope with climate change.

B. *Describe how the project / program provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and groups within communities, including gender considerations*

Environmental benefits. Consultation during project concept design indicated that farmers and local officials attribute climate change (or at least the localized manifestations of environmental stress such as lack of irrigation water, crop loss and crop damage, reduced soil fertility) to a number of environmentally unsound practices, including:

- Deforestation, including forest fires, land clearing and encroachment
- Land use practices causing soil erosion
- Pollution of land and water

In order to respond to these concerns, activities under Outputs 2.1 and 2.5 will deliver a number of specific environmental benefits that include the following: (CR5)

1. Restoration of ecosystem integrity, provision of goods, improved micro-climate, improved soil structure, increased biodiversity, and improved quality and availability of ground water through the rehabilitation of degraded area in home gardens and catchment areas using community-based agroforestry/reforestation and through forest protection and conservation by creating income generating (agroforestry) within forest buffer zone to reduce encroachment.
2. Reduction of erosion, sedimentation, and siltation of anicuts and village reservoirs through the improvement of soil management techniques (hedgerows, contour drains, bunds) at household and settlement levels.
3. Water conservation, stream bank protection, improved water management and irrigation water efficiency through construction of hill-top ponds, community ponds, irrigation canals, and check dams. In combination with the activities under output 2.1, the above

environmental benefit can also be expected to increase agriculture productivity in the longer term. (CR1, CR5)

Currently women in the project area (and in Indonesia generally) still face serious inequalities in access to information, training, credit and, especially in the case of women-headed households, the flexibility to the house to work (UNICEF, 2011). Women manage about 75% of the farming in rice production and provide 40% of household food supplies from vegetable gardens. Increasing stress as a result of climate change will make their burden even more difficult.

The project will address climate change adaptation priorities for livelihoods, and target the most vulnerable communities. The project strategy has taken into account the physical and economic vulnerability of rain-dependent farm families. The NTB Food Security and Vulnerability Atlas (Figure 7) which comprises 9 indicators of food availability, food access, and food utilization, in combination with the *risk level of harvest failure due to extreme climate events* map from the study of Ministry of Environment/GIZ (Figure 10), have been used to identify the most vulnerable communities in the project area. (CR6)

Activities implemented to produce outputs particularly in Component 1 of the project will deliver a number of substantive **social benefits** such as the following:

1. Increased capacities of beneficiaries at all levels of the project to protect and manage natural assets
2. Increased food, nutrition and water security of rural communities
3. Increased women participation in generating income for family and decision making process
4. Community organization and social cohesion through stronger farmer organizations
5. Greater community empowerment through information, participatory planning and risk mapping
6. Established knowledge management activities and risk assessment at community level which can give rise to number of adaptation initiative actions in communities and households (water conservation, food storage, seed preservation).

The proposed activities in Component 2 of the project are expected to produce immediate and sustainable **economic benefits,** including the following:

1. Increased incomes through activities such as developing alternate livelihoods (including women in agro-gardens and food based cottage industries), increased crop production and cash-for-work
2. Increased cropping intensity and extended cultivation, resulting in increased production in small irrigation systems
3. Reduced production losses due to increased capacity to cope with variability and extreme climate events
4. Reduced post-harvest losses and better food storage

5. Access to micro finance and development of womens' skills in business management

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

Costs incurred in project implementation will focus on those additional actions required to address climate change-induced risks as well as the underlying drivers that have caused the degradation of land and increased the vulnerability of the community to climate change (CR1). Other key characteristic of the project will considerably enhance its cost-effectiveness:

1) The menu of highly replicable, development-oriented solutions to climate variability that ensures value for money

2) A strategy that makes most of existing government extension services and administrative platforms by complementing and supporting their activities/objectives

3) Implementing natural resource management and livelihood asset building activities with community participation to ensure high ownership and sustainability (CR1)

4) A strategy that avoids duplication of funds and activities by linking with key agencies

5) A delivery mechanism that ensures cost-effective implementation

6) Implementation which uses an approach that promotes mainstreaming in local and national policy (Figure 16)

7) Project implementation which will use competencies and skills available locally

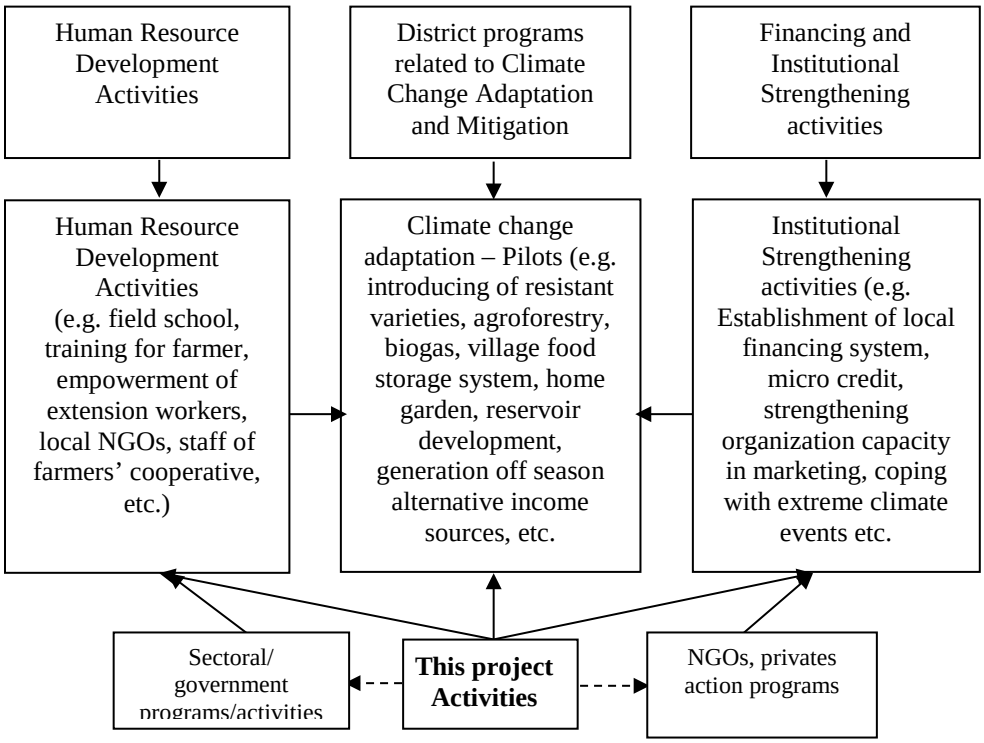


Figure 16. Approach in the implementation of project activities to ensure cost effectiveness

The effectiveness of the concrete adaptation measures put in place by the project will be tested and measured over the life of the project. This will involve cost-benefit analyses to ascertain which activities provide economically viable options for up scaling to neighboring communities.

The project aims to influence and support policy and strategy development at local level. The planning and learning process from the project will provide valuable input to District adaptation strategy and actions.

The project will influence national efforts on water management, land tenure, food security and climate change adaptation and bring these together under a more coordinated policy and strategy framework.

A duration of 3 years is considered a sufficient, and the most cost efficient, time-line over which to implement the project, including knowledge transfer and dissemination of project results to wider stakeholders. The project design is grounded in the need to support the National Action Plan on Climate Change and the NTB Action Plan on Food Security Under a Changing Climate. These constitute the overarching framework of all related sectoral programs and policies and provide vehicles for mainstreaming project findings, best practices, and lessons learned. Thus there will be no need for new policy-making under the project, which could take a very long time. During the first year, the project will focus mostly on activities under Component 1. These will prepare the ground for the implementation of climate change adaptation activities at the community level under Component 2, which will be initiated during latter part of the first year until end of project. Knowledge transfer and integration of project results into government programs will be conducted in parallel with the roll-out of community adaptation activities during the second and third years of the project. (CR9)

The adaptation options under the project were selected based on knowledge gained in the planning process that led to the formulation of the NTB Action Plan on Food Security Under a Changing Climate, and also taking guidance from the National Action Plan on Climate Change Adaptation (see below). The project focuses on improvement of water management, small scale irrigation development, soil and fertilization management including organic fertilizer, and development of off-season livelihood opportunities through small-scale low-cost technological solutions. The project will establish demonstration pilots and train local technicians from communities who can participate in building, operating and maintaining those systems. Where functioning markets exist, the project will use cash-based support modalities to further increase cost efficiency. In mid-2012, WFP finalized the cash/voucher transfer feasibility study in NTB for a possible alternative incentive (other than food commodities) to local communities for use in projects building resilience through asset development. The study showed that such non-food based modalities are feasible, and that they are more cost-efficient than providing a corresponding value transfer in form of food. Involvement by communities in asset development will generate ownership, and through

appropriate training, communities will be able and willing to manage and maintain their assets when the project closes. (CR7)

In conceiving the project, the Government considered several alternative interventions which were rejected for a number of reasons. In NTB, several individual basins have surplus water resources even in areas that have reached advanced stages of development while others face serious shortages, especially during extreme drought years. According to the Ministry of Environment/GIZ study, the watersheds of Putih and Jelateng will have water surpluses under all climate change scenarios until 2080. Improved storage capacity and inter-basin transfers of water from surplus to deficit regions could therefore have been an option for achieving more equitable distribution of water resources and optimal utilization of these resources. However, this option would be expensive, could potentially quickly draw down the surpluses of these watersheds and thus create potential conflict between water users. Lift irrigation using pumps could also have been an alternative. This option was not considered feasible as in the many villages covered by the project where electricity is not available it would b costly for farmers to purchase fuel. Building larger storage capacity was also an option, but in many catchments covered by the project water runoff is not sufficient even during the rainy season. And of course, building dams is expensive. (CR7)

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

The Government of Indonesia ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 23 August 1994, and submitted its first and second national communications to the UNFCCC in 1999 and 2011. The country ratified the Kyoto Protocol on 3 December 2004. To address impacts of climate change and to further translate the national communications into annual government's program and action the Government recently developed the National Action Plan on Climate Change Mitigation (RAN GRK) and Climate Change Adaptation (RAN-API).

