



ADAPTATION FUND

AFB/PPRC.30/15
03 October 2022

Adaptation Fund Board
Project and Programme Review Committee
Thirtieth Meeting
Bonn, Germany, 11-12 October 2022

Agenda Item 4 j)

PROPOSAL FOR INDONESIA (6)

Background

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

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

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

3. The first four criteria mentioned above are:

- (i) Country Eligibility,
- (ii) Project Eligibility,
- (iii) Resource Availability, and
- (iv) Eligibility of NIE/MIE.

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

5. It is worth noting that at the twenty-second Board meeting, the Environmental and Social Policy (ESP) of the Fund was approved and at the twenty-seventh Board meeting, the Gender Policy (GP) of the Fund was also approved. Consequently, compliance with both the ESP and the GP has been included in the review criteria both for concept documents and fully-developed project documents. The proposal template was revised as well, to include sections requesting demonstration of compliance of the project/programme with the ESP and the GP.

6. At its seventeenth meeting, the Board decided (Decision B.17/7) to approve "Instructions for preparing a request for project or programme funding from the Adaptation Fund", contained in the Annex to document AFB/PPRC.8/4, which further outlines applicable review criteria for both

concepts and fully-developed proposals. The latest version of this document was launched in conjunction with the revision of the Operational Policies and Guidelines in November 2013.

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

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

9. The following project concept document titled “Building Climate Resilient District in Indonesia: Case of Sigi District” was submitted for Indonesia by the Partnership for Governance Reform in Indonesia (Kemitraan), which is the National Implementing Entity of the Adaptation Fund.

10. This is the first submission of the project concept proposal, using the two-step submission process.

11. The current submission was received by the secretariat in time to be considered in the thirty-ninth Board meeting. The secretariat carried out a technical review of the project proposal, assigned it the diary number AF00000306, and completed a review sheet.

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

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



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Small-sized Project Concept

Country/Region: Indonesia/Asia & Pacific

Project Title: Building Climate Resilient District in Indonesia: Case of Sigi District

Thematic Focal Area: Rural Development

Implementing Entity: Kemitraan (Partnership for Governance Reform)

Executing Entities: Konsorsium Lingkungan Adaptif, Berketahanan, Inovatif, dan Partisipatif (KOLABORASI): Koaksi Indonesia, Lingkar Temu Kabupaten Lestari (LTKL), Earth Innovation Institute, Alliance for Water Stewardship Indonesia in partnership with the District of Sigi, Central Sulawesi

AF Project ID: AF00000306

IE Project ID:

Requested Financing from Adaptation Fund (US Dollars): 998,868

Reviewer and contact person: Micol Ullmann Auger **Co-reviewer(s):** Claudia Lasprilla Pina

IE Contact Person:

Technical Summary	<p>The project “Building Climate Resilient District in Indonesia: Case of Sigi District” aims to increase the economic, social and ecosystem resilience of Sigi District towards the detrimental impacts of climate change. This will be done through the two components below:</p> <p><u>Component 1:</u> Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach (USD 537,915);</p> <p><u>Component 2:</u> Showcasing an effective District’s Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district (USD 301,757).</p> <p><u>Requested financing overview:</u></p> <p>Project/Programme Execution Cost: USD 80,944 Total Project/Programme Cost: USD 920,616 Implementing Fee: USD 78,252</p>
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	<p>Financing Requested: USD 998,868</p> <p>The proposal includes a request for a project formulation grant of USD 50,000.</p> <p>The initial technical review raised some issues, such as the need for more information regarding direct and indirect beneficiaries, the consultations process, cost effectiveness, coordination of complementarity with other initiatives, project sustainability, and risk categorization, as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.</p> <p>The final technical review finds that the proposal has all of the CRs and CARs requests to a satisfactory level for a concept note. Further recommendations are formulated for the fully-developed proposal.</p>
Date:	September 22, 2022

Review Criteria	Questions	Comments Initial Technical Review	Comments Final Technical Review
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. Indonesia is highly vulnerable to climate change impacts, especially shifts in rainfall patterns and increasing incidence of extreme events, including flooding and landslides which threaten livelihoods and food security.	-
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes. As per the Endorsement letter dated August 5, 2022.	-
	2. Does the length of the proposal amount to no more than Fifty pages for the project/programme concept, including its annexes?	No. The proposal is 69 pages, including its annexes.	CAR1: Cleared.

		CAR1: Please reduce the document length to 50 pages.	
	3. 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?	<p>Yes.</p> <p>The project's components offer concrete adaptation actions which can improve the targeted communities' adaptive capacity to climate change and support the development of much needed climate change adaptation policy.</p> <p>The project's activities to carry out climate change vulnerability and capacity assessments will enable the formulation of appropriate adaptation measures that increase the district's resilience towards threats to its water, energy, and food security. The resulting District-level Action Plan for Climate Change Adaptation will serve as a model for regional water and agricultural practice governance.</p> <p>The anticipated measures may include supporting sustainable land use and agriculture, forest conservation, access to renewable energy, and integrated watershed management.</p> <p>The project activities support AF Strategic outcomes 2, 3, 4, 5, 6, and 7.</p>	-

	<p>4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Potentially.</p> <p>The project aims to improve the Sigi District government's resilience to climate change risks through adaptation programming efforts, to be piloted in two vulnerable villages: Bolapapu Village in Kulawi sub-district (population of 2,464 people, comprising 1,232 males and 1,232 females) and Lonebasa Village in Pipikoro sub-district (population of 864 people that comprises 468 males and 396 females).</p> <p>The proposal outlines the social, economic and environmental benefits of the project in very general terms. It mentions women's involvement in small-scale agriculture and informal income-generating activities, and their role as the primary caregivers, as well as their lack of access to essential services and decision-making power.</p> <p>More information is needed, however, regarding direct and indirect project beneficiaries, including marginalized and vulnerable groups and indigenous communities, in order to ensure the equitable distribution of benefits to vulnerable communities, households, and individuals.</p> <p>CR1: Please provide more details regarding direct and indirect project beneficiaries, including marginalized</p>	<p>CR1: Cleared.</p> <p>As per additional information included on pages 13-14.</p>
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		and vulnerable groups and indigenous communities and how the project will benefit each, quantifying benefits whenever possible.	
	5. Is the project / programme cost effective?	<p>Potentially.</p> <p>The relevant information is outlined in Annex 1, but information is needed on alternative interventions.</p> <p>CAR2: Please include a comparison to alternative adaptation interventions that could have taken place to help adapt and build resilience in the same setting (sector, geographic region, and/or community); with quantitative estimates where feasible.</p>	<p>CAR2: Cleared.</p> <p>As per additional information included on pages 17 and 33.</p>
	6. 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?	<p>Yes.</p> <p>The project is aligned with Indonesia's commitment towards climate change mitigation and adaptation, as formalized in the National Determined Contribution (NDC) and the NDC roadmap, as well as the following national and sub-national plans and instruments:</p> <ul style="list-style-type: none"> • National Medium-Term Development Planning document (<i>Rencana Pembangunan Jangka Menengah National</i> or 	-

		<p>RPJMN) 2020-2024 specifically outlines seven national development agendas, which includes building the environment and increasing disaster and climate change resilience</p> <ul style="list-style-type: none"> • National Action Plans for Climate Change Adaptation (<i>Rencana Aksi Nasional Adaptasi Perubahan Iklim</i> or RAN-API) • Presidential Regulation no. 98/2021 on Economic Value of Carbon • Strategic Plan of the Directorate General of Climate Change of the Ministry of Environment and Forestry (Renstra PPI) • Regional Medium-term Development Plan (Rencana Pembangunan Jangka Menengah or RPJMD) 2021-2026 • Green Sigi (Siji Hijau) Vision 	
	<p>7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?</p>	<p>Yes.</p> <p>The project is aligned with the relevant sector-specific regulations, including Presidential Regulation (PERPRES) No.22 of 2017 concerning guidelines for Regional General Energy Plan, the Central Sulawesi Governor General Regulation No. 25 of 2019 on regional</p>	-

		electricity 2019-2038, with a focus on mini hydro or solar for rural energy, and Forestry Regulation No. 4 of 2021, the Indonesian National Standard, which regulates the production of agricultural products.	
	8. Is there duplication of project / programme with other funding sources?	<p>Unclear. While there is no existing program to support Sigi District specifically on collective actions planning for climate adaptation resiliency and their implementation scenarios, the concept mentions the potential to “complement the Sigi District government’s current mitigation efforts” on page 22, as well as “on-going efforts to develop a sustainable business model and supply-chain within the jurisdiction to boost regional competitiveness while allowing the district to also protect their important ecosystem” by GIZ and possibly other agencies, on page 26.</p> <p>CR2: Please list the referenced Sigi District government mitigation efforts and GIZ programs, as well as any other relevant regional or national programs by name, citing any possible areas of overlap and complementarity, linkages, and/or synergies.</p> <p>CR3: Please outline any framework for coordination with complementary projects during implementation.</p>	<p>CR2: Cleared. As per additional information included on page 17.</p> <p>CR3: Cleared. As per additional information included on page 17.</p>
	9. Does the project / programme have a learning and knowledge	Yes.	

	<p>management component to capture and feedback lessons?</p>	<p>As per activities under component 1 which establish a knowledge sharing method for collaborative planning practice for climate change adaptation at the district, provincial, and national levels.</p> <p>As outlined on page 37, activities include the production of knowledge products including a summary of process translated into a decision tree infographic, guidance worksheets, and case study examples for each segment of the process. These tools will be disseminated via virtual workshops, and through targeted coaching clinics for interested districts to participate in-person, with their own resources.</p> <p>Additionally, the project will collaborate with national and Sigi District agencies to further disseminate the information generated by the project and promote replication.</p>	
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	<p>10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Not clear. Initial consultations have been carried out with key stakeholders from vulnerable groups, civil society organizations, and development, as well as academic institutions which focused on disaster resiliency and forest protection, and the project team also received direct feedback from the Regional Development Planning Agency (BAPPEDA), Regional Disaster Agency (BPBD), Regional Environmental Agency (DLH) and Village Planning and Empowerment Agency (PemDes). However, stakeholder mapping, including identification of indigenous groups in the target area and an assessment to address potential risks/impacts to vulnerable and indigenous groups have not yet been carried out, even though related potential risks have been flagged in the proposal. The proposal mentions (pages 28 and 67) plans to carry out a “preliminary assessment”, and stakeholder mapping to identify any indigenous groups, as well as “consultations to further refine our approaches and interventions to fit in with the current local contexts” at project inception. Additionally, no attendance lists, or summaries of feedback for already consulted groups are included.</p>	<p>CAR3: Cleared. As per additional information included on pages 18-21.</p> <p>CAR4: Cleared. A table with gender-disaggregated attendance lists, dates of meetings, consultation techniques, and key findings from consultations held with various stakeholders has been included on pages 18-20.</p> <p>Please note that the <u>fully-developed proposal</u> should include information for consultations held with civil society organizations and vulnerable and marginalized groups, in particular suggestions and concerns raised with special attention to vulnerable, marginalized, and indigenous groups in the target area.</p> <p>CR4: Cleared. As per additional information included on pages 18-20.</p>
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		<p>Please note that stakeholder mapping and an initial gender-responsive consultative process, involving all relevant stakeholders of the project/programme, including vulnerable groups and taking into account gender considerations needs to be carried out at <u>concept stage</u>.</p> <p>CAR3: Please carry out stakeholder mapping to identify and involve all relevant stakeholders of the project, with special attention to vulnerable, marginalized, and indigenous groups in the target area, where relevant.</p> <p>CAR4: Please include a report documenting the consultative process to include a) the gender-disaggregated list of stakeholders already consulted (names, titles role ascription, date of consultation), b) a description of the consultation techniques (tailored specifically per target group), c) the key consultation findings (in particular suggestions and concerns raised), with special attention to vulnerable, marginalized, and indigenous groups in the target area, where relevant.</p> <p>CR4: Please specify how the results of the consultative process are reflected in the project design.</p>	
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	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	<p>Yes. As outlined on page 28. AF funding of this project will fill the gap in developing climate adaptation programs in Sigi District and enable the carrying out of vulnerability assessment to climate change as well as an assessment of the capacity of community groups and the local government to deal with climate change impacts. This project will serve to pilot implementation of the water-energy-food nexus concept to support the village-level climate adaptation action plan for scale up to develop the Regional Action Plan for Climate Change Adaptation (RAD API).</p>	-
	12. Is the project / program aligned with AF's results framework?	<p>Yes. As outlined in the table on page 37.</p>	-
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	<p>Not clear. More information is needed regarding financial sustainability for implementation of climate-adaptive agricultural practices, water resource management, and access to sustainable energy, and on how social sustainability will be ensured after project completion. From an institutional perspective, the creation of a district level working group, and development of a multi-stakeholder managed district-level Action plan for climate change adaptation can support local</p>	<p>CR5: Cleared. As per additional information included on pages 21-22.</p>

		<p>ownership and ensure continued local government and community support for the project activities, as well as scale up and replication at the regional level.</p> <p>The increased economic, social, and ecosystem resilience can help avoid losses associated with climate change impacts and natural disasters, as well as improve access to essential services. However, it is unclear how inputs, including maintenance of any infrastructure or installations will be ensured after project completion. Will funding be come out of local and or regional government budgets?</p> <p>CR5: Please provide more details regarding financial and social sustainability of project activities. Including maintenance/installation activities and the funding sources after the end of the project.</p>	
	<p>14. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Partially.</p> <p>A checklist and a table were provided on page 30. However, more details are needed regarding all potential direct, indirect, transboundary, and cumulative impacts that could result from the proposed project/programme and a substantiation of the risk assessment conclusions is needed.</p>	<p>CR6: Cleared.</p> <p>As per additional information included on pages 43-45.</p> <p>CAR5: Cleared.</p> <p>As per additional information included on page 23.</p>

		<p>The proposal specifies that these impacts will be outlined after further assessment.</p> <p>The proposal does not state the category in which the screening process has classified the project/programme.</p> <p>CR6: Please ensure that all potential direct, indirect, transboundary, and cumulative impacts that could result from the proposed project/programme are included in the proposal and that preliminary risk conclusions are sufficiently substantiated at this stage.</p> <p>CAR5: Please state the category in which the screening process has classified the project/programme. (Category A, B or C). Please also ensure that these categories reflect AF ESP and not the IE policy.</p>	
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	<p>Yes.</p> <p>CAR6: The total in the components, results framework and budget don't match the cover page USD 1,078,637, please amend accordingly.</p>	CAR6: Cleared.
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	<p>No.</p> <p>CAR7: The implementing fee is at 8.56%, please revise figures to be at or below 8.50%.</p>	<p>CAR7: Cleared.</p> <p>For the <u>fully-developed proposal</u> please revise the figure to be at or below 8.50%</p>

	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	Yes.	-
Eligibility of IE	1. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes. Kemitraan (Partnership for Governance Reform) is an accredited National Implementing Entity.	-
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	n/a at concept stage	
	2. Are there measures for financial and project/programme risk management?	n/a at concept stage	
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	n/a at concept stage	
	4. Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage	
	5. Is an explanation and a breakdown of the execution costs included?	n/a at concept stage	
	6. Is a detailed budget including budget notes included?	n/a at concept stage	
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in	n/a at concept stage	

	compliance with the Gender Policy of the Fund?		
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a at concept stage	
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a at concept stage	
	10. Is a disbursement schedule with time-bound milestones included?	n/a at concept stage	



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Small-sized Project Concept

Country/Region: Indonesia/Asia & Pacific

Project Title: Building Climate Resilient District in Indonesia: Case of Sigi District

Thematic Focal Area: Rural Development

Implementing Entity: Kemitraan (Partnership for Governance Reform)

Executing Entities: Konsorsium Lingkungan Adaptif, Berketahanan, Inovatif, dan Partisipatif (KOLABORASI): Koaksi Indonesia, Lingkar Temu Kabupaten Lestari (LTKL), Earth Innovation Institute, Alliance for Water Stewardship Indonesia in partnership with the District of Sigi, Central Sulawesi

AF Project ID: AF00000306

IE Project ID:

Requested Financing from Adaptation Fund (US Dollars): 998,868

Reviewer and contact person: Micol Ullmann Auger

Co-reviewer(s): Claudia Lasprilla Pina

IE Contact Person:

Technical Summary

The project "Building Climate Resilient District in Indonesia: Case of Sigi District" aims to increase the economic, social and ecosystem resilience of Sigi District towards the detrimental impacts of climate change. This will be done through the two components below:

Component 1: Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach (USD 591,422);

Component 2: Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district (USD 329,194).