Many land-forest based mitigation actions in RAN/RAD GRK are also adaptation actions, including rehabilitation of degraded land in prioritized watersheds through community involvement, increasing water use efficiency in rice cultivation etc. Many of the activities under this project are in line with actions promoted under RAN GRK.

RAN-API is meant to reflect of the preparedness of sectors in responding to climate change and anticipating threats through programs that are based on projection of future developments. RAN-API has become the framework for cross cutting and sectoral development plans. It captures and integrates strategic planning and policies on agriculture, forestry, food security, public works, health, and fisheries, including the Master Plan for the Acceleration of Poverty Reduction, or MP3KI, and Master Plan for the Acceleration of Indonesian Economic Development, or MP3EI. Food security in NTB is top priority in RAN-API. (CR10). Specifically in this regard, RAN API aims to (i)

develop farm enterprise systems that are climate resilient, (ii) develop and apply adaptive technology, and (iii) optimize the utilization of land, water and genetic resources. To ensure the sustainability of water supply and other environmental services for supporting agriculture and rural livelihoods, RAN API action plans aim to (i) improve spatial planning and land use systems, (ii) manage and utilize productive area in a sustainable manner, (iii) enhance management of conservation and essential ecosystem areas, (iv) rehabilitate degraded ecosystems, (v) reduce threats to ecosystems, and (vi) develop information systems. In addition, Infrastructure required for supporting agriculture activities (irrigation, reservoirs etc.) will be rehabilitated and climate proofed.

In line with national policies, NTB province has also developed a strategy and action plan for reducing food security vulnerability in the face of climate change. Proposed actions are focused on the application of adaptive technologies, diversification of farming activities, improvement of land and water resource management, food diversification, and improvement of irrigation infrastructure. This provincial strategy and action plan has been developed in accordance with the NTB 5 Year Mid-term Development Plan and based on the integration of program planning from Forestry, Agriculture, Food Security, Meteorology, Small and Medium Enterprise, and Public Works. NTB also has established a special coordination Climate Change Task Force to implement the action plans from each agency.[7] However, the Task Force is constrained by a lack of knowledge in climate change risk and in translating strategy and action plans into concrete interventions on the ground. There are no climate impact studies at the watershed scale and the Task Force is not well linked with local governments and their stakeholders. (CR11)

All the activities proposed in this project are designed to align with, and support the national and provincial agendas above, improve the consideration of climate change risks to ensure their effectiveness and sustainability, and strengthen the links between planning and action at local levels (CR11).

E. *Describe how the project / program meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc.*

Design, implementation and monitoring of project activities will involve technical agencies and/or their local representatives to ensure that project outputs meet relevant national technical standards in term of design and execution. Project components and outputs will meet the technical standards prescribed in agriculture, land use and forestry, and water resources and watershed

[7] The climate change Task Force of NTB was formed through Governor Decree in early 2012. Chaired directly by the Governor and managed daily by the Head of the Food Security Agency with members constituting the heads of each related agency from agriculture, forestry, plantation, fishery and marine, industry and trade, transport, meteorology, logistics, and the provincial secretariat on economic and administration. The Task Force is mandated to prepare and review programs and actions related to food security and climate change, establish targets, timelines, and budgets, and monitor and evaluate progress. (CR 11)

management. In general, project activities will meet national standards as presented in the following table:

Activities	Activities category	Applicable standards	Relevant agencies
Integrated land and water resource management, including irrigation improvement	Land rehabilitation and Infrastructure development and maintenance Technical standards for building water infrastructure and maintenance	Ministry of Forestry standard on land rehabilitation and Ministry of Environment on safeguards	Ministry of Forestry and Ministry of Agriculture Ministry of Public Works
Design of climate information systems	Early warning systems	Seasonal forecasts are issued by the agency for climatology and meteorology Norms and standards on design and dissemination of early warning systems	National Agency for Meteorology, climatology and Geophysics Agency for disaster management
Monitoring the implementation of local adaptation measures and its impact on food vulnerability	Development of vulnerability index and monitoring system	WFP standards in food vulnerability assessment Ministry of Environment guidance of vulnerability assessment	Ministry of Agriculture Ministry of Environment

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

Most climate-related initiatives in NTB were assessments and were not designed to concretely address the effects of climate change on food security. They include the following:

1. GIZ in cooperation with Ministry of Environment, WWF and Provincial Government of NTB Province (2008-2009): vulnerability and risk assessment on climate change in Lombok island (no pilot)
2. WWF (2007-2009): policy advocacy to provincial government to mainstream climate change into midterm development plan and coastal community awareness raising on climate risk in coastal area of North Lombok (simple qualitative method)
3. CSIRO (2010-2013): study on climate futures and rural livelihood adaptation strategies in Lombok and Sumbawa islands (no pilot)

4. KOICA in cooperation with Ministry of Forestry (2009-2013): Land rehabilitation project as part of AR CDM
5. USAID (2010-2014): Indonesia Marine and Climate Support (IMACS). The project aims to strengthen the management capacity of the Ministry of Marine Affairs and Fisheries (MMAF) and local government, enhance local communities and private sector engagement through open and transparent governance, and provide technical support for key activities that support marine resources management and community empowerment.

The project is built on, and benefits from, the study on risk and adaptation to climate change conducted by the Ministry of Environment/GIZ/WWF in Lombok. The project also benefits from the analysis study conducted by CSIRO on climate futures and rural livelihood adaptation strategies in Lombok and Sumbawa islands. During the design process, all stakeholders including donor funded projects were consulted, in order to avoid any potential duplication of efforts, resources or geographical coverage, and to create synergy between ongoing initiatives.

The project will coordinate and share lessons learned with the GEF project Adaptation to Climate Change through Effective Water Governance in other provinces such as SPARC in East Nusa Tenggara (NTT) Province, also appropriate lessons from the ongoing KOICA-Ministry of Forestry on land rehabilitation project.

Under the framework of RAN API and RAN GRK, the Ministry of Forestry has committed to a massive reforestation program of 1 billion trees with focus on Kalimantan, Sumatera, Java, NTB, NTT, and Papua.

Beginning in 2006, the NTB Forestry Agency has undertaken reforestation/afforestation programs in the Dodokan watershed to mitigate land degradation in the area. Between 2006-2010, more than 12,000 ha of degraded land in the watershed has been rehabilitated.

Under the framework of NTB Strategy and Action Plan on Food Security under Changing Climate, the Agency aims to rehabilitate more than 200,000 ha of degraded land through reforestation/ afforestation programs within 5 years (2011-2015).

Through social/community forestry programs, the Agency expects to enhance the role of local communities in preserving the watershed and boosting the non-wood harvest (fruits, medicinal plants and edible plants). In the last few years, some 4,000 ha have been covered.

The ministries of Public Works and Agriculture have also prepared programs to revitalize and improve water management for irrigation across Lombok and Sumbawa Islands. (CR12)

The proposed project will support these programs in improving climate change risks and delivering lessons on sustainable resource management. (CR12)

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

The project will emphasize the capture, analysis and dissemination of lessons and best practices. It is expected to generate lessons that provide the government with the opportunity to review the approach and scale up successful activities.

WFP Indonesia has included knowledge management and evidence-based programming as part of its country strategy. WFP will take the lead in all activities related to monitoring, evaluation and knowledge management, in line with its corporate procedures. As part of the preparation of a full project document, an evaluation strategy will be developed and aligned to the expected outcomes of the project. Evaluation, in addition to monitoring, will provide the basis for the evidence-based approach proposed in this project. Also, the need for special studies based on the overall objectives of the project will be assessed. Knowledge management activities will draw upon national actors and capabilities as well as NGOs and community organizations.

The project has dedicated knowledge management outputs, especially targeting the up-scaling of lessons and best practice, and generating the opportunity for spontaneous and autonomous adaptation in communities with similar ecological and socio-economic conditions. A coherent knowledge management platform will be developed and a range of knowledge products (case studies, policy papers, and technical briefs and media reports) will be widely (and publicly) disseminated.

Information and communication is also integral to technical outputs where the awareness of farmers and officials will be developed.

Vulnerability assessments of villages and households will measure adaptation impacts and behavior change, and widely disseminate information on risks,

The Ministry of Environment has developed a program called Climate Village which seeks to encourage villages throughout Indonesia to share climate-related best practices with the Ministry of Environment (in return for a reward). This program will make an inventory of initiatives and good practices available to the project, and the proposed project's achievements will in turn be shared nationally.

H. *Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations.*

The proposed project was conceived through initial consultations with BAPPENAS as the overall national (and project) coordinating agency. This was followed by consultations with the Provincial Government of NTB, including BAPPEDA, BMKG, the Food Security Agency, the Agriculture Office, the Public Works Office and the Forestry Office. In total, there were 16 consultation meetings. In addition, 7 Farmer Group meetings were held in 4 villages between January and December 2012. A summary of the consultative process is provided in the table below. More information, particularly from local consultations, will be forthcoming in the full project document.

Consultation	**Date/ Place**	**Participants**	**Objective**
Initial consultation with the Indonesia Climate Change Trust Fund (ICCTF), National Development Planning Agency (BAPPENAS)	2012, Jakarta	Head of ICCTF Secretariat and staff	Expressed WFP intention of developing a proposal for Adaptation Fund Board and preliminary discussion on the project concept design
Meeting with Ministry of Environment (MoE)	2 May 2012, Jakarta	Deputy Assistant for Climate Change Adaptation and staff	Discussion on the project concept design
Consultation with the national Designated Authority for the Adaptation Fund	3 May 2012, Jakarta	Indonesia Designated Authority and staff	Discussion on the project concept design. The Designated Authority agreed to develop a proposal
Meeting with Head of Provincial development Planning Agency (BAPPEDA) of NTB	2012, Mataram, NTB	Head of BAPPEDA NTB and staff	Discussion on the project concept design and brainstorming on local government development priorities.
Meeting with Head of Food Security Office (FSO) of NTB	2012, Mataram, NTB	Head of FSO NTB and staff	Discussion on food security and climate change threats in NTB and the importance of local community engagement
Meeting with the Research and Development Agency, Ministry of Agriculture	7 May 2012, Jakarta	Director General for Research and Development Agency and staff	Discussion on possible local adaptation approaches by communities.
National stakeholder workshop with key agencies	8 May 2012, Jakarta	Participants from BAPPENAS, MOE, Ministry of Agriculture, Food Security Agency, Advisor to the President, BAPPEDA NTB, and other governments agencies, NGOs, and universities	Concept design was discussed and opinion and inputs from participants were obtained

Consultation with MOE	13 July 2012, Jakarta	Deputy Assistant for Climate Change Adaptation and staff	Further brainstorming on project concept design and climate change adaptation measures
Meeting with Chairman of the Advisory Council to the President	13 September 2012, Jakarta	Chairman of the Advisory Council to the President	Discussion on food security and climate change threats and potential adaptation approach.
Community consultation with farmers in Bangket Parak village, Pujut sub district of Central Lombok District	17 October 2012, Central Lombok, NTB	Farmers Groups from Bangket Parak, Pengengat, Tanah Beak, and Loang Maka Villages	Discussion on food security-related adaptation needs and potential actions at community level.
Provincial stakeholder workshop of key provincial and districts stakeholders	18 October 2012, Mataram, NTB	Participants from BAPPEDA NTB, FSO NTB, BAPPENAS, MOE, Coordinating Ministry for People's Welfare, representatives from districts governments in NTB, NGOs, universities	Discussion on the concept design of the proposal and integration into local government planning.
Meeting with the Food Security Agency Ministry of Agriculture	7 November 2012, Jakarta	Head of Food Security Agency and staff	Discussion on food security and climate change issue, including current and future government programs.
Focus group discussions with farmers in 3 sub districts - Janapria, Terara, Jerowaru (in 4 villages) of Central Lombok District	2012, Central Lombok, NTB	Farmers Groups from Loang Maka, Lando, Leming, and Ekas Buana Villages	Understanding of livelihood types in the village, coping strategies, past experiences and observation on climate, access and understanding to climate information, main drivers of change in the village in terms of livelihood, adaptive capacity, etc.
Meeting with ICCTF BAPPENAS	23 November 2012, Jakarta	ICCTF Program Manager and staff	Discussion on the progress of the adaptation fund proposal.
Meeting with climate change expert from Bogor Agriculture Institute	Mid-December 2012, Jakarta	Director of CCROM	Discussion on climate change vulnerability assessment and the adaptation approach
Presentation of project design to ICCTF BAPPENAS	Mid-December 2012, Jakarta	Head of ICCTF and staff	Full presentation of project proposal for inputs, review and endorsement.

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

Component 1: Improving knowledge and institutional capacity of local and national governments to develop and implement integrated land and water resource management under conditions of climate stress

Baseline without Adaptation Fund Support

High poverty rates and the lack of alternative livelihood options (CR1,CR14) followed by an increasing demand for land for agriculture, settlement, and infrastructure has rapidly depleted forest and natural resources of the Dodokan watershed. Under the national decentralized governance system, management of the watershed is also fragmented and actions are uncoordinated. Further, there is no common vision among local governments and other stakeholders in and surrounding the watershed on how to manage it in an integrated manner, and certainly not in ways that can allow the environment and people to withstand more unpredictable and severe weather.

Without the interventions proposed by this project, current unsustainable management of the watershed would continue and be exacerbated by climate. This in turn will lead to more environmental degradation and greater poverty food insecurity.

National and some of local governments are already aware on the importance of improving coordination and synergies of programs and activities for addressing climate change. The National Agency for Development Planning (BAPPENAS) has established a National Coordination Team on Climate Change to coordinate the various sectoral ministries in implementing climate change action plans. Some local governments have established similar bodies. For example the Government of NTT Province has established a coordination unit called SPADU overseeing all official development assistance projects and working with development partners to ensure coordination and alignment. In the case of NTB, the government and some of district governments such as Central Lombok have established a Climate Task Force with a similar mandate focused on climate change. The Task Force consists of representatives from the offices of agriculture, forestry, food security, public works, fisheries, small and medium enterprise, industry and trade, logistic and meteorology. However the Task Force is constrained by a lack of knowledge in developing a strategy and action plans for climate adaptation and translating these into concrete actions on the ground. There are no climate impact studies at the watershed scale and the Task Force is not well linked with local governments and their stakeholders and attuned to their concerns.

Without this project, it is unlikely that provincial and district governments will gain an understanding of the impacts of climate variability and climate change locally and the options available and desired by local stakeholders to mitigate climate threats.

With Adaptation Fund Support (Adaptation Alternative)

Adaptation Fund resources will be used to support local, provincial and district level (3 districts) governments, along with community stakeholders (including user groups), to develop local plans as well as a master plan for the Dodokan watershed which takes land use change (CR1,CR14) and climate change scenarios and current and expected future impacts into account.

Knowledge and technical capacity of institutes and entities at provincial and national levels such as BAPPEDA, Agriculture Agency, Forestry Agency (CR1,CR14), Food Security Agency, Public Works, Watershed Management Agency, NTB Task Force, and other related agencies in assessing financial implications of projected land use change (CR1,CR14) and climate change impacts and cost-benefit analysis of adaptation options will be enhanced and developed.

Capacity at all levels to design and prioritize relevant adaptation plans and to effectively allocate climate-related budgets will also be improved. Communication of relevant information on climate variability and climate change impacts and adaptation options will be facilitated. Tools required for decision making in developing the master plan toward climate resilience watershed in conjunction with land use management (CR1,CR14) will be made available. In sum, climate variability and vulnerability will be properly addressed in the management of the Dodokan watershed, and adapting to climate change will be part of the overall development agenda of NTB.

Component 2: Building climate resilient livelihoods of rain-dependent farming households in the upstream and downstream areas of Dodokan watershed, covering up to 20,000 households

Baseline without Adaptation Fund Support

Without the proposed interventions in Component 2 of the project, the government and development partners will continue to make major investments in community development without properly empowering beneficiaries to take climate change into account. As a result, the longer term sustainability and value for money of baseline interventions will be less effective and inefficient. Farming households will continue to engage in unsustainable practices such as mining and cutting wood in high value forest areas, clearing and cultivating stream-banks and reservoir catchments, and short- term cash cropping on steep slopes. (CR1,CR14)

Without the interventions proposed here, these farm families will continue to face degraded environments and reduced livelihoods, and will face an even more dire situation with climate change impacts. (CR1,CR14) Increasing climate variability has increased food insecurity of the communities in the watershed. Shifting rainfall patterns have especially impacted rain-fed traditional farming practices. Longer periods of seasonal drought and an increase in intense rainfall is eroding soil and contributing to more frequent crop failures.