Requested financing overview:

Project/Programme Execution Cost: USD 80,944

Total Project/Programme Cost: USD 839,672

Implementing Fee: USD 78,252

Financing Requested: USD 998,868

The proposal includes a request for a project formulation grant of USD 50,000.

	The initial technical review raises some issues, such as the need for more information regarding direct and indirect beneficiaries, the consultations process, cost effectiveness, coordination of complementarity with other initiatives, project sustainability, and risk categorization, as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review.
Date:	August 19, 2022

Review Criteria	Questions	Comments	Responses
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. Indonesia is highly vulnerable to climate change impacts, especially shifts in rainfall patterns and increasing incidence of extreme events, including flooding and landslides which threaten livelihoods and food security.	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes. As per the Endorsement letter dated August 5, 2022.	
	2. Does the length of the proposal amount to no more than Fifty pages for the project/programme concept, including its annexes?	No. The proposal is 69 pages, including its annexes. CAR1: Please reduce the document length to 50 pages.	CAR1: Yes. The document's length has been reduced to 50 pages.
	3. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate	Yes. The project's components offer concrete adaptation actions which can improve the targeted communities' adaptive capacity to climate change	

	change and build in climate resilience?	<p>and support the development of much needed climate change adaptation policy.</p> <p>The project's activities to carry out climate change vulnerability and capacity assessments will enable the formulation of appropriate adaptation measures that increase the district's resilience towards threats to its water, energy, and food security. The resulting District-level Action Plan for Climate Change Adaptation will serve as a model for regional water and agricultural practice governance.</p> <p>The anticipated measures may include supporting sustainable land use and agriculture, forest conservation, access to renewable energy, and integrated watershed management.</p> <p>The project activities support AF Strategic outcomes 2, 3, 4, 5, 6, and 7.</p>	
	4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the	<p>Potentially.</p> <p>The project aims to improve the Sigi District government's resilience to climate change risks through adaptation programming efforts, to be piloted in two vulnerable villages: Bolapapu Village in Kulawi sub-district (population of 2,464 people, comprising 1,232 males and 1,232</p>	<p>CR1:</p> <p>Details on direct and indirect benefits have been added on paragraph 62 on page 13-14.</p>

	Environmental and Social Policy and Gender Policy of the Fund?	<p>females) and Lonebasa Village in Pipikoro sub-district (population of 864 people that comprises 468 males and 396 females).</p> <p>The proposal outlines the social, economic and environmental benefits of the project in very general terms. It mentions women's involvement in small-scale agriculture and informal income-generating activities, and their role as the primary caregivers, as well as their lack of access to essential services and decision-making power.</p> <p>More information is needed, however, regarding direct and indirect project beneficiaries, including marginalized and vulnerable groups and indigenous communities, in order to ensure the equitable distribution of benefits to vulnerable communities, households, and individuals.</p> <p>CR1: Please provide more details regarding direct and indirect project beneficiaries, including marginalized and vulnerable groups and indigenous communities and how the project will benefit each, quantifying benefits whenever possible.</p>	
	5. Is the project / programme cost effective?	Potentially.	CAR2: Requested information has been added in Annex 1. Cost Effectiveness on page 33.

		<p>The relevant information is outlined in Annex 1, but information is needed on alternative interventions.</p> <p>CAR2: Please include a comparison to alternative adaptation interventions that could have taken place to help adapt and build resilience in the same setting (sector, geographic region, and/or community); with quantitative estimates where feasible.</p>	<p>CAR2: Requested information has been added in paragraph 80 on page 17.</p>
	<p>6. 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?</p>	<p>Yes. The project is aligned with Indonesia's commitment towards climate change mitigation and adaptation, as formalized in the National Determined Contribution (NDC) and the NDC roadmap, as well as the following national and sub-national plans and instruments:</p> <ul style="list-style-type: none"> • National Development Planning document (<i>Rencana Pembangunan Jangka Menengah</i> National or RPJMN) 2020-2024 specifically outlines seven national development agendas, which includes building the environment and increasing disaster and climate change resilience • National Action Plans for Climate Change Adaptation 	

		<p>(<i>Rencana Aksi Nasional Adaptasi Perubahan Iklim</i> or RAN-API)</p> <ul style="list-style-type: none"> • Presidential Regulation no. 98/2021 on Economic Value of Carbon • Strategic Plan of the Directorate General of Climate Change of the Ministry of Environment and Forestry (Renstra PPI) • Regional Medium-term Development Plan (Rencana Pembangunan Jangka Menengah or RPJMD) 2021-2026 • Green Sigi (Siji Hijau) Vision 	
	7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	<p>Yes.</p> <p>The project is aligned with the relevant sector-specific regulations, including Presidential Regulation (PERPRES) No.22 of 2017 concerning guidelines for Regional General Energy Plan, the Central Sulawesi Governor General Regulation No. 25 of 2019 on regional electricity 2019-2038, with a focus on mini hydro or solar for rural energy, and Forestry Regulation No. 4 of 2021, the Indonesian National Standard, which regulates the production of agricultural products.</p>	
	8. Is there duplication of project / programme with other funding sources?	<p>Unclear.</p> <p>While there is no existing program to support Sigi District specifically on collective actions planning for climate</p>	<p>CR2:</p> <p>List of referenced programs by Sigi Government and GIZ has been added in paragraph 81 on page 17.</p>

		<p>adaptation resiliency and their implementation scenarios, the concept mentions the potential to “complement the Sigi District government’s current mitigation efforts” on page 22, as well as “on-going efforts to develop a sustainable business model and supply-chain within the jurisdiction to boost regional competitiveness while allowing the district to also protect their important ecosystem” by GIZ and possibly other agencies, on page 26.</p> <p>CR2: Please list the referenced Sigi District government mitigation efforts and GIZ programs, as well as any other relevant regional or national programs by name, citing any possible areas of overlap and complementarity, linkages, and/or synergies.</p> <p>CR3: Please outline any framework for coordination with complementary projects during implementation.</p>	<p>CR3: Requested information has been added in paragraph 81 on page 17.</p>
	<p>9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?</p>	<p>Yes.</p> <p>As per activities under component 1 which establish a knowledge sharing method for collaborative planning practice for climate change adaptation at the district, provincial, and national levels.</p> <p>As outlined on page 37, activities include the production of knowledge products including a summary of process translated into a decision tree infographic, guidance worksheets,</p>	

		<p>and case study examples for each segment of the process. These tools will be disseminated via virtual workshops, and through targeted coaching clinics for interested districts to participate in-person, with their own resources.</p> <p>Additionally, the project will collaborate with national and Sigi District agencies to further disseminate the information generated by the project and promote replication.</p>	
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	<p>10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Not clear. Initial consultations have been carried out with key stakeholders from vulnerable groups, civil society organizations, and development, as well as academic institutions which focused on disaster resiliency and forest protection, and the project team also received direct feedback from the Regional Development Planning Agency (BAPPEDA), Regional Disaster Agency (BPBD), Regional Environmental Agency (DLH) and Village Planning and Empowerment Agency (PemDes). However, stakeholder mapping, including identification of indigenous groups in the target area and an assessment to address potential risks/impacts to vulnerable and indigenous groups have not yet been carried out, even though related potential risks have been flagged in the proposal. The proposal mentions (pages 28 and 67) plans to carry out a “preliminary assessment”, and stakeholder mapping to identify any indigenous groups, as well as “consultations to further refine our approaches and interventions to fit in with the current local contexts” at project inception. Additionally, no attendance lists, or summaries of feedback for already consulted groups are included.</p>	<p>CAR3: Requested information has been summarized in a table added in Section II H. Consultative Process on page 18-20.</p> <p>CAR4: Requested information has been summarized in a table added in Section II H. Consultative Process on page 18-20.</p> <p>CR4: Requested information has been summarized in a table added in Section II H. Consultative Process on page 18-20.</p>
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		<p>Please note that stakeholder mapping and an initial gender-responsive consultative process, involving all relevant stakeholders of the project/programme, including vulnerable groups and taking into account gender considerations needs to be carried out at <u>concept stage</u>.</p> <p>CAR3: Please carry out stakeholder mapping to identify and involve all relevant stakeholders of the project, with special attention to vulnerable, marginalized, and indigenous groups in the target area, where relevant.</p> <p>CAR4: Please include a report documenting the consultative process to include a) the gender-disaggregated list of stakeholders already consulted (names, titles role ascription, date of consultation), b) a description of the consultation techniques (tailored specifically per target group), c) the key consultation findings (in particular suggestions and concerns raised), with special attention to vulnerable, marginalized, and indigenous groups in the target area, where relevant.</p> <p>CR4: Please specify how the results of the consultative process are reflected in the project design.</p>	
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	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	<p>Yes.</p> <p>As outlined on page 28. AF funding of this project will fill the gap in developing climate adaptation programs in Sigi District and enable the carrying out of vulnerability assessment to climate change as well as an assessment of the capacity of community groups and the local government to deal with climate change impacts. This project will serve to pilot implementation of the water-energy-food nexus concept to support the village-level climate adaptation action plan for scale up to develop the Regional Action Plan for Climate Change Adaptation (RAD API).</p>	
	12. Is the project / program aligned with AF's results framework?	<p>Yes.</p> <p>As outlined in the table on page 37.</p>	
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	<p>Not clear.</p> <p>More information is needed regarding financial sustainability for implementation of climate-adaptive agricultural practices, water resource management, and access to sustainable energy, and on how social sustainability will be ensured after project completion.</p> <p>From an institutional perspective, the creation of a district level working group, and development of a multi-stakeholder managed district-level Action plan for climate change adaptation can support local</p>	<p>CR 5:</p> <p>Information on financial sustainability has been added in paragraph 99 on page 21-22.</p>

		<p>ownership and ensure continued local government and community support for the project activities, as well as scale up and replication at the regional level.</p> <p>The increased economic, social, and ecosystem resilience can help avoid losses associated with climate change impacts and natural disasters, as well as improve access to essential services. However, it is unclear how inputs, including maintenance of any infrastructure or installations will be ensured after project completion. Will funding be come out of local and or regional government budgets?</p> <p>CR5: Please provide more details regarding financial and social sustainability of project activities. Including maintenance/installation activities and the funding sources after the end of the project.</p>	
	<p>14. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?</p>	<p>Partially.</p> <p>A checklist and a table were provided on page 30. However, more details are needed regarding all potential direct, indirect, transboundary, and cumulative impacts that could result from the proposed project/programme and a substantiation of the risk assessment conclusions is needed.</p>	<p>CR6: All potential direct, indirect, transboundary, and cumulative impacts have been listed in Annex 5: Environmental and Social Management Plan on page 44-46.</p> <p>CAR5:</p>

		<p>The proposal specifies that these impacts will be outlined after further assessment.</p> <p>The proposal does not state the category in which the screening process has classified the project/programme.</p> <p>CR6: Please ensure that all potential direct, indirect, transboundary, and cumulative impacts that could result from the proposed project/programme are included in the proposal and that preliminary risk conclusions are sufficiently substantiated at this stage.</p> <p>CAR5: Please state the category in which the screening process has classified the project/programme. (Category A, B or C). Please also ensure that these categories reflect AF ESP and not the IE policy.</p>	<p>The project category is now stated in the Concept Note in Section II K. Environmental and Social Impact Risk in paragraph 100, page 23.</p>
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	<p>Yes.</p> <p>CAR6: The total in the components, results framework and budget don't match the cover page USD 1,078,637, please amend accordingly.</p>	<p>CAR6: All the total project cost is 998,868, consisting of (A) Project Activities Cost USD 839,672; (B) Project Execution Cost (9.5%) USD 80,944; and (C) Implementing Entity Fee (8.5%) USD 78,252. This is reflected in Project/Programme Components and Financing table on page 11-12, Annex 3: Project Budget on page 39-42 and Annex 4: Disbursement Schedule with Time-bound Milestones on page 42-43.</p>

	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	No. CAR7: The implementing fee is at 8.56%, please revise figures to be at or below 8.50%.	CAR7: Implementing Entity Fee revised to (8.5%) USD 78.252. This is reflected in Project/Programme Components and Financing table on page 11-12, Annex 3: Project Budget on page 39-42 and Annex 4: Disbursement Schedule with Time-bound Milestones on page 42-43.
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	Yes.	
Eligibility of IE	1. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes. Kemitraan (Partnership for Governance Reform) is an accredited National Implementing Entity.	
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	n/a at concept stage	
	2. Are there measures for financial and project/programme risk management?	n/a at concept stage	
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	n/a at concept stage	
	4. Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage	

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



ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category: ~~Small-sized Project/Programme~~

Country/ies: ~~INDONESIA~~

Title of Project/Programme: ~~Building Climate Resilient District in Indonesia: Case of Sigi District~~

Type of Implementing Entity: ~~National Implementing Entity~~

Implementing Entity: ~~Kemitraan (Partnership)~~

Executing Entity/ies: ~~Konsorsium Lingkungan Adaptif, Berketahanan, Inovatif, dan Partisipatif (KOLABORASI): Koaksi Indonesia, Lingkar Temu Kabupaten Lestari (LTKL), Earth Innovation Institute (EII), Alliance for Water Stewardship Indonesia in partnership with the District of Sigi, Central Sulawesi.~~

Amount of Financing Requested: ~~998,868 (in U.S Dollars Equivalent)~~

Project/Programme Category	Small-sized Project/Programme
Country/ies	INDONESIA
Title of Project/Programme	Building Climate Resilient District in Indonesia: Case of Sigi District
Type of Implementing Entity	National Implementing Entity
Implementing Entity	Kemitraan (Partnership)
Executing Entity/ies	Konsorsium Lingkungan Adaptif, Berketahanan, Inovatif, dan Partisipatif (KOLABORASI) Koaksi Indonesia, Lingkar Temu Kabupaten Lestari (LTKL), Earth Innovation Institute (EII), Alliance for Water Stewardship Indonesia in partnership with the District of Sigi, Central Sulawesi.
Amount of Financing Requested	998,868 (in U.S Dollars Equivalent)

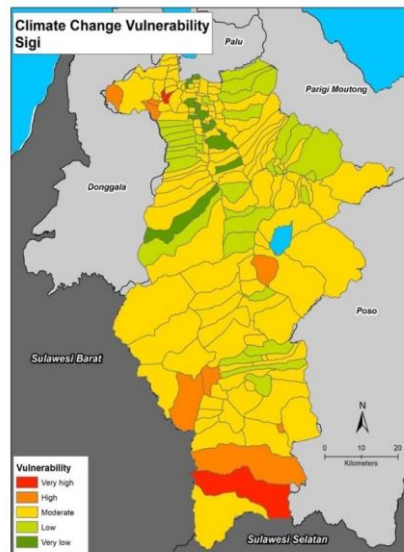
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Project / Programme Background and Context:

1) General context: Climate Change and Adaptation

1. Indonesia is ranked in the top-third of countries in terms of climate risk, with high exposure to all types of flooding and extreme heat. The intensity of these hazards is expected to grow as the climate changes. Without effective adaptation, population exposure will also rise. For example, the population exposed to an extreme river flood could grow by 1.4 million by 2035–2044¹.