The capacity of communities and field level agriculture technical teams to respond to these developments is weak. Currently there is vague interpretation of the climate science at local level, and climate risk screening is not a part of the normal development process. Agriculture extension services do not provide comprehensive service delivery in the field, much less advise farmers on tackling rainfall variability caused by climate change. Farmer organizations also lack knowledge and awareness of climate-related risks, technical knowledge for maintaining small-scale agriculture and irrigation structures, and the knowledge and means to develop alternative plans.

Finally, national and provincial authorities have little concrete implementation experience of designing and implementing replicable, appropriately informed (by science and local experience) and costed adaptation alternatives.

With Adaptation Fund Support (Adaptation Alternative)

Adaptation Fund resources will be invested in communities (involving about 20,000 households) to learn to apply climate knowledge, adaptive technology and finance based on their specific vulnerabilities and opportunities they have identified. Intensive facilitation at the community level will take place, and special attention will be given to the needs of women and ensuring their active participation throughout the process.

Carefully guided demonstration actions to increase climate resilience of these communities will showcase the effectiveness that will then provide scope for replication to the rest of NTB. A network of community volunteers will be established, community adaptation plans and approaches will be developed, and climate risk information will be made available to communities. This will build on baseline local development programs.

Non-government entities, including community service organizations and private sector firms, will be invited to play a key role in implementation through a competitive process. Much of the work requires close interaction with communities with which community service organizations are well-positioned.

Project interventions will enable farmers to increase cropping intensity and crop productivity through adoption of new technologies (drought-tolerant and short maturing cultivars etc.). Training for agriculture technical teams on climate risks management for agriculture will improve their ability to provide advice to village level extension officers and farmers to cope with rainfall variability. The project will also provide these teams with IT-based equipment and tools for interpreting and analyzing climate information and hazards data and for accessing other related information supporting agribusiness activities. Farmer organizations will also be supported to engage in collective planning of irrigation maintenance including catchment conservation.

Through food/ cash for work schemes, farmers will have opportunities to produce small scale agricultural and rural infrastructure assets that benefit their communities. The assets will be

designed to strengthen resilience to withstand anticipated shocks, and sustain livelihoods and food security.

The promotion of agroforestry (fruit, timber and other perennials) through afforestation/ reforestation in upstream degraded/ deforested land areas will provide additional income generation for farm families and at the same time create multiplier benefits in reducing the pressure on forests and thus increasing the catchment area capacity and improving water availability and water quality. (CR1, CR14)

At the end of the project farming households dependent on rainfall for agricultural production will show demonstrable improvement in food consumption patterns, they will have access to information, seeds, and extension services to improve current cultivation practices and in coping with extreme climate events. They will be able to engage in diversified agricultural pursuits that have year-round markets. Women, who are currently confined to providing labor in farm fields, will have access to technology and be networked with micro- finance programs that can support them to start alternative livelihoods that don't rely on land and forests. (CR1,CR14)

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

Sustainability is at the core of the design and strategy of the project. The project aims to integrate climate change resilience planning into provincial and district level policy, program and budgets. This will ensure continuation of working towards the vision of climate resilience beyond the project.

This project will penetrate into existing climate change policy, program and action plans in each working unit (*Satuan Kerja Perangkat Daerah* – SKPD) of the three Districts and of NTB Province overall under the NTB Strategy and Action Plan on Food Security under a Changing Climate, 2011-2015 (CR15), and activities under this project will be integrated as part of local government programs.

Sustainability at the community level will be promoted by ensuring that the actions are community driven and that they undergo a thorough socio-economic-environmental assessment prior to approval and implementation. NGOs and extension services and others involved in implementation will receive proper training and implementation will be closely monitored by the project team.

The sustainability of specific outputs is described below:

EXPECTED OUTCOMES	EXPECTED CONCRETE OUTPUTS	SUSTAINABILITY MECHANISM	RESPONSIBLE PARTY/IES
Outcome 1. Increased capacity of local communities and governments, and increased support from national government, to develop and implement integrated watershed management and adaptation measures	1.1. Climate risk of the Dodokan watershed system under different land use scenarios is assessed and options are developed for improving the management of land and water resources under climate conditions	Landscape based assessment in the watershed would be defined through a participatory process that considers the ecological zone and community priorities to ensure ownership. Assessment results will be integrated into the NTB Strategy and Action Plan on Food Security under a Changing Climate to evaluate the matrix program proposed by sectoral agencies, with more specific focus on the programs of the forestry, food security, agriculture, and public works agencies, under the coordination of BAPPEDA (CR15)	Bappeda I NTB, Bappeda II District Level, farmer organizations
	1.2. Community members, farmer organizations, extension workers, local government officers, at village and district levels are trained and mobilized to design and monitor local climate change adaptation plans	Continuous focus group discussions, training and mobilization on water resource management and climate change adaptation plans will ensure that climate impacts are considered in improved service delivery. Training modules generated from the activities will be integrated into Agriculture Office and Food Security Office training program for further replication (CR15)	Bappeda I NTB, Bappeda II District Level, Agriculture Office, Food Security Office (CR15), farmer organizations
	1.3. Local Food security and adaptation plans are integrated with district and provincial development plans , and a Master Plan for the Dodokan Watershed is developed	The integration of planning will be self-reinforcing across plans, and the Food Security Office and Agriculture Office will have recurrent budgets to continue to support the process once the project is closed in river catchment areas	Bappeda I NTB, Food Security Office NTB and district level, farmer organizations

	1.4. Early warning system for climate induced disasters in target sub-districts is designed, implemented, and maintained	Climate information systems would be developed and disseminated in conjunction the Meteorological Office and Agriculture Office , both of which have good capacity. Findings and lesson learned, and guidelines and standard operating procedures, will be developed and integrated into the Meteorological Office and Agriculture Office program and budget to ensure synergy and sustainability (CR15)	Meteorological Office, Agriculture Office, Bappeda I NTB, farmer organizations
	1.5. (CR3) Lessons learned from local communities and local experience are shared and used for refining and prioritizing national climate change adaptation actions	Dissemination of lessons from the field will support replication at other regions and increase knowledge among a wide group of stakeholders, and will become inputs for the evaluation of the national action plan on climate change adaptation (RANAPI) and the NTB Strategy and Action Plan on Food Security under a Changing Climate (RADKPPI) (CR15)	ICCTF Bappenas, Bappeda I NTB
Outcome 2. Diversified and strengthened livelihoods and sources of income for vulnerable farm and landless rural families and enhanced ability in using climate information for managing the climate risks.	2.1. Current agricultural practices are adapted to new patterns of climate risks by improving crop management and animal husbandry practices	Activities are designed to support communities to take measures to make their subsistence farming practices more resilient to extreme climate conditions. Implementation of measures will be done jointly by communities, extension services and CSOs to build trust, understanding and stimulate exchange and blending of traditional and modern knowledge and approaches and decision making processes. The improvement of crop management and animal husbandry practices will enhance incomes and enable farmers to maintain improved systems after the project closes. (CR15)	Farmer organizations, villages communities in the Dodokan watershed; Agriculture Office

	2.2. Capacity of community in using climate information for coping with extreme climate events increased.	Understanding of indigenous wisdom, knowledge and practices will be emphasized to provide space for community rights to be acknowledged. Knowledge generated from the activities will provide benefits (in term of climate risk mitigation) to farmers to optimize income generation resulting from Output 2.1. The improved training curricula, findings, and lesson learned from the climate field school (CFS) implemented under this output will be integrated into the Meteorological Office CFS program for sustainability and further replication (CR15)	Farmer organizations, villages and communities in Dodokan watershed; Meteorological Office
	2.3. Off-season income opportunities for vulnerable groups in the upstream and downstream areas of Dodokan watershed are provided through building physical and natural assets (through food and cash for work)	Food/ cash for work will significantly strengthen the asset base of communities and allow them to continue to generate income and be food secure in the face of climate shocks. Active participation of the community will be at the core of approach to ensure ownership of the assets created. Farmers' groups, which have been strengthened through Output 2.1 ,and which will be reaping economic benefits from the assets created, will have a strong incentive to maintain them. (CR15)	Villages and communities in the Dodokan watershed
	2.4. Climate-resilient alternate income sources for women and disadvantaged groups are promoted and implemented	This output will promote economic diversification, helping rural communities to become less dependent on climate sensitive livelihoods and forest exploitation (CR1) over the long-term. It will stimulate entrepreneurship among communities, with an emphasis on women, and will foster close linkages with the private sector in NTB for technical assistance and market linkages to make a self-sustain trading mechanism (CR15).	Villages and communities in the Dodokan watershed

	2.5. Community based information centers are established	As farmers find climate and other information form the centers useful the demand for their support and growth should sustain the effort. Local governments seem especially committed to maintain the centers through their own budgets	Villages and communities in the Dodokan watershed

PART III: IMPLEMENTATION ARRANGEMENTS

A. *Describe the arrangements for project / program implementation.*

The project will be executed according to WFP's National Implementation Modality, and project management implementation guidelines agreed by WFP and the Government of Indonesia.

Project Management Structure

BAPPENAS will act as overall coordinating agency and Executing Partner (EP) of the project at the national level. The Provincial Development Planning Agency (BAPPEDA I) will be the EP for all outputs and activities in NTB, both at provincial and district level. The World Food Programme (WFP) will serve as the AF Multilateral Implementing Entity (MIE) of the project.

Policy guidance to the project will be provided by a **National Project Steering Committee (NPSC)** chaired by the Deputy Minister for Natural Resources and Environment BAPPENAS. The membership of NPSC will consist of technical directorates concerned from the Food Security Agency of the Ministry of Agriculture, and Directorate for Environment Degradation Control and Climate Change of the Ministry of Environment, including the Head of BAPPEDA I NTB Province, and Head of BAPPEDA II district level. It will also include a representative from WFP. The NPSC will be the highest decision-making body for the project, and will guide the overall implementation. The NPSC will meet every six months.

A **Project Management Unit (PMU)** will be responsible for management decisions. The PMU plays a critical role in project monitoring and evaluation by assuring quality in these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed, arbitrates on conflicts within the project, and negotiates with external bodies. Based on the approved Annual Work Plan, the PMU can also consider and approve quarterly plans (if applicable) and essential deviations from original plans.

In order to ensure WFP's ultimate accountability for the project results, PMU decisions will be made in accordance to standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. Representatives of other

stakeholders can be included in the PMU as appropriate. To support the work of PMU, a Project Assurance GROUP will also be formed. Its role is to supports the project by carrying out objective and independent project oversight and monitoring functions.

The PMU will be based in ICCTF BAPPENAS Jakarta and NTB Provincial BAPPEDA in Mataram (capital of NTB province). It will consist of a Project Manager, Project Assistant, Finance Associate, Administrative Assistant, and representatives from technical level staff of ICCTF Bappenas and BAPPEDA I NTB. The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Executing Partner (EP) within the constraints laid down by the NPSC. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

The PMU will, among other tasks, i) Develop Standard Operating Procedures for project implementation, ii) Develop quarterly and annual work plans and budgets, iii) provide financial and administrative management support to activities in NTB, including allocation of funds to districts based on specific criteria, and overall program budget oversight, iv) prepare quarterly and annual financial and technical progress reports to be submitted to the NPSC, v) ensure compliance with applicable WFP /ICCTF/Government rules and regulations. The PMU will be supported by **technical experts** (international Chief Technical Advisor and national experts) who will provide technical expertise to the project. In the implementation of specific activities, the PMU can receive assistance from NGOs/CSOs.

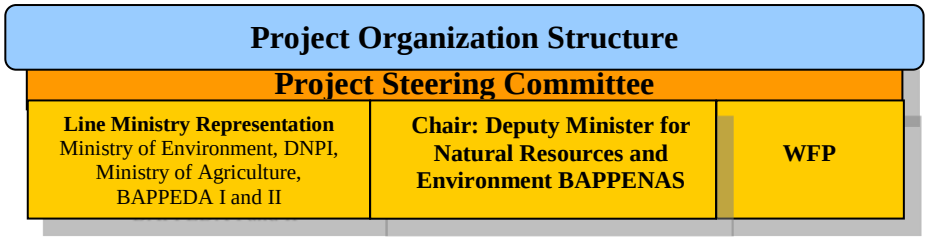
Field Level Project Support Unit (PSU)

At the field level, a Divisional-level Project Support Unit will be created. For cost-effectiveness this will be housed within the Divisional Secretariat or a divisional unit of BAPPEDA II District Level. The field level PSU will have one full time staff supported by the project execution budget to coordinate between the different divisional actors and farmer organizations.

WFP Country Office Support Services

As per standard agreement between WFP and the Government of Indonesia, and upon request from the Executing Partners, WFP can provide support services to the EP for the procurement of goods and services and recruitment of project staff.

A summary of the project management structure is presented in Figure 17 below.



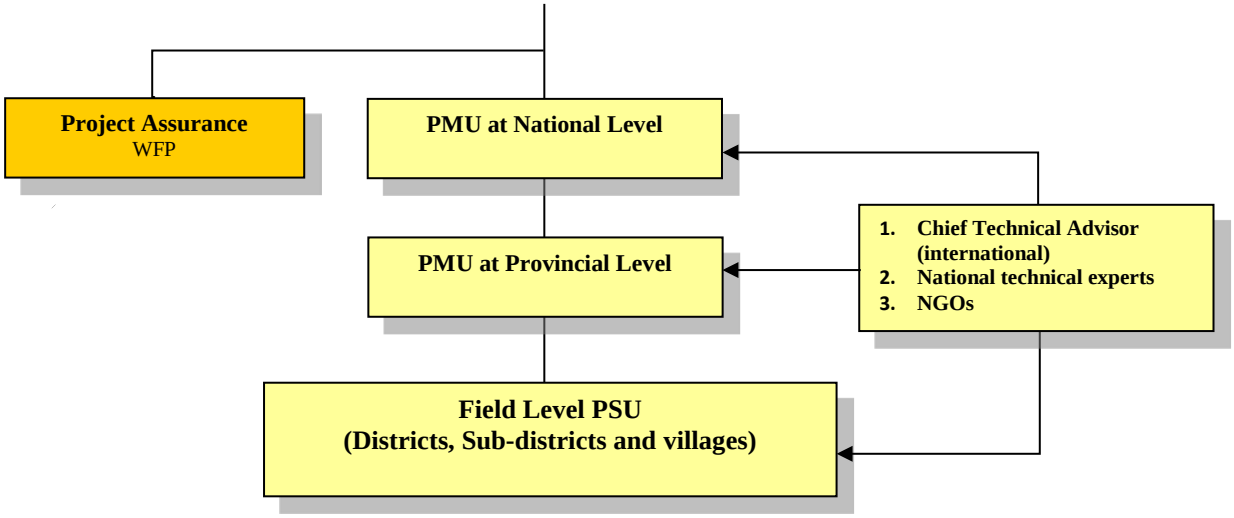


Figure 17. Project organization structure

B. *Describe the measures for financial and project / program risk management.*

The proposed project is based on strong government support at national and local level and can draw on lessons learned from the past. The greatest risks are 1) inertia against change from the key-stakeholders including parliament, government officials, extension workers, and communities having a preference to conduct business as usual, and 2) inability to effectively coordinate the many agencies to be directly and indirectly involved.

To mitigate these risks, the project will work closely with the highest authorities in NTB to mobilize support from government agencies, and will invest in establishing / strengthening coordination mechanisms at provincial and district level for addressing climate change. It will also communicate regularly with national government authorities such as the National Development Planning Agency (BAPPENAS) to showcase progress made and ensure political support. At the local level, the project will collaborate with local stakeholders (government agencies, NGOs, university) in supporting participatory approaches that stimulate a shift in thinking at the community level, and assist these communities to bring their needs to the attention of, and share best practices with, extension staff and district level planning authorities.

In terms of environmental risks, unfavorable climatic conditions may occur during the project life cycle and impact on the investments made by the project. An important assumption is that these climatic extremes will be within coping range and that existing institutions and community groups will rapidly absorb and act on the new skills, technical approaches and knowledge acquired through the project. More details on risks and assumptions are provided in the table below

Risk	Rating	Mitigation measures
Coordination among	**Medium**	This risk will be mitigated by strong leadership from senior

government agencies will be ineffective due to the large number of government institutes involved, capture by sectoral interests, and multiple reporting lines		government officials, highlighting the opportunities and benefits of cooperation across agencies and other partners. The project has already started to map out relevant shared interests across agencies. Information will be broadly shared to identify synergies and opportunities for cooperation, and minimize the risks of competition and duplication. Further multi-stakeholder discussions will focus on identifying common issues, and finding pathways towards common goals and actions.
Bureaucratic processes hamper the active involvement of government institutes in project activities	**Low**	The project will put a premium on gaining assurance and firm buy-in from both senior management and their staff, providing training and coaching, and showcasing the value of involvement for day to day work and progress.
Some communities are unwilling to participate and prefer to continue business as usual	**Low**	Communities will largely be self-selected for their commitment as well as capacity. Also, the introduction of new ideas and innovation will be carried out in a participatory way, ensuring that resulting actions are based on the needs and ideas of the communities themselves and provide tangible results. A premium will be placed on communication through field based demonstration, training and learning.
Extreme climate events take place during the project which are beyond the coping range of the targeted communities and measures introduced	**Low**	Detailed vulnerability assessments at district and community level will be carried out in advance of the full project appraisal to understand the resilience of the communities and the type, frequency and severity of extreme climate events that may likely occur in the districts. Technical experts responsible for the detailed design of adaptation measures will ensure that measures to be introduced are robust and appropriate for the capacities and climate risk profile of the communities.