— Sigi District, based on the Index and Vulnerability Data Information System (Sistem Informasi Data Indeks dan Kerentanan/SIDIK), is an area that is quite vulnerable to the impacts of climate change. Based on SIDIK, 66% of the villages are considered to have a moderate vulnerability to climate change. Villages located further from the district capital in the Sigi Biromaru sub-district tend to have a higher vulnerability to climate change. Figure 1 illustrates the vulnerability at village level.

2. Figure 1. Vulnerability to climate change map of Sigi District in 2018 (Source: SIDIK²).

3. According to the head of Sigi Disaster Management Agency, almost all area of Sigi District is vulnerable to disaster, mainly flood and landslide³. Based on the result of the rainfall analysis in the past 37 years, there is an increasing trend in the number of rainy days >50 mm/day (extreme) per year. This indicates that there is a threat of increasing rains with extreme intensity in the future, which would cause floods and landslides that could submerge houses and agricultural land, and damage other public infrastructure, such as roads, fresh water, and electricity.

¹Climate Risk Profile: Indonesia (2021): The World Bank Group and Asian Development Bank

²https://inarisk.bnpb.go.id:6443/arcgis/rest/services/SIDIK/Kerentanan_Iklim/MapServer

³<https://nasional.tempo.co/read/1358522/pemkab-sigi-tingkatkan-masyarakat-waspada-cuaca-ekstrem>

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4. In 2020, flash floods hit the Omu and Tuva Villages in the Gumbasa District. The disaster had disabled the Palu-Kulawi route for two days. Apart from these two villages, there were also a number of villages in Kulawi and South Dolo sub-districts, which had been frequently hit by flash floods. Therefore, people who live along the river need to be vigilant and evacuate immediately if there are signs of flood. It is evident that climate variability has increased the risk of floods and landslides, and other types of climate-related disasters in Sigi District.

Disaster	Number of events	Number of people			Number of residential unit				Number of unit damaged		
		Loss of life	Injured	Relocated	Severe damaged	Damaged	Little damaged	Submerged	Health facilities	Religious facilities	Education facilities
Flood	15	10	28	5,039	235		122	1,011	2	8	11
Earthquake and liquefaction	1	405	1,112	76,835	8,342	5,960	13,850	0	35		267
Landslide	5		10	384	8		10	46	0	1	0
Extreme weather	1	0	2	0	0	0	0	0	0	0	0

Table 1. Disaster Incidents in Sigi District 2010-2019. Source: 2019 Disasters in Indonesia Data and Information

2) Climate change threats to Sigi District

2.a. Water-related Strategic Issues in Sigi District

i) Catchment Water Balance to Sustain Livelihood and Energy Production

5. Catchment water balance takes into account the total inflows of water entering the catchment, the total outflows of water leaving the catchment, and the capacity of the catchment to store water. One of the significant impacts of climate change and variability is the changing water cycle in the catchment, disrupting the catchment water balance that could further increase the risks related to conflict over water among different users in the catchment⁴.

6. Sigi District is located in the Palu-Lariang river basin or *Wilayah Sungai Palu-Lariang*, a trans-provincial river basin comprising 52 smaller surface catchments. Two of the Palu-Lariang river basin's largest catchments are located in Sigi, which are called DAS Lariang and DAS Palu. ~~The water cycle in these catchments is critical to sustain the district's irrigation areas such as, Gumbasa, Kekeloe, Maenusi, Wuno, Ngata Baru, Paneki, Gimpu, Tongoa, Pakuli, Proud, Saluri, Balase, Rogo, Sambo, Wera, and Bomba.~~ Understanding the catchments' water balance allows the district government to better plan a resilient fresh water supply for the upcoming industrial and agricultural centers in Sigi, as a part of the KAPET-PALAPAS National Strategic Area.

7. Currently, the study on the impact of climate change at the district level is not available and is expected to be made available through the implementation of this proposal.

ii) River and Borewell Water Quality

8. The resilience of water supply to sustain livelihood and energy production also depends on the quality of available water sources. The Sigi Information on Environmental Management Performance in 2018 mentioned that maintaining good quality of water resources is considered as one of the district strategic development issues.

9. Regular surface water quality monitoring by the district government is done at six subsidiaries of Lariang river, ~~i.e.: Saluki river, Salua river, Gumbasa river, Sambo river, Lewara river, and Miu river.~~ Monitoring in 2018 showed that both the physical and chemical parameters of Lariang river are ~~lower than the national standard quality for Class II Water, which means that generally the Lariang river water is not suitable for the district's drinking water supply. Mild contamination in Lariang river was recorded in the 2017 Water Contamination Index by the district's environmental protection office.~~ On the other hand, the groundwater quality monitoring in 2018 in nine sampling locations indicated that the district's groundwater is still suitable for fresh water supply for domestic purposes with prior treatments.

10. The district government has identified the lack of centralized domestic and industrial wastewater

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⁴A Chalid and A Mulyadi 2021 IOP Conf. Ser.: Earth Environ. Sci. 930 012074; and T.V.Reshmidevia, D.Nagesh KumarbcR. Mehrotrd A.Sharmad, Estimation of the climate change impact on a catchment water balance using an ensemble of GCMs

treatment plants and poor solid waste management as the significant causes for the declining of surface water quality.

iii) Access to Safe Water, Sanitation, and Hygiene (WASH)

11. While water sources availability is in abundance year-long in Sigi, only 3% of households are connected to the district water company (PDAM Donggala) piping system. As many as 70% of total households get their domestic water supply from individual bore wells (Statistik Kesejahteraan Rakyat Kabupaten Sigi 2021). While the total number showed that more than 70% of Sigi households already have access to clean water, SDG 6 targets, and national development targets required to be in a **decent and/or safe state**. However, information related to the quality of the individual bore wells are limited. The level of proneness to water quality contamination and resiliency towards natural disaster should be assessed, and the spatial distribution of the high-risk population in terms of access to decent or safe clean water.

12. Once collected and assessed, this information should be fed into the district's development targets and planning.

iv) Water-related Disaster: Flood and Landslide

(1) Flood

13. The flooding events in Sigi are mostly triggered by high-intensity rains that can be classified into two sub-categories, i.e.: local rain and flash flood due to the propagation of peak runoff from high-intensity rain in the upstream of the catchment. The topography of Sigi, which is dominated with highland-mountainous areas, leads to higher threat of flash flood to low-lying areas along the river systems. Several rivers with frequent floodings include 1) Miu river (Gumbasa sub-district), Salui river, Kalangga river; 2) Palindo river (South Dolo sub-district), Wewe River, Magila River, Sadaunta River; 3) Salua River (Kulawi sub-district); and Manggalapi River (Palolo sub-district).

14. High intensity rainfall generally occurs in the southern part of Sigi. This region is both classified as the upstream part of Palu catchment and Lariang Hulu catchment. The region includes Kulawi sub-district, Southern Lindu sub-district, South Kulawi sub-district and Pipikoro sub-district.

The high flooding incidence in Sigi is caused by several factors, including 1) local weather and climate, 2) Madden Julian Oscillation (MJO) - Global Atmospheric Phenomenon, 3) rock and soil conditions, 4) topographic, and 5) land cover changes.:

- Local weather and climate factors, caused by uneven variation (two peaks of the rainy season) and the monsoon season pattern.
- Madden Julian Oscillation (MJO) - Global Atmospheric Phenomenon - climate change triggers changes in the MJO pattern in tropical countries including Indonesia, which is an atmospheric wave that moves from west (Indian Ocean) to east by carrying wet air masses. The influx of wet air masses from the Indian Ocean increases rainfall in the areas traversed. The impact of the MJO is very strong in low latitude areas, near the equator (Windayati & Surinati, 2016).
- Geological factors (rock and soil conditions). Distribution of fine textured soil and clay fraction as a result of weathering/breakdown of rocks with high silica content in Sigi, as well as lithological

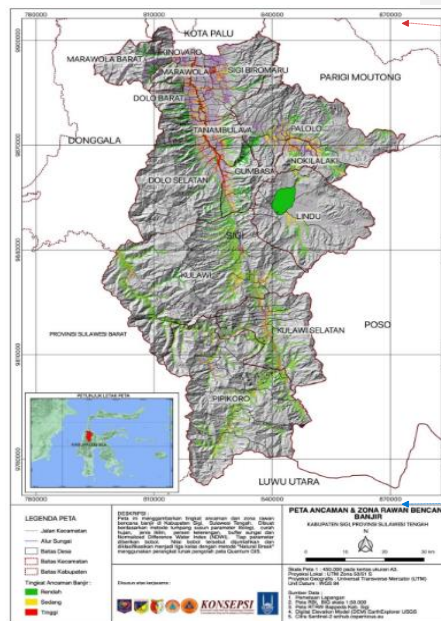


Figure 2. The distribution of flood and flash flood hazard index in Sigi (Source: Badan Nasional Penanggulangan Bencana, 2015)

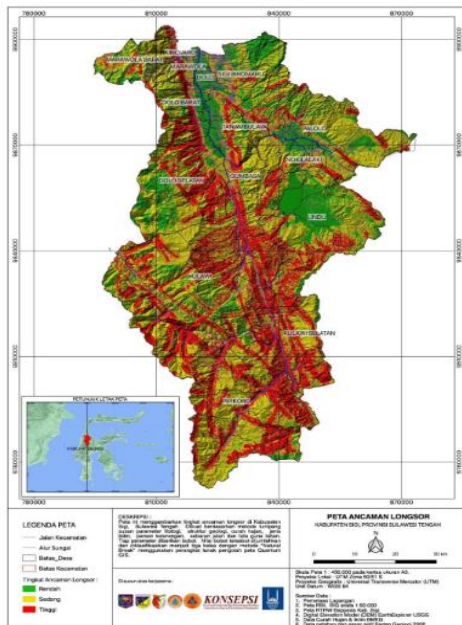
conditions composed of rocks with low permeability values.

- **Topographic factors (slope).** Steep slopes (topography class of steep hills steep mountains) with river channels that empties into the lowlands dominates the landscape of Sigi. The flood-prone lowlands are where major settlements and economic centers are developed.
- **The factor of land cover changes.** Massive changes in land use from land cover in the form of forests to areas of plantation, cultivation and mining activities, especially in areas that are included in the catchment of rivers in Sigi. This land use change also includes catchments which have been converted into plantation areas and even

15.

Figure 2. The distribution of flood and flash flood hazard index in Sigi (Source: Badan Nasional Penanggulangan Bencana, 2015)

(2) Landslide



In general, Sigi has an Oldmen climate type, which has seven to nine wet months in a year. Rain events can trigger landslides in areas with moderate to high slopes where rainwater has the potential to fill fracture zones and debris that accumulates in the upper slope area with high permeability, when water stored in soil and rock is saturated with water this condition will produce mud flow because the water mixes with clay and sand which can be a subsurface flow that passes through the slip plane (debris flow) which carries the soil and rock masses. This condition is characterized by the appearance of new springs with a cloudy brown color which indicates a mud flow is taking place which is ready to launch rock and soil masses into the lower ground.

16. High intensity rainfall generally occurs in the southern part of Sigi, ranging from 1500 to 2300 mm per year, i.e.: Kulawi sub-district, Southern Lindu sub-district, South Kulawi sub-district, and Pipikoro sub-district. Due to climate change conditions, the risk of higher rainfall intensity and flooding would increase and trigger landslides and flash floods in several areas, mainly along the Palu Valley.

Figure 3. The distribution of landslide hazard index in Sigi (Source: Badan Nasional Penanggulangan Bencana, 2015)

- 17. The 2022 to 2030 projection of change in flooding risk in Sigi, using current trend scenario, by WWF Water Risk Filter showed an increasing trend with risk change class of +0.8. This projection indicates that areas, currently identified by BNPB with high flood and flash flood hazard, would be further exposed to higher risk of flooding events.

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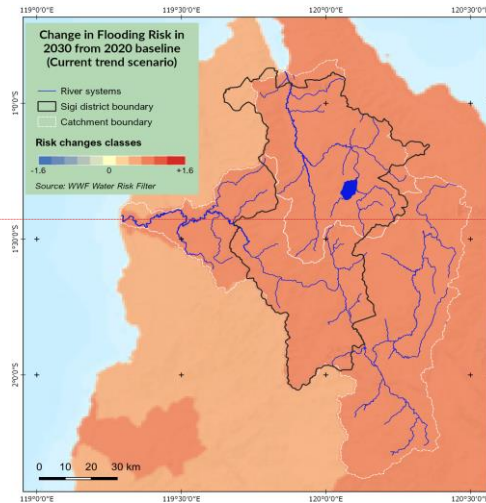
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Figure 3. The distribution of landslide hazard index in Sigi (Source: Badan Nasional Penanggulangan Bencana, 2015).



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Figure 4. Change in flooding risk in 2030 from 2020 baseline using current trend scenario (Source: WWF Water Risk Filter, 2022).