C. *Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan. Include break-down of how Implementing Entity's fees will be utilized in the supervision of the monitoring and evaluation function.*

A project Inception Workshop will be held to launch the project with those in assigned roles in the project organization structure, WFP office and where appropriate/feasible regional technical policy and program 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:

1. Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of WFP 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.

2. Based on the project results framework and relevant Tracking Tool 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.
3. 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.
4. Discuss financial reporting procedures and obligations, and arrangements for annual audit.
5. Plan and schedule Project Board meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first Project Board 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.

Quarterly:
Progress made shall be monitored in the WFP Management Platform. Based on the initial risk analysis submitted, the risk log shall be regularly updated in Food Security & Vulnerability Atlas of Indonesia (FSVA; WFP 2010) and Food and Nutrition Security Monitoring System. Risks become critical when the impact and probability are high.

Based on the information recorded in FSVA, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.

Annually:
Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period.

The APR/PIR includes, but is not limited to, reporting on the following:

1. Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
2. Project outputs delivered per project outcome (annual).
3. Lesson learned/good practice
4. Other expenditure reports
5. Risk and adaptive management
6. Portfolio level indicators are used by most focal areas on an annual basis as well

Periodic Monitoring through site visits:
WFP 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 Project Board may also join these visits. A Field Visit Report will be prepared by the WFP and will be circulated no less than one month after the visit to the project team and Project Board members.

Mid-term of project cycle:

The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation. The Mid-Term Evaluation 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 evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by WFP.

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 WFP guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, 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 the WFP. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response.

During the final 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 are through project-supported and 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, analyze, 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 and related projects.

M&E work plan and budget

Monitoring and Evaluation (M&E) will take place in line with WFP guidelines. The following table gives a tentative distribution of the budget over the main items.

	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Inception Workshop and Report	PMU	Indicative cost: 20,000	Project start-up
Periodic status/ progress reports	Project manager and team	Part of PMU cost	Quarterly
Mid-term Evaluation	Project management team WFP External Consultants (i.e. evaluation team)	Indicative cost: 30,000	At the mid-point of project implementation.
Final Evaluation	Project management team WFP External Consultants (i.e. evaluation team)	Indicative cost : 30,000	At least three months before the end of project implementation
Project Terminal Report	Project manager and team WFP local consultant	None	At least three months before the end of the project
Audit	WFP Project manager and team	Indicative cost per year: 5,000 (total US$ 20,000)	Yearly
Visits to field sites	WFP Government representatives	For ICCTF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative cost Excluding project team staff time and WFP staff and travel expenses		US$ 100,000 (+/- 5% of total budget)	

D. *Include a results framework for the project proposal, including milestones, targets and indicators and sex-disaggregate targets and indicators, as appropriate. The project or program results framework should align with the goal and impact of the Adaptation Fund and should include at least one of the core outcome indicators from the AF's results framework that are applicable*[8]*.*

Alignment with the AF results framework is shown in Annex 2.

Program strategy:	**Objectively verifiable indicators**				
Goal	The overall objective of the project is to secure community livelihoods and food security against climate change-induced rainfall variability and more intense and frequent extreme climate events The project has 2 components. The first component is designed to improve climate-related knowledge and institutional capacity at village, district, and provincial level in developing and implementing integrated watershed management involving multi stakeholders and community participation, and at national level to increase capacity of national key stakeholders to prioritize climate change adaptation. The second component seeks to build resilient livelihoods of vulnerable groups and to develop alternative livelihood options in the face of more unpredictable and damaging weather				
	Indicator	**Baseline**	**Target**	**Sources of verification**	**Assumptions and Risks**
Component 1: Improving knowledge and institutional capacity of local and national governments to develop and implement integrated land and water resource	Number of knowledge products for supporting policy making and capacity building activities on land and water resource management and	Limited knowledge and lack of understanding on climate change, its risks and impacts; limited capacity in identifying and developing relevant	By the end of the project, governments are able to develop and implement landscape based-watershed management plans which incorporate effective climate risk management .	▪ Knowledge products, ▪ Policy support tools ▪ Capacity building activities ▪ Climate-sensitive, landscape based-	Assumption: local governments and stakeholders in and surrounding the watershed are willing to work together in developing

[8] Please refer to the *Project level results framework and baseline guidance* for the Adaptation Fund's results framework and guidance on developing a results framework and establishing a baseline [add link here].

management under conditions of climate stress.	effective climate risk management	adaptation strategies and actions		integrated watershed management Master Plan. ▪ Local climate adaptation plans	integrated, climate sensitive, watershed management plans. Risk: climate change measures are long term and the project may not capture all change in ecosystem vulnerabilities
Outcome 1: Increased capacity of local communities and governments, and increased support from national government, to develop and implement integrated watershed management and adaptation measures	Number of capacity building activities for developing and implementing local adaptation plans and measures, and a climate-sensitive integrated watershed management plan	Limited capacity of local government in developing climate sensitive, landscape-based watershed management plans, lack of coordination between upstream and downstream planners and water users	Increased capacity to develop climate sensitive-integrated programs and relevant adaptation measures	▪ Module/manual guide/other materials for capacity building ▪ Number of community adaptation actions ▪ Master Plan for the Dodokan watershed	Assumption: local governments in and surrounding watershed are willing to coordinate and synergize their activities in managing watershed toward climate resilience Risk: climate change measures are long term and the project may not capture all change in ecosystem vulnerabilities
Output 1.1: Climate risk of the Dodokan watershed system under different land use scenarios is assessed	Availability of assessment of climate risks in Dodokan watershed system under different land use scenarios	Not available	▪ Assessment of climate risks under existing land use, and different land use scenarios (current spatial plan and land use projection) is available	▪ Knowledge products on climate risk assessment ▪ Report on refinement of	Assumption: Good long historical projection of climate data is available Historical land use

and options are developed for improving the management of land and water resources			▪ Policy makers local and planners are able to use the climate risk assessment in informing local adaption plans and designing the forthcoming Master Plan (see below)	spatial plan of the watershed and landscape-based activities programs	and socio-economic data driving land use change are available Risk: Climate uncertainty cannot be managed due to unavailability of assemble climate models
Output 1.2: Community members, farmer organizations, extension workers, local government officers at village and district levels are trained and mobilized to design and monitor the implementation of local climate change adaptation plans (that also address gender specific issues and vulnerable groups	Number of local adaptation plans developed Number of trained community members, farmers organization, extension workers and local government officers trained and mobilized	Not available Little to no human resource capacity in this area	▪ Local adaptation plans are developed ▪ Community members, farmers organization, extension workers and local government are trained and mobilized	▪ Climate sensitive local plans are available ▪ Prototypes/pilot projects designs are developed	Assumption: All related stakeholders engage in the process of design and are willing to absorb and apply new knowledge and systems Risks: Conflicting interests among parties and and/or poor understanding of climate change issues Trained people will be transferred to other positions which are not related to climate resilience
Output 1.3: Local food security and adaptation plans are integrated with	Number of adaptation plans accommodated in district and provincial	Existing plans do not adequately address climate risks. No climate-sensitive,	▪ Local food security and climate adaptation plans are incorporated into district and provincial	• Climate sensitive Master Plan is developed and adopted by	Assumptions: Senior government officials and politicians give priority to addressing

district and provincial development plans, and a climate-sensitive integrated Master Plan for the Dodokan watershed is developed.	plans and in the Master Plan. Availability of a Master Plan for the Dodokan watershed	integrated Master Plan exists	development ▪ A Master Plan for the Dodakan watershed is developed	provincial and district governments • Local adaptation plans are reflected in the Master Plan and other development plans	climate change Risks: Provincial and/or district governments fail to agree on a Master Plan which incorporate local risks and proposed risk reduction measures
Output 1.4: Early warning system for climate induced disasters in target sub-districts is designed, implemented, and maintained	• Adoption of climate early warning systems that are available at national level reflecting local conditions • Availability of an early warning system that is relevant to local risks	A number of initiatives on-going at national level, to be adopted at local level. However, due to lack of capacity and unclear dissemination mechanism the technologies are not adopted by farmers and local governments. Also, local threats have not been addressed well in the nation-wide system	Relevant climate information system is designed and institutional mechanism for dissemination is established	▪ Design and accessibility of relevant climate information system ▪ Institutional mechanism for disseminating climate information is established	Assumption: Climate information is accessible and reliable Risks: Institutional mechanism and resource for supporting managing climate risk is not available
Output 1.5: (CR3) Lessons learned from community and local experience are shared and used for refining and prioritizing national climate change adaptation actions	Number of lessons learned relevant for national case shared and adopted for refining and prioritizing climate change adaptation actions at national	Limited capacity of key stakeholders at national and provincial level to effectively prioritize adaptation programme and distribute funding	Relevant lessons learned for national level (publications, training, on-line and video)	• Project reports • Media campaigns	Assumption: Incentives to share locally and receptivity for up-take nationally remains high; media interest in climate adaptation remains