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Change in flooding risk in 2030 from 2020 baseline using current trend scenario (Source: WWF Water Risk Filter, 2022)

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Figure 4. Change in flooding risk in 2030 from 2020 baseline using current trend scenario (Source: WWF Water Risk Filter, 2022)

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Based on flood events compiled from news coverage of the main mass media, Kompas Daily, the floods in Sigi can be summarized as follows:

Tabel 2. Flood Event 1982-2019

Year	Location	Scope of impact
1982, February 17	Kaluku village, Dolo subdistrict	Destruction of Palu-Kulawi bridge and inundation of hundreds of hectares of rice field
1996, April 5	South Dolo subdistrict	66 houses heavily damaged due to mud flood
2002, May 15	South Dolo and Palolo subdistrict	Overflowing of Miu River
2010, May 22	Bangga Village, South Dolo subdistrict and Simoro Village, Gumbasa subdistrict	
2011, December 4	Kulawi subdistrict	Flash floods damaged two bridges, isolating Bolapapu Village. The flood damaged hundreds of houses, schools and office buildings.
2013, April 2	Palolo subdistrict	Flash flood on Manggalapi River. Rejeki Village took the biggest hit
2013, October 1	Kulawi subdistrict	Flash flood on Salua River. Salua Village took the biggest hit
2015, April 24	Kulawi subdistrict	Overflowing of Mewe River. Six villages were hit, i.e. O'e, Lawua, Tompi Bugis, Lempelero, Watukilo, and Palimakujawa

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2019, December-8	Poi Village, South Dolo subdistrict	Mud flood hit Poi Village
2019, December-12	Bolapapu Village, Kulawi subdistrict	Flash floods resulted in the death of two residents, houses on the banks of the Magila river were heavily damaged.

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2. b. Strategic Issues on Energy in Sigi District (Koaksi-2-3-Par)

i) Access to Electricity

~~Indonesia's compliance of energy needs has not yet evenly distributed and still faces many challenges. As experienced in several regions in Indonesia, especially with conditions tend to be difficult. Central Sulawesi with total of 3,010,440 people or 811,927 households has 01.03% electrification ratio. Zooming out to Sigi, the district's electrification ratio is 83% with 43 villages in four sub-districts have limited access to PLN's grid (State Owned Electricity Company). Those sub-districts are Lindu, Kulawi, South Kulawi, West Dolo, and Pipikoro. PLN has difficulty reaching to these areas because the distance from the capital of Sigi to Kulawi and Pipikoro is about 50 km. On average, PLN can only manage to expand 2 km of the grid in each expansion point per year (ESDM, 2017), and remote villages are located 25 km outside the grid. Connecting the most outlying villages of Kulawi and Pipikoro to the grid will not be happening within five to ten years. Indonesia's fulfillment of energy needs has not been evenly distributed and still has many challenges. This condition also occurs in Central Sulawesi. In 2018, the population of Central Sulawesi was 3,010,440 people or 811,927 families. Seven hundred forty six thousand four hundred thirty four households have electricity, and Central Sulawesi's electrification ratio is 91.93%. Furthermore, Sigi District's electrification ratio is 83%, with 43 villages in four sub-districts with limited access to the PLN's grid (State Owned Electricity Company). The sub-districts are Lindu, Kulawi, South Kulawi, West Dolo, and Pipikoro, spreading across the mountainous part of Central Sulawesi, adding difficulty to PLN's grid expansion. It takes about half an hour to reach Kulawi and Pipikoro from the centre of the Sigi District or approximately 50 km. On average, PLN only manages to expand 2 km of the grid in each expansion point per year (ESDM, 2017), and remote villages are located 25 km outside the grid. Connecting the most outlying villages of Kulawi and Pipikoro to the grid will not be an immediate reality.~~

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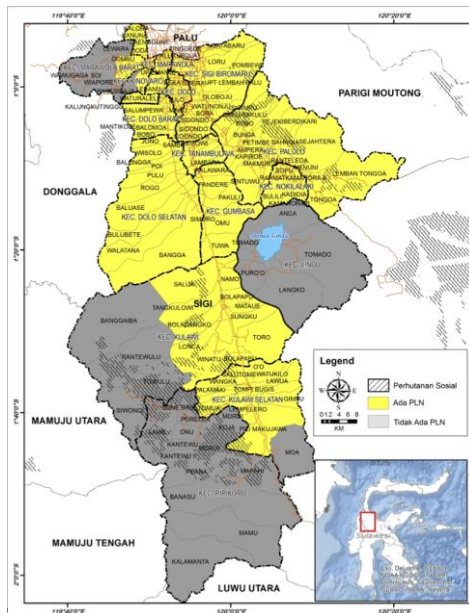
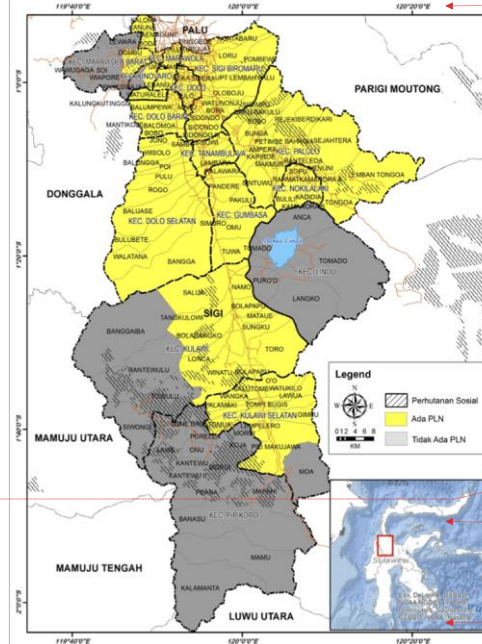


Figure 5. The availability of electricity access from PLN at Sigi District (Source: BPS, 2018)

18. Due Indonesia's compliance of energy needs has not yet evenly distributed and still faces many challenges. As experienced in several regions in Indonesia, especially with conditions tend to be difficult, Central Sulawesi with total of 3,010,440 people or 811,927 households has 91.93% electrification ratio. Zooming out to Sigi, the district's electrification ration is 83% with 43 villages in four sub-districts have limited access to PLN's grid (State-Owned Electricity Company). These sub-districts are Lindu, Kulawi, South Kulawi, West Dolo, and Pipikoro. PLN has difficulty reaching to these areas because the distance from the capital of Sigi to Kulawi and Pipikoro is about 50 km. On average, PLN can only manage to expand 2 km of the grid in each expansion point per year (ESDM, 2017), and remote villages are located 25 km outside the grid. Connecting the most outlying villages of Kulawi and Pipikoro to the grid will not be happening within five to ten years.

Figure 5. The availability of electricity access from PLN at Sigi District (Source: BPS, 2018)



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Due to the challenge of energy access, the Central Sulawesi Provincial Government pushes forward energy development in their Regional General Energy Plan (RUED) and Regional Electricity General Plan (RUKN). The rural electricity development plan prioritizes using renewable energy by utilizing hybrid technology while still paying attention to social, economic, and environmental safety aspects. Energy development is adjusted to the local potentials, where the availability of micro-scale water and solar energy is the highest potential. Several villages in Kulawi and Pipikoro have developed microhydro on a limited scale. However, they are not sufficient for productivity uses to increase their local economy, for example, to run food processing and other production machineries to improve livelihoods as a part of an effective climate change adaptation.

For this reason, the Central Sulawesi Provincial Government prioritizes energy development in the RUED (Regional General Energy Plan) and RUKN (Regional Electricity General Plan). The rural electricity development plan prioritizes using non fossil primary energy, namely water and solar, both off grid and on grid, by utilizing hybrid technology while still paying attention to technical, economic, and environmental safety aspects. Energy development is adjusted to its potential, where the availability of micro scale water energy and solar energy is found in relatively large quantities.

19. Several villages in Kulawi and Pipikoro have developed Microhydro on a limited scale as a good example, but not all access to this energy is sufficient because the people in the villages need electricity for productivity and to increase the local economy. They need to run food processing or production machines to improve livelihoods as part of climate change adaptation.

13. Figure 52 The availability of electricity access from PLN at Sigi District (Source: BPS, 2018)

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ii) Energy Sources in Sigi Impacted by Climate Change

20. Renewable energy plants in remote areas is not only fulfilling electrification needs to the communities, but also giving access to basic essential services, for example fresh water and sanitation, information and education, health and security, and economy. Sigi District with highest water and solar potentials can utilize its river flows as the source microhydro and communal solar power plants. The level of water discharge and elevation would significantly affect the capacity of the microhydro power plant. This information should be assessed and incorporated in a feasibility study prior to the development of power plants to determine energy capacity produced. The Ministry of Energy and Mineral Resources stated that the average capacity factor in microhydro power plant is 60%, ranging between 40-80%, due to hydrological analysis. Hence, if there is a sudden hydrological change at one time, it will affect the energy output of the power plant.

21. Climate change is one of the causes of hydrological change, as simulated by international researchers in 1970 to 2010. Climate change affects river conditions through uncertain rainfall patterns. If the rainfall is sporadic, the river will become dry and would not be able to drive the turbine generators. On the contrary, if the rain is abundant, it will cause damage to power plant's system due to the exorbitant water discharge. Therefore, uncertain natural conditions would result in an improper design to the power plant.

22. Limited or no access to electricity will undoubtedly impact the livelihoods and resiliency of rural communities to the impact of climate change, especially since the Covid-19 pandemic. The local community has the rights to access better health facilities and updated information on the related issues, with better fresh water supply and sanitation. Their limitation would shut their opportunity to better education and economic improvements based on the local communities. Most importantly, limited access to communication would hinder them when it is necessary to build an early warning system and reinforcements in the event of a disaster and to distribute aid quickly.

Renewable energy plants in isolated areas support the electricity needs of their communities. The natural resources available at the site can be used as a power plant. The isolated regions in Sigi Regency can utilize river flows as a source of electricity with a micro hydro power plant (PLTMH). This type of power plant is suitable for the availability of natural resources, that is, river flows, so that it can meet the electricity needs of rural communities.

The water debit and the elevation of the river flow significantly affect the capacity of the PLTMH. The calculation of river debit and height in the feasibility study at the beginning of the planning

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will determine the energy produced. Data from the Ministry of Energy and Mineral Resources states that the average capacity factor (CF) in PLTMH is 60%, ranging between 40-80%. This CF calculation is closely related to hydrological analysis. So, if there is a sudden hydrological change at one time, it will affect the energy output of the PLTMH.

Climate change is the cause of changes in the hydrology of river flows. The results of the study state that changes in river flow debit occur due to climate change. Through modeling simulations carried out by international researchers, changes in river debit in the world between 1971-2010 happened by the effects of climate change. Some locations become dry, and some areas increase water volume. However, what is of concern from the results of this study is that it is improbable that changes in river conditions will occur other than the impact of climate change. Climate change is essential in changing river conditions, affecting power plants that use river water, namely PLTMH.

Climate change affects river conditions through rainfall, with the uncertainty of rain every year making it difficult to predict the state of the power plants. In addition, if the rainfall is infrequent, the river conditions will become dry, so it cannot drive the turbine generator. Besides, if the rain is abundant, it will cause potential damage to the PLTMH system due to the exorbitant water debit. The uncertain natural conditions will do the PLTMH design wrong to meet the community's needs.

Limited or no access to electricity will undoubtedly impact the livelihoods of rural communities. Community productivity has decreased due to the decrease in people's productive time in activities at night, such as studying or discussing, reduced production of products whose processing uses electrical energy, and limited access to information from outside due to lack of access to communication networks. Communities in remote villages will continue to be closed and cannot have broad access due to the absence of electrical energy.

Not only that, people who live in watersheds will be affected directly by changes in the river. If the river becomes dry, the community will lack access to clean water and protein sources, and the access will be closed if the river has transportation access. Meanwhile, if the river discharge overflows, it will cause flooding, impacting people's homes, and transportation access will also be challenging.

2. c. Strategic Issues on Food Security and Agriculture in Sigi District

Decrease in agricultural productivity

Based on the Ministry of Environment and Forestry's spatial data⁵, the land use in Sigi District is dominated by forest cover as shown in Table 2. In 2019, 71% of the land was covered by forests, while only 17% or equal to 92,128 hectares was used as agricultural land, which has been constantly increased compared to the agricultural land in 1990 – 11% or equal to 60,597 hectares. The high forest cover was caused by the designation of the land use for forest and non-forest use by the Ministry of Environment and Forestry. According to the Ministry of Environment and Forestry Regulation No. 734/2014, the area available for non-forest use, including agricultural activities and urban development, is only 25% of the total area of Sigi. The rest of the area is designated for forest-related land use, including production

23. Table 3. Land cover change in Sigi District from 1996 to 2019

Land cover	Area (hectares)			
	1990	2000	2009	2019
Primary dryland forest	372,803	303,037	183,060	320,319
Secondary dryland forest	60,643	92,989	198,915	56,699
Primary swamp forest	78			
Shrubs	23,463	48,189	60,003	51,229
Plantation				537
Settlements	785	902	902	1,643
Bareland	214	1,358	1,468	1,830
No data	5			
Savana	5,968	5,968	5,968	1,435
Water	4,598	4,604	4,604	4,606
Secondary swamp forest	1,350			
Crops	13,326	20,249	21,030	22,698
Crops mixed with shrubs	38,362	35,247	36,593	49,254
Rice fields	8,908	17,962	17,962	20,177
Transmigration				79

⁵<https://dbgis.menlhk.go.id/arcgis/rest/services/KLHK>

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forest (25%), protection forest (27%), and national park (23%). These figures are also consistent with the district's latest spatial planning for the 2021-2041 period (Regional Regulation No. 1/2021 on Sigi District Spatial Plan).

Table 3. Land cover change in Sigi District from 1996 to 2019

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Two main staple food crops produced in the district are rice and corn. The total production of corn and rice in 2020 was 56,173 tons and 64,949 tons and which was produced from the total 12,055 hectares and 14,427 hectares, respectively⁶. The productivity of each of the commodities was 4.6 tons/hectares and 4.5 tons/hectares, which was lower than the national average productivity at 5.4 tons/hectares and 5.2 tons/hectares. The low productivity could be attributed to

24. There are several factors that cause the low productivity of corn and rice in Sigi District, one of which is the lack of irrigation for agriculture.

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25. Currently, most of agricultural practices still rely on rainfall patterns due to the major earthquake and soil liquefaction occurred in 2018, which damaged agricultural infrastructures and reduced the soil fertility. As a consequence, if the dry season is longer than predicted, the productivity of rice and corn would decrease, as happened in 2021.

26. The 2018's earthquake and soil liquefaction also caused landslides in hilly forested areas, which has reduced the capacity of the landscape to prevent flash floods in villages in the lowlands. Flash floods are one of the main threats not only to the local community houses but also to their agricultural and livestock activities. The 2019's flash floods in Bangga Village, Dolo Selatan sub-district submerged many parts of the village, which forced 580 households to relocate to other villages.

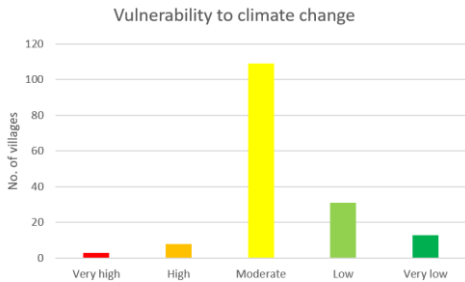
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Most of the villages in Sigi are considered to have a moderately vulnerable vulnerability to climate change impacts as shown in Figure 6. Villages that have high vulnerability are Puroe in Lindu sub-district, Panasibaja, Wiapore and Wugaga in Marawola Barat sub-district and Banasu, Lawe, Lonebasa in Pipikoro sub-district. Three villages that have the highest vulnerability are Bolobia in Kinovaro sub-district, Taipanggabe in Marawola Barat sub-district and Mamu in Pipikoro sub-district. The main livelihoods of the people residing in these vulnerable villages is farming, and. Some of the major products are cocoa and coffee, with the primary determinants of agricultural yield are temperature and rainfall patterns.

27. Rising in temperatures would drastically reduce humidity and increase vulnerability of cacao trees and threaten the chocolate industry. As for coffee, there are numerous species of the coffee plant. The primary determinants of agricultural yield are temperature and rainfall patterns. By 2050, the area suitable for growing coffee could be reduced by up to 50% by 2050 due to longer and heavy rain as well as drought cycles caused by rising temperatures.

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⁶BPS, 2021, Kabupaten Sigi Dalam Angka 2021.

Figure 6. Number of villages in Sigi District grouped based on vulnerability level to climate change
(Source: SIDIK)

3. Socio Economic Context

3. a. Population

²⁸Over the last ten years, the population number in Sigi District has been steadily increasing, from 215,030 in 2010 to 257,580 in 2021, showing approximately 1% annual growth rate⁷. The highest percentage of population (22,54%) resides in its capital, Sigi Biromaru, while the lowest percentage lives in Nokilalaki, a sub-district located 52 kilometers away from the district's administrative capital.

²⁹In 2020, the population density in Sigi is 50 people per km², only a third of the average Indonesia population density. However, the access to civil registration is still considered as a challenge due to the district's vast area. Since 2014, Sigi has implemented an online civil administration information system, but the number of National Registry ID Card (KTP) ownership is only 75% in 2017, and only 40 out of 1,000 people have birth certificates⁸. This condition has worsened since 2018, where a large number of residents lost their civil registry documents due to the major earthquake and liquefaction⁹.

³⁰Bolepapu and Lonebasa, which are selected as the target villages in this project, have a combined population of 3,434 people (1,731 males and 1,699 females), who mostly identified themselves as the indigenous people of To Kulawi and To Kaili. These two indigenous groups have been formally recognized by Sigi through the Head of District Decree No.189.1-521 in 2015.¹⁰ Moreover, there are existing Lembaga Adat (Adat Institution) in sub-district and village levels alongside the formal sub-district and village administration.

3. b. Poverty level

³¹Main livelihoods in Sigi Districts is agriculture. In 2020, 52,132 (45%) of people of productive age work as farmers or farm workers, and 44,276 (38%) work in the service industry. Minimum wage in Sigi district according to Central Sulawesi Governor Decree No. 561/399/Dis.Nakertrans.6.ST/2021 is Rp 2,390,739, while the regional poverty line is at Rp 370,788.

³²The poverty level in Sigi fluctuates in the past five years. Currently, Sigi District is categorized into Desil 1 Category District with extreme poverty based on the National Household Data (Bappeda Sulteng, 2022). There are 153,000 poor people in Sigi, including in Kulawi and Pipikoro sub-districts¹¹. According to Social and Welfare Office Data 2022, 49,5% of the Bolepapu residents and 70,8% of Lonebasa residents are in the extremely poor and vulnerable category. The poverty rate in Sigi is 13,05% against its entire population¹². Meanwhile, the national target of poverty rate is at 8,5 to 9% in 2022.

³³peaking in 2019 with 30.820 (12,91%) people living in poverty but decreased to 30.000 (12,45%) in 2020. Out of this poverty number in Sigi District, 38.16% are unemployed and 55.63% are informal workers, who mostly work in the agricultural sector. More than half (54.5%) of the population under poverty has healthcare insurance (BPJS) and up to 83% has home ownership¹³.

3. c. Education and Local Wisdom

³⁴The average years of schooling in Sigi District throughout 2016 to 2020 is 8,4 years, which is relatively low compared to the national policy on twelve years of compulsory education. However, the expected years of schooling has increased from 12.31 in 2016 to 12.87 in 2020, indicating that Sigi provides access to formal education up to high school level.

⁷BPS, 2021, Kabupaten Sigi Dalam Angka 2021.

⁸Kabupaten Sigi, 2019, Rencana Kerja Perangkat Daerah Kabupaten Sigi 2019.

⁹<https://sulteng.antaranews.com/berita/44616/banyak-warga-sigi-kehilangan-dokumen-kependudukan>

¹⁰<https://www.aman.or.id/wp-content/uploads/2016/02/SK-Bupati-Sigi-ttg-PPMHA-To-Kulawi-dan-To-Kaili.pdf>

¹¹<https://dtkk.kemensos.go.id/DTKS-Kabupaten-Sigi-2022> <https://sulteng.antaranews.com/berita/238661/pemerintah-kabupaten-sigi-verifikasi-data-terpadu-kesejahteraan-sosial>

¹²<https://bappeda.sultengprov.go.id/musrenbang-penyusunan-rkp-d-kabupaten-sigi-tahun-2022/>

¹³BPS, 2021, Statistik Penduduk Miskin Kabupaten Sigi Tahun 2020.

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35. In Sigi, nature and forest protection are considered as customs and traditions that have been passed down between generations, especially for the indigenous people living alongside the forests. There is a local wisdom called **Taolo**¹⁴, a forest zone status that prohibits land opening in specific areas with steep slopes to prevent erosion and landslides. The indigenous law also forbids and gives out sanctions for people committing forest encroachment and environmental pollution¹⁵.

3. d. Health

36. Life expectancy in Sigi District has significantly improved from 68.69 in 2016 to 69.99 in 2020. Public health services has also improved with health facilities and workers (doctors, nurses, midwives, and pharmacists) spreading evenly across all 15 sub-districts. In 2020, 98.72% of childbirth were assisted by doctors and midwives. Child vaccination is accessible in every public health center. However, number of children (12.46%) have not yet had a Child Identity Card (KIA) and their vaccinations were not well documented. This is a challenge as database and documentation is imperative in healthcare access and improvements.

3. e. Gender

37. According to the 2021 data published by the Statistics Bureau of Sigi District, the population of the district in 2020 is 239,430 people with gender ratio of 112.91, meaning that there were 113 men for every 100 women. The male and female population comparison in 2010 and 2020 for each sub-district is presented in Table 4.

Sub-District	2010 Population		2020 Population	
	Male	Female	Male	Female
Pipikoro	4,024	3,796	4,445	4,275
Kulawi Selatan	4,456	4,014	4,945	4,495
Kulawi	7,325	6,845	8,098	7,712
Lindu	900	790	2,774	2,476
Nokilalaki	2,870	2,760	3,176	3,084
Palolo	14,409	12,981	15,945	14,495
Gumbasa	6,065	5,615	6,725	6,285

Table 4. Population of Sigi District in 2010 and 2020 based on gender. Source: Kabupaten Sigi dalam Angka 2021¹⁴

43-f. Current Enabling Condition in Sigi District

i) Sigi Hijau

—The current efforts of Sigi District government to mitigate and adapt to the climate crisis are well-illustrated in the issuance of **Sigi Hijau**. It is a cross-sectoral policy breakthrough and the manifestation of Sigi's commitment to pursue jurisdictional sustainability achievable through several strategies that include climate change mitigation and adaptation including Regional Action Plans for Climate Change Mitigation and Adaptation as the extension of the national and provincial action plans to the district level. This proposed project aims to support Sigi District develop its own regional action plans for climate change adaptation. Sigi Hijau showcases the district's commitment further and will ensure effective implementation and access to funding from government fiscal incentives or private and non-profit.

38. ii) District level Multistakeholder Forum

—Since the issuance of Green Sigi Vision in 2019, the district government has established its roadmap towards prepping the implementation pillars, including the availability of a **multi-stakeholders forum**. It was still conducted despite their post-disaster condition. By June 2022, following to the slow recovery, the district had revived their efforts. In parallel, through the **Sustainable District Platform (Lingkar Temu Kabupaten Lestari/LTKL) secretariat** - a district association under the

¹⁴<https://jaring.id/antara-bukti-konservasi-dan-batas-di-atas-kertas/>

¹⁵<https://sulteng.antaranews.com/berita/179460/upaya-komunitas-adat-lindu-jaga-kualitas-lingkungan>

Association of Districts Government in Indonesia (APKASI), the district has conducted stakeholders mapping and assessment in Sigi and across Palu City to identify core groups for Green Sigi implementation and ensure inclusivity of the multi-stakeholders platform, from architectural, disaster prevention, youth empowerment, women group, indigenous community, literacy, and community business development working groups. The Green Sigi multi-stakeholders platform is targeted to be established by end of 2022. Prior to the establishment, the government has committed resources to support the process through district planning agency (Bappeda).

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39. iii) Other Commitments, Policies, Actions, Programs Related to Climate Change Adaptation

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40. Jurisdictions with significant forest and conservation areas generally issue more regulations related to sustainable land use than the smaller ones. Sigi District, with relatively smaller size forest and conservation land, has published regulations on five topics of sustainable land use, including forest and peat protection and conservation, green growth planning, sustainable commodities, disaster/environmental management, and indigenous people and customary law.

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As the proportion forest and conservation area against the total area of Sigi District is more than 70%, Sigi District relies heavily on their forest area for its ecosystem services, particularly on water and soil quality, resulting into a strong Jurisdictional Approach commitment to protect of the forest and conservation area, social forestry, and agrarian reform. Focusing on environmentally sound development and sustainable land use, Sigi will use its natural assets to increase its economic growth through sectors, such as ecotourism, forestry, and agriculture. Sigi has issued a local regulation on Regional Action Plan (Rencana Aksi Daerah/RAD) for sustainable development in Sigi District. There are also several initiatives on Lore Lindu National Park that involve all villages, including formal agreement for indigenous community surrounding the national park to utilize the forest sustainably.

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~~The current efforts of Sigi District government to mitigate and adapt climate crisis are well illustrated in the issuance of Sigi Hijau¹⁶. It is a cross-sectoral policy breakthrough and the manifestation of Sigi's commitment to pursue jurisdictional sustainability achievable through several strategies that include climate change mitigation and adaptation including Regional Action Plans for Climate Change Mitigation and Adaptation as the extension of the national and provincial action plans to the district level. This proposed project aims to support Sigi District develop its own regional action plans for climate change adaptation. Sigi Hijau showcases the district's commitment further and will ensure effective implementation and access to funding from government fiscal incentives or private and non-profit.~~

~~Sigi Hijau is a policy breakthrough initiated by Sigi District, and a manifestation of Sigi District's commitment to becoming a sustainable District. Through Sigi Hijau, the government of Sigi District has stated its commitment to pursue jurisdictional sustainability, achievable through a number of strategies that include climate change mitigation and adaptation. To achieve this, the government of Sigi has committed to formulating Regional Action Plans for Climate Change Mitigation and Adaptation, as the extension of the national and provincial action plans to the district level. This proposed project supports exactly this: helping Sigi District develop its own regional action plans for climate change adaptation enhanced with capacity and climate vulnerability assessment and future climate projection modeling for developing more comprehensive, adaptive measures. The incorporation of Sigi Hijau into the district's development planning showcases the district's commitment further, and this will ensure effective implementation and access to funding.~~

~~In addition to the regional action plans, the government of Sigi has also committed to reducing climate change risks and impacts through an increase in renewable energy use and a reduction in deforestation and land degradation. The proposed project, which includes a pilot implementation in two selected villages, will target the water-energy-food nexus that aims to increase economic, social, and ecosystem resilience in the local community, as well as supports sustainable, forest friendly and climate adaptive agriculture for ensuring food and livelihood security.~~

2. District-level multistakeholder forum

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¹⁶ https://peraturan.bpk.go.id/Home/Download/114206/Perda_Nomor_4_Tahun_2019_tentang_Sigi_Hijau.pdf

— Since the issuance of Green Sigi vision in 2019, the district government has established its roadmap towards prepping the implementation pillars including a multi-stakeholders forum. This was conducted despite their post disaster condition. However, the liquefaction and tsunami recovery have actually slowed down their effort and almost all concentration of partners were directed to disaster recovery with little or almost no attention towards other matters. By June 2022, following their slow recovery, the district had revived their effort.

— In parallel, through the LTKL secretariat, the district has conducted stakeholders mapping and assessment in Sigi and across Palu city to identify core groups for Green Sigi implementation and ensure inclusivity of the multi-stakeholders platform. It has been identified that there are key groups working on sustainability from architectural, disaster prevention, youth empowerment, women group, indigenous community, literacy and community business development which can be involved.

— It is targeted that by the end of 2022, the Green Sigi multi-stakeholders platform should be established. Until that timeline, the government has committed funds and resources to support the establishment process through the district planning agency (Bappeda). This showcases the commitment of Sigi district in facilitating collective actions for sustainability within their jurisdiction.

4. Other commitments, policies, actions, programs related to climate change adaptation

— Usually, jurisdictions with significant forest and conservation areas issued more regulations related to sustainable land use than jurisdictions with smaller size forest or conservation land. However, the District of Sigi, with relatively smaller size forest and conservation land published regulations on five topics of sustainable land use. Sigi District has issued five topics of regulations in terms of sustainable land use, including forest and peat protection and conservation, green growth planning, sustainable commodities, disaster/environmental management, and indigenous people and customary law.

— Although the forest and conservation land size of Sigi is smaller compared to other jurisdictions in Indonesia—the proportion of it against the total area of Sigi District is more than 70%. Thus, Sigi District relies heavily on their forest area for its ecosystem services, particularly on water and soil quality, resulting into a strong JA commitment to protection of the forest and conservation area, social forestry, agrarian reform, and focusing on environmentally sound development and sustainable land use, including vulnerability to natural disasters condition, has encouraged and provide a strong awareness for the communities regarding more sustainable development.

— The JA commitments in Sigi District are focused on forest conservation and protection, social forestry, agrarian reform, and increasing community and regional incomes. Sigi's vulnerability to natural disasters has encouraged it to focus on environmentally sound development and sustainable land use. Sigi will use its natural assets to increase its economic growth through such sectors as ecotourism, plantations, and agriculture. In the same year of Siak Hijau issuance 2019, the Sigi government issued the Green Sigi regulation, which forms the basis for developing Sigi sustainably. In the same year, Sigi also issued a local regulation on RAD for sustainable development in Sigi District. Currently, there are also several initiatives on the management of Lore Lindu National Park that involve all the villages in the park, including formal agreement for indigenous community surrounding the national park to be able to utilize the forest sustainably.

41.