	level				high Commitment of developing partners to provide financial support for climate change actions continues Risk: Overt political motivations in prioritizing programme or or funding
Component 2: Building climate resilient livelihoods of rain-dependent farming households in the upstream and downstream areas of Dodokan watershed, covering up to 20,000 households	Number of physical constructions, natural assets and alternative livelihoods provided to vulnerable households	Inadequate or not available	Up to 20,000 rain-dependent households are involved in building assets and developing/diversifying livelihoods	• Project reports	Assumptions: Sufficient technical capacity and human resources can be mobilized at the local level to implement project activities; communities are committed and able to invest time and effort and willing to manage forests more (CR1); project adaptation measures are effective enough to reduce the effects of extreme climate events on lives and livelihoods. Risks: Project may face delays with community action

					plans because of disagreements within communities about priorities and beneficiaries; communities may be unwilling to participate and prefer to continue business as usual
Outcome 2: Diversified and strengthened livelihoods and sources of income for vulnerable farm and landless rural families and enhanced ability in using climate information for managing the climate risks.	Number of households applying the design of diversification of income sources and strengthened livelihood to cope with the climate risks	Not available	Vulnerable farmers/households are well informed about the risks and impacts of climate change and alternative of income and livelihood during extreme events	• Project report	Assumption: Climate risk information and livelihood demonstrations convince farm families of the need to and possibility of adaptation at household and community level Risk: No reliable climate information is available
Output 2.1: Current agricultural practices are adapted to new climate risks by improving crop management and animal husbandry	Number and type of improved agricultural practices to adapt with the climate change risks	Farmers still conducting conservative agricultural practices	Farmers are able to adjust their agricultural practices to climate change risks. Technology and approach to improve crop management and animal husbandry are	• Project reports	Farmer organizations, which represent the largest and most climate vulnerable segment

practices			adopted by farmers.		of the rural population in the three districts, are motivated to invest time and efforts in project implementation at village level. Information and adaptation technologies are appropriate for the target areas
Output 2.2: Capacity of community in using climate information for coping with extreme climate events increased	Level of capacity to utilize climate information for coping with the extreme events	Very low or non-existent capacities at community level	Climate technical team and climate field school are implemented for 100 farmers groups.	• Project reports	Technical team is operationalized and able to translate climate information into operational action; Local governments are willing to establish climate technical teams
Output 2.3: Off-season income opportunities for vulnerable groups are provided through building physical and natural assets (through food and cash for work)	Number and type of identified opportunities for off-season Number and type of climate resilient community assets created	Not available	Vulnerable groups in the Dodokan watershed attain income (or greater incomes) during the off-season	• Project reports	Assumptions: Selected livelihood options are complimentary to state and other development interventions; access to financing and markets for better livelihood targeting; community interest

					and investment in the off-season activities Risks: Farmers are unwilling to participate in the pilots
Output 2.4: Climate-resilient alternate income sources for women for women and disadvantaged groups are promoted and implemented	Number of alternative income initiatives and number that target women	Not available	Climate-resilient income for women and disadvantaged groups are implemented and promoted	• Project reports	Community willingness to uptake alternate livelihoods; Level of interest in local service delivery to encourage and follow up on livelihood diversification
Output 2.5: Community based information centers are established	Established information centers	Not available	Centers where farmers can obtain climate and any agricultural-related information are established at village level	• Community based information center are established in least in 10 villages	Assumption: Local government support the development of the centers Risks: insufficient human and financial resources for running the centers

E. *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.*

This will be provided at the full project appraisal stage

F. *Include a disbursement schedule with time-bound milestones.*

An indicative schedule can be found in Annex 3

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

A. RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT[7] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/program, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/program proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/program:*

Prof. Ir. Rachmat Witoelar Executive Chair of the National Council on Climate Change/ Indonesia Designated Authority for the Adaptation Fund	Date: 19 April 2013

B. IMPLEMENTING ENTITY CERTIFICATION *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/program 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 and subject to the approval by the Adaptation Fund Board, understands that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/program.	
Implementing Entity Coordinator Coco Ushiyama Country Director World Food Programme Indonesia	
Date: April 25, 2013	Tel: +62 21 570 9001 Email: coco.ushiyama@wfp.org
Project Contact Person: Chandra Panjiwibowo	
Tel. And Email: +62 21 570 9001 chandra.panjiwibowo@wfp.org	

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

LIST OF ANNEXES

Annex 1. Endorsement letter from the Designated Authority

EXECUTIVE CHAIR
NATIONAL COUNCIL ON CLIMATE CHANGE

Jakarta, 19 April, 2013

Our Ref. : E-17/EC-NCCC/04/2013
Attachment :
Subject : Endorsement for Adapting to Climate Change for Improved Food Security in West Nusa Tenggara Province

To:
The Adaptation Fund Board
Adaptation Fund Secretariat
c/o Global Environment Facility

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

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by World Food Programme (WFP) and executed by Provincial Government of West Nusa Tenggara and Indonesia Climate Change Trust Fund – National Development Planning Agency (ICCTF – BAPPENAS).

Sincerely,

Rachmat Witoelar
Executive Chair
National Council on Climate Change/
Indonesia Designated Authority
for the Adaptation Fund Board

Annex 2. Alignment of Project Objectives/Outcomes with Adaptation Fund Results Framework

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator
To secure community livelihoods and food security against climate change-induced rainfall variability and more intense and frequent extreme climate events	Number of knowledge products for supporting policy making and capacity building activities on land and water resource management and effective climate risk management	**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 variability risks
	Number of physical constructions, natural assets, and alternative livelihoods provided to vulnerable households	**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**
Increased capacity of local communities and governments, and increased support from national government, to develop and implement integrated watershed management and adaptation measures	Number of capacity building activities for local government in developing and implementing local adaptation plans and measures, and a climate-sensitive integrated watershed management plan and adaptation measures	***Output 2.1***: Strengthened capacity of national and regional centers 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
Diversified and strengthened livelihoods and sources of income for vulnerable farm and landless rural families and enhanced ability in using climate information for managing climate risks	Number of households benefiting from improved assets and diversifying income sources to cope with climate risks	***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 climate change impacts, including variability	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

Annex 3. Project Implementation Schedule (INDICATIVE)

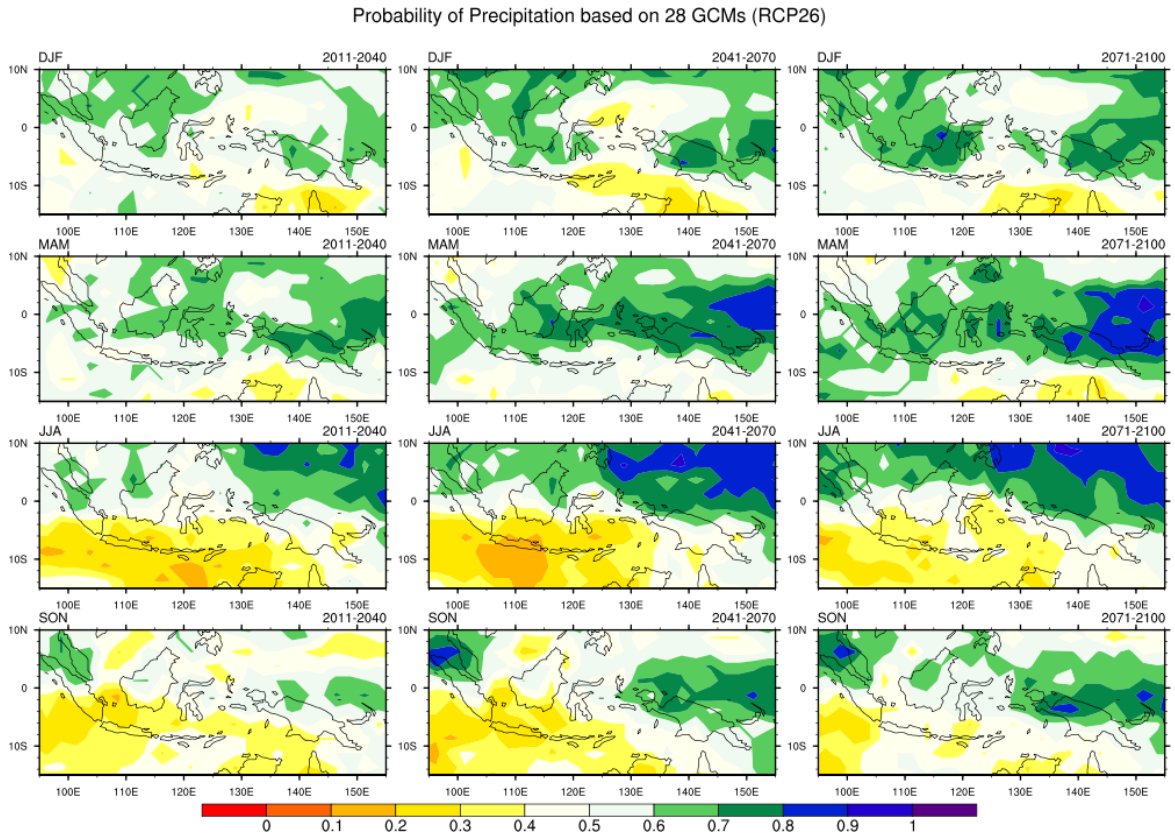
Components and Outputs	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1												
1.1: Climate risk of the Dodokan watershed system under different land use scenarios is assessed and measures are adopted by policy makers for developing options are developed for improving the management of land and water resources												
1.2: Community members, farmer organizations, extension workers, local government officers at village and district levels are trained and mobilized to design and monitor the implementation of local climate change adaptation plans (that also address gender specific issues and vulnerable groups)												
1.3: Local food security and adaptation plans are integrated with district and provincial development plans, and a climate-sensitive integrated Master Plan for the Dodokan watershed is developed												
1.4: An early warning system for climate induced disasters in target sub-districts is designed, implemented, and maintained												
1.5: ICCTF officers and related key stakeholders at national levels are trained to prioritize and evaluate climate change adaptation actions												
1.6: Lessons learned from community and local experience are shared and used for refining and prioritizing provincial and national climate change adaptation actions												
Component 2												
2.1. Crop management and animal husbandry practices are improved to adapt to new climate risks												
2.2. Capacity of community in using climate information for coping with extreme climate events is enhanced												
2.3. Off-season income opportunities for vulnerable groups in the upstream and downstream areas of Dodokan watershed are provided through building physical and natural assets (through food and cash for work)												
2.4. Climate-resilient alternate income sources for women and disadvantaged groups are promoted and implemented												
2.5. Community based Information centers are established												

Annex 4. Projection of seasonal rainfall in Indonesia based on the analysis of 28 General Circulation models (GCMs) under different scenarios of Representative Concentration Pathways (RCP)

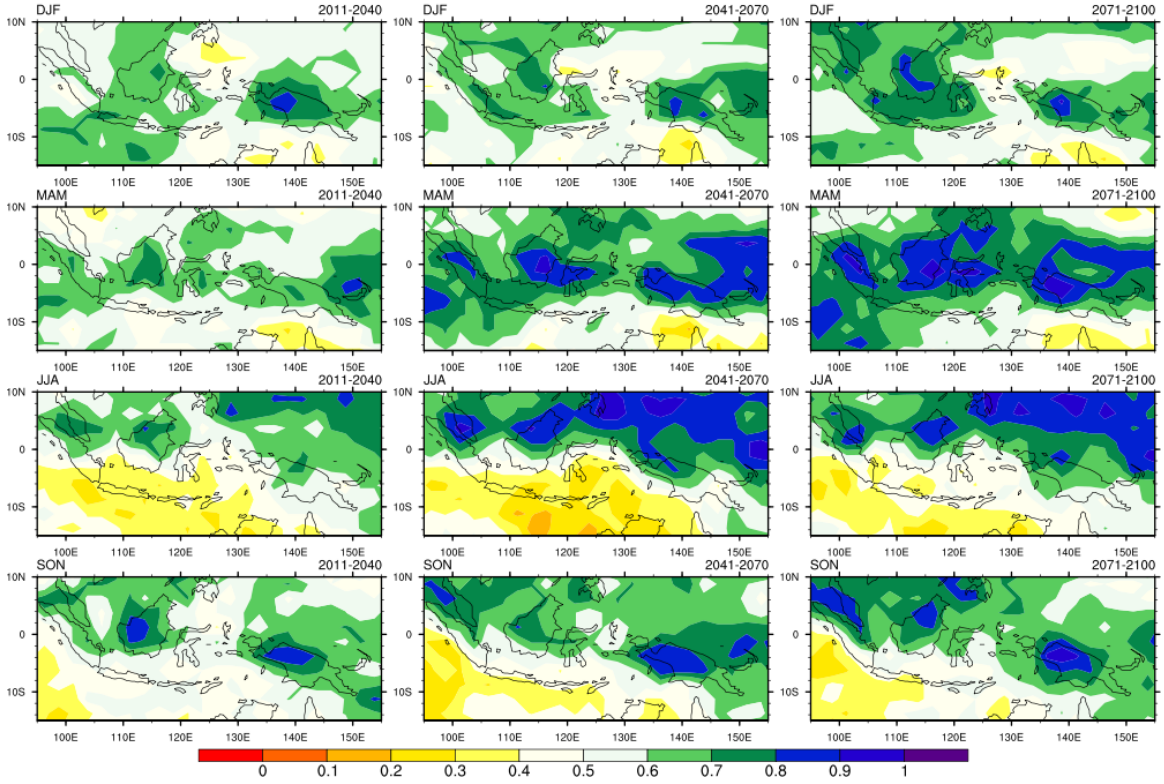
Note: The map shows the projection under the scenario of RCP 2.6, 4.5, 6.0 and 8.5

Red color on the map represents all GCMs analysis consistently proves a decrease in seasonal rainfall. **Dark blue color** on the map represents all GCMs analysis consistently proves an increase in seasonal rainfall. **White color** on the map represents half of the GCMs show a decrease and the other half show an increase.

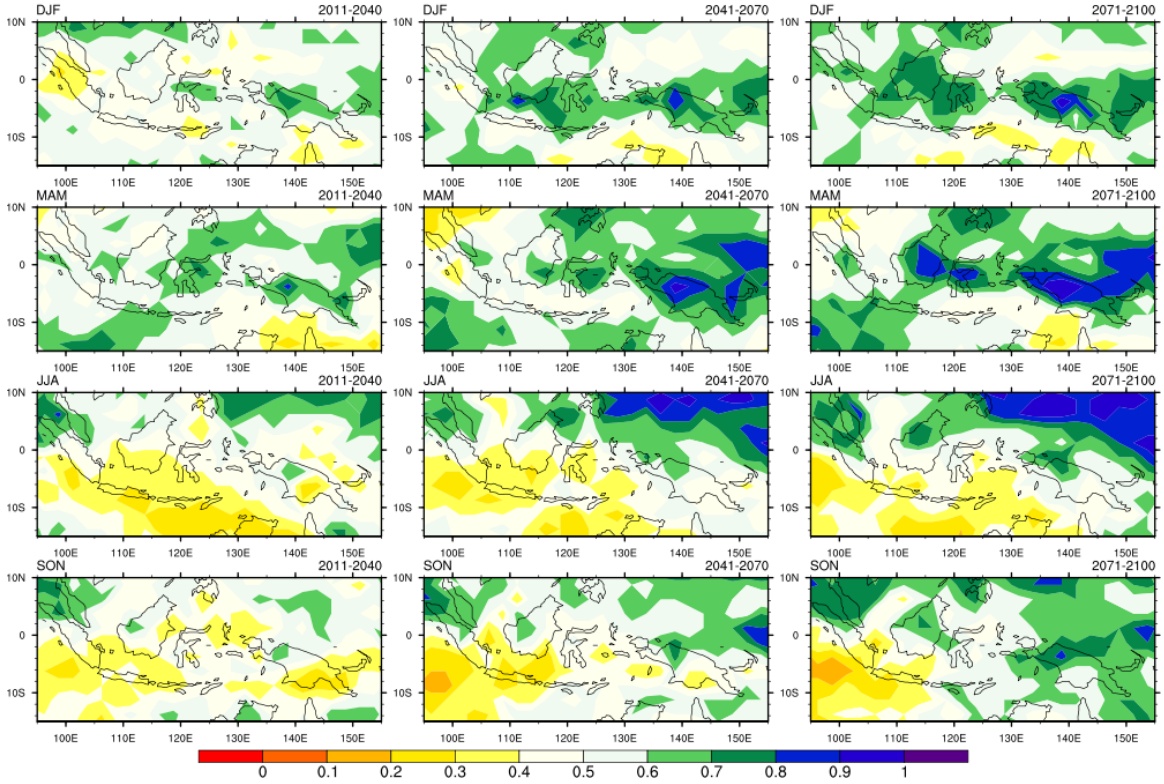
DJF: December-January-February
MAM: March-April-May
JJA: June-July-August
SON: September-October-November



Probability of Precipitation based on 28 GCMs (RCP45)



Probability of Precipitation based on 20 GCMs (RCP60)



Probability of Precipitation based on 28 GCMs (RCP85)