54. Project Context

42. Sigi District has developed its disaster risk assessment in 2020. The assessment has not covered many types of disasters and will need to be detailed down to be able to provide critical recommendations for mitigation and adaptation strategy. Mitigation and adaptation are the two strategies for addressing climate change. Mitigation is an intervention to reduce the emissions sources or enhance the sinks of greenhouse gasses. Adaptation is an adjustment in natural or human

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systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (IPCC 2001)¹⁷.

43. As climate risks are increasing, Sigi government should be aware of which risks can be mitigated and which risks are not possible and will need to be approached through adaptation framework. In terms of adaptation, there are several basic elements as the basis of developing a comprehensive adaptation strategy, which are water and air. Due to the intensive climate variability occurrences in the region, the water cycle in many regions are changing drastically. These changes are impacting the catchment water balance, which further affecting the irrigation regime, energy production through hydropower dams, distribution of goods and services through the river networks, and other economic and development activities. In addition, the increasing occurrences of floods and long periods of droughts would be more threatening to the livelihoods of local communities, and business and economic continuity in the region.

44. Based on the context above, this proposal is focused on building a climate resilient district through water-energy-food nexus with Sigi District as the pilot. Below are the brief descriptions of the project components.

54.-a. Climate Change Vulnerability Assessment and Climate Modeling

45. Effective planning and implementation of climate change adaptation at the jurisdictional level require an understanding of the current climate vulnerability levels across the jurisdictions and accurate projection of future changes and impacts. To be able to reach complete understanding, a climate change vulnerability assessment will be conducted, using an indicator-based approach that incorporates climate exposure, sensitivity, and adaptive capacity indicators relevant to the local context and to different groups, based on gender, age, and other social identities. General indicators may include population size, population density residing in disaster-prone areas, income sources, poverty level as well as health and education-related indicators. As this project will have a strong emphasis on adaptation on water-energy-food nexus, indicators related to the three sectors will be included in the assessment. These may include, but are not limited to, access to electricity, water sources, agricultural areas, and main agricultural crops.

46. To ensure the longevity of the district's adaptivity to climate change, the climate change vulnerability assessment will be enhanced by climate modeling, aiming to simulate and predict short, medium and long-term changes in precipitation and surface temperature in the future that will impact the ecosystem, its services, and subsequently humans, through loss of lives, income sources, building damage, and many others. Projection of future changes in these variables can advise appropriate measures that are highly adaptive in the long run.

54.-b. Capacity Assessment

47. One of the critical issues of adaptation action plan is capacity of stakeholders at all levels. Understanding the gap of capacity will help Sigi District to formulate the most appropriate actions to be included in the plan. Capacity assessment in this project will focus on the organizational capacity, both at community and district level, and will be closely linked with the main role and function of the organizations based on its national and local mandate for adaptation actions, as well as direct or indirect influence to governance improvements based on influence level, power, and interest to governance improvements.

One of the critical issues of adaptation action plan is capacity of stakeholders at all levels. Understanding the gap of capacity will help Sigi District to formulate the most appropriate actions to be included in the plan. Capacity assessment in this project will focus on the organizational capacity, both at community and district level, and will be closely linked with the

Figure 7. Level of interest and influence of site on stakeholder

¹⁷Bruno Locatelli, Climate Change and Forests in the Congo Basin: Synergies between Adaptation and Mitigation: <https://www.cifor.org/fileadmin/fileupload/cobam/ENGLISH-Definitions&ConceptualFramework.pdf>

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main role and function of the organizations based on its national and local mandate for adaptation actions, as well as direct or indirect influence to governance improvements based on influence level, power, and interest to governance improvements.

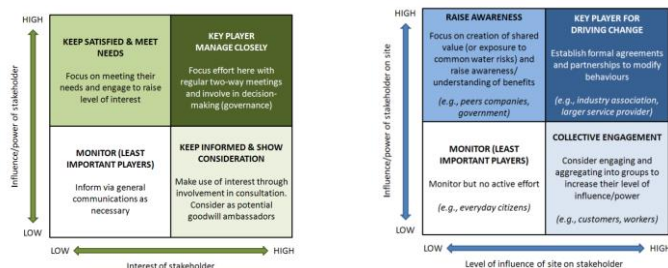


Figure 7. Level of interest and influence of site on stakeholder

48. At the community level, capacity assessment will be directed to existing community-based organizations that are relevant to adaptation and/or have been established by the local government in relation to the village resilience program (DESTANA) or other relevant government's programs. This is to ensure integration at the community level.

54.-c. Development of Regional Action Plans for Climate Change Adaptation

49. ~~While measures have been targeted towards mitigating climate change, adaptation measures that appropriate and compatible with the local context should be developed and implemented to ensure regional resilience towards the inevitable climate change impacts. Regional jurisdictions, including district-level jurisdictions, are mandated by the Ministry of Environment and Forestry to develop Regional Action Plans for Climate Change Adaptation (Rencana Aksi Daerah Adaptasi Perubahan Iklim or RAD-API). There are technical and resource constraints to the development of the plan due to, as well as prioritization of other development agendas, to the development in many Indonesian regions, including Sigi District, has planned on developing Regional Action Plans for Climate Change Adaptation (Rencana Aksi Daerah Adaptasi Perubahan Iklim or RAD-API), as outlined in the Sigi Hijau regulation. However, during the period in which this project concept note was developed, these action plans had not been developed due to the aforementioned factors. Without appropriate assessment and planning, these Sigi District, as well as many other jurisdictions, will put themselves at risk of facing the inevitable impacts of climate change that are detrimental to its economic, social and environmental security.~~

50. This project aims to support ~~Sigi District~~ one of district level jurisdictions in Indonesia in developing Regional Action Plans for Climate Change Adaptation (Rencana Aksi Daerah Adaptasi Perubahan Iklim or RAD-API,) ~~for climate change disaster adaptation, by~~ The project will 1) ~~incorporating~~ using a multi-pronged, technological, and multistakeholder participatory approach for assessing climate vulnerability, ~~that serves as the basis for~~ 2) identifying climate vulnerable areas within the district, and 3) formulating the appropriate adaptation measures ~~that~~ Such climate adaptation measures will focus on the water-energy-food nexus ~~to that~~ increases the district's resilience towards threats to its water, energy, and food security ~~posed by climate change, and such measures will be tailored to ensure that they will benefit the local economy. The anticipated measures may include, but are not limited to, supporting sustainable land use and agriculture, forest conservation, access to renewable energy and integrated watershed management, and are expected to be integrated~~ incorporated into other regional plans, such as the Regional Medium-Term Development and Planning Document (Rencana Pembangunan Jangka Menengah Daerah or RPJMD), the Annual Regional

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Ggovernment Wwork plan (Rencana Kerja Pemerintah Daerah or RKPD) and/or Rregional Sspatial Pplanning Ddocument (Rencana Tata Ruang Wilayah or RTRW).

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54.-d. Pilot Implementation at Villages Level

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Many farmers in Indonesia have experienced the decline in agricultural and plantation yields, including this has also occurred in Sigi District. In realizing an adaptive and climate-resilient district, collaborating with various institutions at all levels are required. The water-energy-food (WEF) nexus approach responds to various factors, such as climate change, population growth, and exploitation of natural resources. The proposed water-energy-food nexus approach provides a broad, multi-pronged approach that increases the livelihood of involvement and participation of, and generation of benefits for, different groups of different social identities that exist in the villages, including gender and age groups.

Many farmers in Indonesia have felt the decline in agricultural and plantation yields; this has also occurred in several primary commodities in Sigi District. In realizing an adaptive and climate-resilient district, collaborating with various stakeholders, government, and other institutions at all levels are required. The goal anticipated by the community is to increase welfare or livelihood. The water-energy-food nexus approach responds to various factors such as climate change, population growth, and exploitation of natural resources. The proposed water-energy-food nexus approach provides a broad, multi-pronged approach that increases the likelihood of involvement and participation of, and generation of benefits for, different groups of different social identities that exist in the villages, including gender and age groups.

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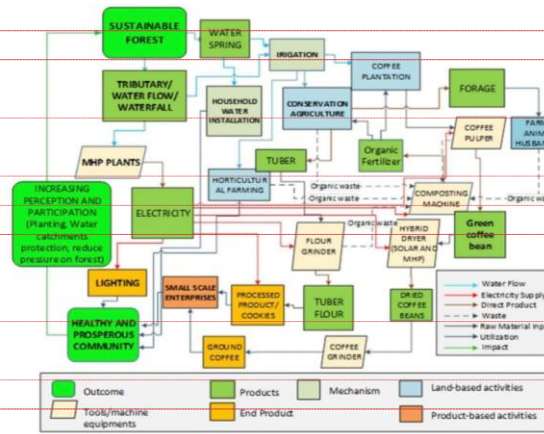
At the local level, the WEF approaches can solve shared problems within a village level. One of the pilot villages in the Pipikoro sub-district, Lonobasa, is a village with high coffee plantation production. The threat of climate change in the next few decades predicts that without adaptation, the productivity of this commodity will decrease by 50%. Unfortunately, the availability of reliable energy is not sufficient. The threat of flooding from extreme weather has also caused this village to be classified as a high-risk village, according to SIDIK KLHK.

Figure 8. Modeling of Water-Energy-Food Nexus Applications in Indonesia¹⁸

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¹⁸Nugroho, H. Y., S. H., Indrawati, D. R., Wahyuningrum, N., Adi, R. N., Supangat, A. B., Indrajaya, Y., ... & Hani, A. (2022). Toward Water, Energy, and Food Security in Rural Indonesia: A Review. *Water*, 14(10), 1645. Accessed at <https://www.mdpi.com/2073-4441/14/10/1645/pdf>

51. WEF interventions are very relevant to encourage forest conservation in Sigi, that will save water conditions and agricultural irrigation. A good water catchment area will maintain energy potential (PLTMH) as thean energy resource to develop the economy, for example, through food processing or other commodity-based industry. (coffee plantation products, for example). This WEF approach (Figure 8) will increase the capacity of the community's capacity to be adaptive to impacts of future climate change impacts.



52. WEF Nexus assessment at the pilot villages intervention to secure climate resilience: : Steps towards Water Energy Food security and climate resilience

- 1) Define the objectives and scope of the assessment
 - Identifying the problem at stake, specifying different problems experienced by different groups of social identities;
 - Selecting stakeholders who will participate in the assessment; and
 - Defining the spatial boundaries and temporal scale of the assessment.
- 2) Assess the WEF system and its challenges
 - The relevant components including actors, their assets/investments and in their interests;
 - The interactions between them; and
 - The context of the WEF nexus, including relevant natural resources, infrastructure, social resources of the communities, and institutions (policies, laws, formal or informal arrangements).
- 3) Develop scenarios of future WEF systems in the third step
 - Develop plausible scenarios of WEF security in the region, accounting for the situation of different social groups in the mountains and their resilience. The scenarios are based on identified trends, expected investments, and consider future demands for water, energy and food, based on population growth, socio-economic changes, and urbanization, as well as climate change impacts and demands for ecosystem services from lowlands.
- 4) Create an enabling environment to facilitate transformative change
 - Implementing jointly identified solutions requires widespread support and agreement to support buy-in from other relevant stakeholders.

WEF interventions are very relevant to addressing common problems, whereby encouraging forest conservation will benefit water conditions and agricultural irrigation. A good water catchment area will maintain energy potential (PLTMH), which is used to develop the economy through food processing (coffee plantation products, for example). This holistic approach (Figure 8) will give the community the capacity to be adaptive to future climate change impacts. Thorough assessment prior to WEF interventions can also help address specific needs of different social groups.

Nexus assessment at the pilot villages intervention: Steps towards Water-Energy-Food security and climate resilience

1) Define the objectives and scope of the assessment

- Identifying the problem at stake, specifying different problems experienced by different groups of social identities, such as gender and age groups;
- Selecting stakeholders who will participate in the assessment; and
- Defining the spatial boundaries and temporal scale of the assessment.

2) Assess the WEF system and its challenges

- The relevant components including actors, their assets/investments and in their interests;
- The interactions between them; and
- The context of the WEF nexus including relevant natural resources, infrastructure, social resources of the communities and institutions (policies, laws, formal or informal arrangements).

3) Develop scenarios of future WEF systems in the third step

- Develop plausible scenarios of WEF security in the region, accounting for the situation of different social groups in the mountains and their resilience. The scenarios are based on identified trends, expected investments and consider future demands for water, energy and food based on population growth, socio-economic changes and urbanization as well as climate change impacts and demands for ecosystem services from lowlands.

4) Create an enabling environment to facilitate transformative change

- Implementing jointly identified solutions requires widespread support and buy-in from other relevant stakeholders.

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5.4 Importance of Project

54. The consortium considered the above series of project components as critical for Sigi District. If ~~the~~ such a project is not ~~available to be implemented~~ implemented, people living in ~~climate vulnerable~~ areas ~~most vulnerable to the impacts of surface temperature increase and precipitation changes~~ will suffer from a variety of risks ~~at different magnitudes~~, ranging from ~~loss of lives to~~ building damages and loss of income sources, ~~to loss of lives~~. The decrease in agricultural productivity due to increased surface temperature and changes in precipitation pattern, for example, will decrease food availability and security at the household, local, and even regional and national levels, and negatively affect local communities whose livelihoods depend on the agriculture sector, such as farmers.

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Without proper assessment of climate change vulnerability, areas in the ~~d~~ District that are highly vulnerable to the impacts of climate change, ~~as well as the appropriate climate mitigation measures~~ ~~needed to increase the resilience of these areas~~ will not be properly identified, which could lead to ineffective interventions. ~~C~~ The consortium also considered the importance of conducting climate modeling ~~of the District to predict future vulnerability~~ project changes in risks of the District towards the increase in surface temperature and changes in precipitation is also needed to assess changes in vulnerability levels projected in the future, which will enhance ~~intervention~~ interventions options that ~~ensure long-term resilience~~. In addition, capacity assessment is needed to identify the current institutional capacity level of local stakeholders in implementing climate change adaptation ~~actions~~ measures and ~~ways for adequate~~ improvements.

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55. These assessments ~~are critical, as these~~ will serve as the basis for the formalized RAD-AP ~~regional Action Plans for Climate Change Adaptation, which that~~ will be mainstreamed into regional planning for long-term ~~actions~~ interventions. Without the development of ~~RAD-AP~~ formal Regional Action Plans, Sigi District will not have adequate data and justification for pursuing regional ~~sustainable~~ development strategies that are climate-adaptive, ~~and which~~ could limit the district's capacity and access to ~~relevant~~ funding needed for implementation ~~of interventions and further expose the District to greater climate change impacts that it is currently facing~~.

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56. Upon the development of effective ~~and~~ targeted action plans, the consortium considered the importance of showcasing how such action plans can be implemented on the ground. Implementation of small-scale, ~~targeted~~ projects specific to the needs of the focused ~~ed~~ vulnerable villages will help

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increase their resilience towards climate change, with consideration and understanding of how different gender, age and other special groups are affected and can be empowered. This pilot implementation will also serve as a demonstration for local stakeholders for replication in other areas facing similar challenges.

Project / Programme Objectives:

- ~~The overall main objective of the proposed project is to increase the economic, social and ecosystem resilience of Sigi District towards the detrimental impacts of climate change. The consortium will achieve this objective. This objective will be achieved by focusing on:~~
- ~~1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach~~
 - ~~2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district.~~

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Project / Programme Objectives:

57. The main objective of the proposed project is to increase the economic, social and ecosystem resilience of Sigi District towards the detrimental impacts of climate change. The consortium will achieve this objective by focusing on:

1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach
2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on-the-ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district.

Project / Programme Components and Financing:

Project/ Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach	1.1.1. The establishment of a district-level working group for climate change adaptation	1.1. Improvement of institutional capacity local stakeholders in district-level climate change adaptation collaborative planning and interventions	591,422,537,915
	1.1.2. Carrying capacity assessment of local stakeholders for climate change adaptation planning and interventions		
	1.1.3. Institutional capacity building roadmap at district and community level developed		
	1.1.4. Increased capacity of local stakeholders in implementing climate change adaptation interventions		
	1.2.1. Climate change vulnerability assessment using district level data and indicators and climate modeling based on water-energy-food (WEF) nexus approach	1.2. Strengthened governance of cross-sectoral climate change adaptation policy with appropriate adaptation measures and systemic efforts	
	1.2.2. Key Recommendations based on district's climate change vulnerability assessment is mainstreamed and acknowledged in the district 2025-2030 Mid-Term Development Plan (RPJMD)		
	1.2.3. Co-Created District's Action Plan for Climate Change Adaptation (Rencana Aksi Daerah Adaptasi Perubahan Iklim Kabupaten Sigi - RAD-API)		
	1.2.4. Co-Created District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2021-2024 aligned with interventions under the RAD-API		
	1.2.5. Co-Created District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2025-2030 aligned with interventions under the RAD-API		

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	1.3.1. Learning and Communication Tools targeted for replication co-created based on Monitoring, Evaluation & Learning (MEL) throughout the process	1.3. Establishment of knowledge sharing method for collaborative planning practice for climate change adaptation at district, provincial and national level	
	1.3.2. Series of learning and communication activities to encourage replication at district, province and national level		
2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district	2.1.1. Delivery of analysis and action plan from the district level down to the village-level	2.1. Increased knowledge and capacity of the local community by adopting the District's Action Plan for Climate Change Adaptation	329,194,301,757
	2.1.2. Carrying capacity assessment of local stakeholders for climate change adaptation planning and interventions		
	2.1.3. Increased capacity of village institution to prepare and implement derivative programs from District's Action Plan for Climate Change Adaptation at the village-level		
	2.2.1. Climate change vulnerability assessment at the village-level based on water-energy-food nexus approach	2.2. Increased economic, social, and ecosystem resilience in the local community through the water-energy-food nexus approach to become a successful model for replication in other areas of the Sigi District	
	2.2.2. Participatory identification of local livelihood productivity improvement as a basis for the village-level action plan for climate change adaptation		
	2.2.3. Co-creation of village-level climate change adaptation action plan based on the water-energy-food potentials		
	2.2.4. Increased community's capacity to access adaptive agricultural practice		
	2.2.5. Increased community's capacity in water management for agricultural needs and as energy source		
	2.2.6. Increased community's capacity to access inclusive and sustainable energy		
	2.2.7. Water-energy-food nexus to support business model of village-level climate adaptation action plan		
	3. Project/Programme Execution Cost (9.5%)		79,769,80,944
	4. Total Project/Programme Cost		920,646,839,672
	5. Project/Programme Cycle Management Fee charged by the Implementing Entity (8.5%)		78,252
	Amount of Financing Requested		998,868

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Projected Calendar :

Milestones	Expected Dates
Start of Project/Programme Implementation	June 2024
Mid-term Review (if planned)	May 2025
Project/Programme Closing	February 2026
Terminal Evaluation	March 2026

Project Timeline 2024 - 2026 :

Activity	2024												2025												2026		
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Project management Unit establishment & mobilization of resources																											
Development of Inception Report and Inception Workshop																											
Establishment of District Working Group for Climate Adaptation under the Green Sigi Multistakeholders Platform																											
Development of agreed project timeline with District Working Group																											
Co-creation: Vulnerability & Capacity assessment																											
Institutional Strengthening/Capacity Building Roadmap development																											
Co-creation: Sigi District Climate Risk Profile Development and socialization																											
Co-creation: Policy brief on Priority Recommendation of Adaptation Actions in the Mid-Term Regional Development Plan (RPJMD)																											
Integration process Priority Recommendation of Adaptation Actions in the Mid-Term Regional Development Plan (RPJMD) during the drafting process																											
Parallel Process Priority recommendations integration process into District Government Work Plan (RKPD) and District Agencies Work Plan (Renja) based on RPJMD 2021-2026																											
Parallel Process Priority recommendations integration process into District Government Work Plan (RKPD) and District Agencies Work Plan (Renja) based on RPJMD 2025-2030																											
Decision for pilot location by Working Group (2 villages)																											
Implementation of village pilot projects																											
Workshop on result of pilot implementation																											
Final workshop on project result + project handover																											

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PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Project Component

58. This project aims to improve Sigi District government resilience towards climate risk through the adaptation programming efforts. The project will support the Sigi district government by developing climate vulnerability and capacity assessment on water-energy-food security nexus, which will be the basis for the government to develop the Climate Change Adaptation Action Plan (RAD-API) as mandated by the national government.
59. The result of the Climate Vulnerability & Capacity Assessment will be further developed into Climate Risk Profile accompanied with policy recommendation on priority adaptation actions to be mainstreamed into the coming Local Mid-term Development Plan (RPJMD) that will be drafted in second semester 2023. The mainstreaming of these priority adaptation actions into RPJMD is crucial as it will be the basis for the RAD-API development and annual planning of the local government.
60. It is expected that the mainstreaming of priority adaptation actions into the government's action plan and its implementation will complement the existing mitigation effort by Sigi District government and will eventually increase the resiliency of Sigi District towards climate change risks, especially risks related to the water, energy and food security.
61. In order to convince the decision makers on the benefit of the adaptation actions, through the project, two pilot villages will be selected to showcase the demonstration of how climate action can improve the resiliency of the village both on livelihood and economic fronts.

Economic, Social, and Environmental Benefits

B.

Economic and Social Benefits :- ~~Social and Economic benefits~~ :-

— The project will have a direct impact on climate adaptation planning to disaster mitigation and preparedness, economic resilience, and climate-adaptive livelihood. The total direct and indirect beneficiaries of this project reached 257,580 people distributed across 13 sub-districts with two pilot villages targeted, which are in the climate-sensitive disaster prone area of Palu Valley and within the ecosystem of Lore Lindu Biosphere Reserve. The Adaptation Plan implementation would reduce the disaster risk and economic loss risks Sigi District has experienced by having more robust climate-based spatial planning, disaster preparedness, better food security, and sustainable source of renewable energy. Based on Sigi Disaster Management Agency, the earthquake in 2018 followed by flash floods and landslides throughout 2019 have caused USD 738 million USD loss. This is the estimated avoided cost if the climate adaptation program is successfully implemented.

62. Sigi is also selected for its leadership on the national level ~~Lingkar Temu Kabupaten Lestari (LTKL), a district association under the Association of Districts Government in Indonesia (APKASI), focusing on accelerating the implementation of sustainable development. This collaboration will ensure that lessons go beyond districts and influence national level narratives to development.~~ In functional level, the project would equip and enable 50 officials in the ~~OPD (District Government Agencies/Office)~~ in Sigi¹⁹ to implement the climate adaptation regional planning and develop an economic resilience model. When implemented, it would contribute to the growing of sustainable forest or agricultural commodities.

63. The availability of Gender Responsive and Inclusive Climate Risk Profile and the recommendation of priority adaptation actions will help stakeholders (private sector and community) to anticipate the climate

¹⁹ <https://sigikab.go.id/index.php/pemerintahan/organisasi-perangkat-daerah.html>

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risks, such as floods and landslides, and to secure their business continuity, such as (i.e., production and distribution of goods and services, distribution of goods, crops, etc.). Business continuity also ensured livelihoods of the workers that made up the economic growth in the district, hence economic continuity. In addition to that, as the program will contribute to the fulfillment of Sigi's Regional Competitiveness Framework²⁰, it will directly affect the income-generation as it comply with adheres the sustainable investment appetite and as well as sustainable supply chain from agricultural and forestry commodities. It is expected to increase Sigi's gross regional domestic products from the Forestry, Agriculture, and Fisheries sectors beyond 43% of the entire Sigi's GRDP²¹.

- 64.
65. For Bolapapu and Lonebasa Village Community in Kulawi and Pipikoro sub-districts respectively, the project will directly benefit 3,430 people, ~~whowhich~~ also happen to be indigenous communities of Kulawi and Kaili, and are within the category of extremely poor and vulnerable. The project will enable them to (1) conduct participatory planning of their customary forest and/or community forest management, including enforcing women customary role as decision maker, (2) plan and implement disaster risk management to reduce their vulnerability, (3) 20% families in pilot villages have their household income increased from climate-adaptive agriculture and forest commodities, ~~y~~ such as sustainable coffee, cocoa, or other food crops.

Environmental Benefits:

66. The project will inform the government and other stakeholders to understand the change of nature due to the impact of climate change. This understanding is expected to expand the options on innovative adaptation solutions, especially nature-based adaptation solutions, to respond to the risks, ~~f~~. For example, the floating crops solutions ~~that~~ can be implemented by a community of farmers who live in the flooded area. For the village residents, the project will directly contribute to increasing 20% of households capacity in water management and also enforce 20% of families in the two pilot villages to gain access to local sustainable energy sources.

Gender and Vulnerable Group Benefits:

67. Building Sigi as a resilient district would impact gender mainstreaming, where the involvement of women and vulnerable groups in various activities is concerned, with a minimum of 30% participation of women. As the primary caregivers, women are responsible for the family's daily subsistence selections but are often not remunerated (Ferrant et al., 2014). However, women are disproportionately affected by the lack of cleaner and affordable energy options (Energia, 2008). Such is the case of Sigi, Central Sulawesi, and with 43 villages left in the dark, maternal mortality rates are high. Despite recognising that women are natural safeguards of natural resources, women in Sigi still lack access to essential services and voice and representation in decision-making. Particularly in rural areas, women play significant roles in small-scale agriculture and informal income-generating activities.

— The project would integrate women's active participation in key activities in the planning and consultation process both at the strategic level through 30% participation in multi-stakeholder consultation and planning at the district level to the implementation process at the village level. Women's involvement, including women from the indigenous communities, will be accounted as key decision makers and front liners in climate mitigation and adaptation communication to targeted community groups and the wider public. The income-generating activities at the village level will also directly involve women, from deciding which forest/agriculture commodities to be cultivated, such as cocoa, coffee, forest honey, moringa, palm sugar, etc., to post-harvest and going to the market activities, including how they decide on how to grow the livelihood into economically valuable products and how they would access financing through cooperatives, VSLA or other community-driven initiatives. Environment safeguarding activities will also involve women.

²⁰ <https://www.kabupatenlestari.org/en/document/kerangka-daya-saing-daerah-kdsd-booklet/>

²¹ <https://sigikab.go.id/dokumen%202020/RKPD%20MURNI%202019.pdf>

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such as ensuring their inclusion as water committee members and/or in community forest stewardship initiatives and disaster management forum. The project would integrate women active participation to key activities in the planning and consultation process both at strategic level through 30% participation in multi stakeholder consultation and planning at district level to the implementation process at village level. Women involvement, including women from indigenous community will be accounted as key decision makers as well as front liners in climate mitigation and adaptation communication to targeted community groups and wider public. The income generating activities in village level will also directly involve women from deciding which forest/agri commodities to be cultivated such as cocoa, coffee, forest honey, moringa, palm sugar and etc, to post harvest and go to the market activities, including how they decide on how to grow the livelihood into economically valuable products and how they would access financing through cooperatives, VSLA or other community driven initiatives. Environment safeguarding activities will also involve women such as ensuring their inclusion as water committee member, and/or in community forest stewardship initiative and disaster management forum.

68. As the primary caregivers, women are responsible for the family's daily subsistence selections but are often not remunerated (Ferrant et al., 2014). However, women are disproportionately affected by the lack of cleaner and affordable energy options (Energia, 2008). Such is the case of Sigi, Central Sulawesi, and with 43 villages left in the dark, maternal mortality rates are high. Despite recognising that women are natural safeguards of natural resources, women in Sigi still lack access to essential services and voice and representation in decision making. Particularly in rural areas, women play significant roles in small scale agriculture and informal income generating activities.

Sigi is the target for the project based on its vision, "Green Sigi, Sigi Religi, and Sigi Masagena", which aims at balancing the environment and socio economic development through a community based economy. The principle tenet of combating absolute poverty ensures that both men and women have better opportunities to raise their income. In that case, investments need to be made for both sexes. Women have a higher propensity to reinvest in family welfare expenditures such as food, education, and health (IIESA, 2014). Therefore women should never be excluded from any policy consideration.

69. The high climate vulnerability requires a comprehensive strategic action plan as a prerequisite to climate resilient jurisdiction. Recognition and familiarity are critical. People recognise symptoms, such as a change of seasons, but are indifferent to consider them as climate change impacts. This is contrary to the fact that a shift in the season calendar affects agricultural production (Permana et al., 2013), and health problem follows weather uncertainty. Communities need information, tools, and processes to actively plan for and manage the impacts of climate change on their habitats, landscapes, and the built environment. The Incorporation of gender analysis can increase the effectiveness of measures to protect people from climate variability and change. Gender sensitive research is needed, including collecting, analysing and reporting sex-disaggregated data. Including gender relevant considerations will strengthen jurisdictions' climate resilient planning. The availability of a Gender Responsive and Inclusive Climate Risk Profile will help all stakeholders, especially the vulnerable groups, to be able to understand climate risk related to water-energy-food security and to have the capacity to reduce the risks. The project will develop a Gender Responsive and Inclusive Climate Risk Profile to ensure that an effective gender mainstreaming approach is implemented throughout the project design, development, and implementation, where different needs of different gender groups are identified, sensitivities across gender groups are considered, and the interventions are tailored to meet different needs. This profile will be accessible to all stakeholders (i.e., braille version, infographic for those unable to read, etc.).

The Incorporation of a gender analysis can increase the effectiveness of measures to protect people from climate variability and change. Gender sensitive research is needed, including collecting, analysing and reporting sex-disaggregated data. Including gender relevant considerations will strengthen jurisdictions' climate resilient planning. The availability of Gender Responsive and Inclusive Climate Risk Profile will help all stakeholders, especially the vulnerable groups, to be able to understand climate risk related to water-energy-food security and to have the capacity to reduce the risks. Gender Responsive and Inclusive Climate Risk Profile will be developed

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~~to ensure that an effective gender mainstreaming approach is implemented throughout the project design, development and implementation, where the different needs of different gender groups are identified, sensitivities across the gender groups are considered and the interventions are tailored to meet the different needs. This profile will be made accessible to all stakeholders (i.e., braille version, infographic for those unable to read, etc.).~~

~~Community driven climate resilience planning is the process in which residents of vulnerable and impacted communities define the complex climate challenges they face and the climate solutions most relevant to their unique assets and threats. The underlying premise is that the more inclusive the process, the more effective those solutions will be. A decisive gender responsive intervention in a community-based economy will allow data collection and documentation of lessons which will inform jurisdictions on development priorities. The research shall link inclusive low carbon emission solutions to economic and climate change policies (Stern Review, 2010).~~

~~Sigi is also selected for its leadership on the national level Lingkar Temu Kabupaten Lestari (LTKL), a district association under the Association of Districts Government in Indonesia (APKASI), focusing on accelerating the implementation of sustainable development. This collaboration will ensure that lessons go beyond districts and influence national level narratives to development.~~

~~The availability of Gender Responsive and Inclusive Climate Risk Profile will help all stakeholders, especially the vulnerable groups, to be able to understand climate risk related to water energy food security and to have the capacity to reduce the risks. Gender Responsive and Inclusive Climate Risk Profile will be developed to ensure that an effective gender mainstreaming approach is implemented throughout the project design, development and implementation, where the different needs of different gender groups are identified, sensitivities across the gender groups are considered and the interventions are tailored to meet the different needs. This profile will be made accessible to all stakeholders (i.e., braille version, infographic for those unable to read, etc.).~~

~~**Economic benefits:** The availability of Gender Responsive and Inclusive Climate Risk Profile and the recommendation of priority adaptation actions will help stakeholders (private sector, community) to anticipate the climate risk such as floods, landslides to secure their business continuity (i.e., production and distribution of goods and services, distribution of goods, crops, etc.). Business continuity also ensured livelihoods of the workers that made up the economic growth in the district, hence economic continuity.~~

~~**Environmental benefits:** The project will inform the government and other stakeholders to understand the change of nature due to the impact of climate change. This understanding is expected to expand the options on innovative adaptation solutions, especially nature based adaptation solutions, to respond to the risks. For example, the floating crops solutions can be implemented by a community of farmers who live in the flooded area.~~

~~**Direct Beneficiaries :** In regards to the above social, economic and environmental benefits, the project will have a direct impact on climate adaptation planning to disaster mitigation and preparedness, economic resilience and climate adaptive livelihood. The Adaptation Plan implementation would reduce the disaster risk and economic loss risks Sigi District has experienced by having more robust climate based spatial planning, disaster preparedness, better food security and sustainable source of renewable energy. Based on Sigi Disaster Management Agency, the earthquake in 2018 followed by flash floods and landslides throughout 2019 has caused USD 738 million USD loss. This is the estimated avoided cost if the climate adaptation program is successfully implemented.~~

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For Bolapapu and Lonebasa Village Community, the project will directly benefit 3,430 people which also happen to be indigenous community of Kulawi and Kaili and are within the category of extremely poor and vulnerable community. The project will enable them to (1) conduct participatory planning of their customary forest and/or community forest management, including enforcing women customary role as decision maker (2) plan and implement disaster risk management to reduce their vulnerability (3) 20% families in pilot villages have their household income increased from climate adaptive agriculture such as sustainable coffee, cocoa or other food crops (4)

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C. Cost Effectiveness

C.1. Project component 1:

4. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach; with project cost USD 604,147
 - a. Concrete benefit from adaptation
 - b. Avoided lost
 - c. Alternative interventions and compromise

C.2. Project component 2:

2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable village: Bolapapu Village in Kulawi Sub-District, and Lonebasa Village in Pipikoro Sub-District; with project cost USD 239,934
 - a. Concrete benefit from adaptation
 - b. Avoided lost
 - c. Alternative interventions and compromise

C.

(See Annex 1 for detailed Cost Effectiveness)

D. Alignment with National and Sub-National Sustainable Development Strategies

4. National Development Strategies

70. The proposed project will support and align to several key national development strategies and commitments. It corresponds directly with Indonesia's commitment towards climate change mitigation and adaptation, as formalized in the National Determined Contribution (NDC) and the NDC roadmap, the National Medium-Term Development Planning (Rencana Pembangunan Jangka Menengah Nasional/RPJMN) (Rencana Pembangunan Jangka Menengah Nasional or RPJMN) 2020-2024²² and National Action Plans for Climate Change Adaptation (Rencana Aksi Nasional Adaptasi Perubahan Iklim/RAN API) Rencana Aksi Nasional Adaptasi Perubahan Iklim or RAN API by the Ministry of National Planning. The three national strategic documents outline key agendas, especially building the environment and increasing disaster and climate change and economic resilience, including local government and people preparedness by expanding multi-sector partnerships. The strategies focus on the synergy of regional spatial use and the number of regencies and cities with detailed spatial planning for resilience to disaster and climate change, especially on building strength in safeguarding food, water, and energy resources. The consortium, through Component 1, will support the district in developing the action plans for addressing climate change mitigation and adaptation

²² Narasi RPJMN 2020-2024. <https://old.bappenas.go.id/files/rpimn/Narasi-RPJMN-2020-2024-versi-Bahasa-Inggris.pdf>

efforts and through Component 2, as well as conducting pilot projects that support resilient agriculture and energy independence in two selected vulnerable villages.

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~~The three national strategic documents outline key agendas especially on building the environment and increasing disaster and climate change resilience as well as economic resilience, including local government and people preparedness by expanding multi-sector partnership. The strategies focus on synergy of regional spatial use and the number of regencies and cities with detailed spatial planning for resilience to disaster and climate change especially on building resilience in safeguarding food, water, and energy resources. The consortium through Component 1 will support the district in the development of the action plans for addressing climate change mitigation and adaptation efforts and through Component 2 as well as conducting pilot projects that support resilient agriculture and energy independence in two selected vulnerable villages.~~

71. The project would also contribute to the Government of Indonesia's target of the number of regencies and cities with detailed spatial planning for resilience to disaster and climate change from 37 regencies and cities in 2019 to 250 regencies and cities in 2024 stipulated in RPJMN 2020-2024. Regional-level action plans act as building blocks of the national-level action plans and provide locally. The government of Sigi District will develop Sigi District's climate change adaptation plans to align with the national-level strategies.

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70. The project also corresponds with The Presidential Regulation on 98/2021, which stipulates the implementation of carbon economic value that emphasizes Indonesia's efforts in climate change mitigation and adaptation, covering multiple priority sectors, such as food, water, energy, health, and ecosystem. This project aims to support the achievement of this commitment by supporting regional climate adaptation planning and implementation through climate change vulnerability and capacity assessment to provide data and information on current and future vulnerable areas that can be used as baseline information. In contrast, the capacity-building element of this project aims to ensure the project's sustainability by ensuring proper implementation carried out by local stakeholders that includes monitoring and evaluation within and beyond the project period. The implementation element of this project will support existing on-the-ground projects that target priority sectors, namely food, water and energy, in pilot areas.

72. The project would also contribute to the Government of Indonesia's target on the number of regencies and cities with detailed spatial planning for resilience to disaster and climate change from 37 regencies and cities in 2019 to 250 regencies and cities in 2024 stipulated in National RPJMN 2020-2024. Regional-level action plans act as building blocks of the national-level action plans and provide local, and Sigi District's climate change adaptation plans will be developed to align with the national-level strategies.

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~~The project also corresponds with The Presidential Regulation on 98/2021²³, which stipulates the implementation of carbon economic value that emphasizes Indonesia efforts in climate change mitigation and adaptation covering multiple priority sectors, such as food, water, energy, health, and ecosystem. This project aims to support the achievement of this commitment by supporting regional climate adaptation planning and implementation, through climate change vulnerability and capacity assessment to provide data and information on current and future vulnerable areas that can be used as baseline information, while the capacity building element of this project aims to ensure the sustainability of the project by ensuring proper implementation carried out by local stakeholders that includes monitoring and evaluation, within and beyond the project period. The implementation element of this project will support existing on the ground projects that target priority sectors, namely food, water and energy in pilot areas.~~

73. The proposed project will also support the Strategic Plan of the Directorate General of Climate Change of the -Ministry of Environment and Forestry (Renstra PPI) through the assessment of local and data-

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²³ <https://peraturan.bpk.go.id/Home/Details/187122/perpres-no-98-tahun-2021>

driven climate vulnerability and capacity, which Sigi District can use for developing strategies and action plans to increase its food, water, and energy securities. Proposed implementation elements of this project aim to serve as a model of how adaptation strategies are implemented at the village level, where food, water and energy security is secured, while aiming to increase economic, social, ecosystem and livelihood resilience in focus villages. Such exemplary models will serve as "success stories" that showcase successful village-level transition into becoming climate-adaptive and can be replicated throughout and beyond Sigi District. The proposed project will also support Strategic Plan of the Directorate General of Climate Change of the Ministry of Environment and Forestry (Renstra PPI)²⁴ through the assessment of local, data-driven climate vulnerability and capacity, which can be used for developing district level strategies and action plans to increase its food, water and energy security in the face of climate change. Proposed implementation elements of this project aim to serve as a model of how adaptation strategies are implemented at the village level, where food, water and energy security is secured, while aiming to increase economic, social, ecosystem and livelihood resilience in focus villages. Such exemplary models will serve as "success stories" that showcase successful village level transition into becoming climate adaptive and can be replicated throughout and beyond Sigi District.

■ National Determined Contribution (NDC)

The proposed project will support and align to several key national development strategies and commitments. It corresponds directly with Indonesia's commitment towards climate change mitigation and adaptation, as formalized in the National Determined Contribution (NDC) and the NDC roadmap, especially on how Component 1 and Component 2 of the project addresses the focus of NDC on climate change risk and impacts on Indonesia's food, water and energy security, and that climate change mitigation and adaptation efforts are considered as an integrated concept that is important for building resilience in safeguarding food, water and energy resources. The nation wide climate vulnerability assessment, conducted by the Directorate General of Climate Change of the Ministry of Environment and Forestry, will serve as the basis for conducting a district wide climate vulnerability assessment enhanced with the incorporation of local specific indicators and climate modeling for future impact projection. The proposed project will support Indonesia's commitment towards climate change mitigation and adaptation, as formalized in the National Determined Contribution (NDC) and the NDC roadmap. Through its NDC, Indonesia acknowledges that climate change presents significant risks for Indonesia's natural resources that will impact its food, water and energy security, and that climate change mitigation and adaptation efforts are considered as an integrated concept that is important for building resilience in safeguarding food, water and energy resources.

The Government of Indonesia has also stated its commitment in its NDC to increase climate resilience, focusing on economic resilience, social and livelihood resilience, and ecosystem and landscape resilience. The nation wide climate vulnerability assessment, conducted by the Directorate General of Climate Change of the Ministry of Environment and Forestry, will serve as the basis for conducting a district wide climate vulnerability assessment enhanced with the incorporation of local specific indicators and climate modeling for future impact projection. This assessment will contribute to the national agenda for supporting sub-national jurisdictions in their own formulation and implementation of adaptation plans.

The project will also support the incorporation of district level adaptation plans into its regional development plans. While this project will support the overall planning and implementation of climate

²⁴ https://www.menlhk.go.id/site/single_post/3518/renstra-ditjen-ppi-2020-2024

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change adaptation strategies in the district, the focus on the water energy food nexus will help address targeted national concerns. Upon the development of district level adaptation plans and strategies, the project will conduct a pilot project in two villages targeting an increase in climate adaptive food and agricultural production systems, access to energy and water security.

The involvement of local stakeholders through collaboration with a multistakeholder forum, as well as an assessment of local stakeholders' capacity for planning for and implementing climate change adaptation on the ground, will ensure strong participation and capacity increase that will increase the effectiveness and longevity of climate adaptation strategy implementation. Overall, the support that the project will provide to the District government will extend to the development of adaptation plans that increase the economic, social and environmental resilience.

~~National Medium-Term Development Planning (Rencana Pembangunan Jangka Menengah Nasional or RPJMN)~~

The National Medium-Term Development Planning document (*Rencana Pembangunan Jangka Menengah Nasional* or RPJMN) 2020–2024 specifically outlines seven national development agendas, which includes building the environment and increasing disaster and climate change resilience including local government and people preparedness and expanding multi sector partnership in mitigation and DRR. The climate change adaptation aspect of this agenda includes increased disaster and climate change resilience. In the RPJMN 2020–2024 narration²⁵, the Government of Indonesia states its target to increase the synergy of regional spatial use and the number of regencies and cities with detailed spatial planning for resilience to disaster and climate change from 37 regencies and cities in 2019 to 250 regencies and cities in 2024. The national government also targets strengthened climate change mitigation, disaster management, and resilience, achieved through a number of strategies, including building a culture of disaster awareness and of preparedness from local governments and the people, adapting communities to climate change in disaster prone areas, and expanding multi-sector partnerships in climate change mitigation and disaster risk reduction.

The proposed project reflects clear alignment with the national development planning agenda, targeting an increase in disaster and climate change resilience at the district and village level. The climate vulnerability assessment can feed into the district's spatial planning, formalized into *Rencana Tata Ruang Wilayah* or RTRW, and strengthen land use strategies that support economic, social and ecosystem resilience towards the impacts of climate change. The capacity assessment and building will also help increase climate disaster awareness and preparedness from district governments and local stakeholders necessary to carry out climate change adaptation planning and interventions.

National Action Plans for Climate Change Adaptation (Rencana Aksi Nasional Adaptasi Perubahan Iklim or RAN API)

In 2014, the Ministry of National Development Planning (*Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional* or BAPPENAS) has developed a National Action Plans for Climate Change Adaptation (*Rencaana Aksi Nasional Adaptasi Perubahan Iklim* or RAN-API). The national level action plan document sets a direction for climate change adaptation plans to minimize the negative impacts of climate change through adaptation strategies, policies, good

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²⁵Narasi RPJMN 2020-2024, <https://old.bappenas.go.id/files/rpimn/Narasi-RPJMN-2020-2024-versi-Bahasa-Inggris.pdf>

governance, technology and behaviors, take advantage of the positive impacts presented by climate change and increase resilience and/or reduce the level of vulnerability of the social, economic and environmental systems. The targeted sectors of the action plans, among many others, include increased economic resilience through improved food and energy security.

Regional level action plans act as building blocks of the national level action plans and provide local, and Sigi District's climate change adaptation plans will be developed to align with the national level strategies. The consortium, through this project, will support the district in the development of the action plans, as well as conducting pilot projects that support resilient agriculture and energy independence in two selected vulnerable villages.

Presidential Regulation no. 98/2021 on Economic Value of Carbon

The Presidential Regulation on 98/2021, which stipulates the implementation of carbon economic value, further strengthens Indonesia's commitment to achieving its NDC by emphasizing on its efforts in climate change mitigation and adaptation. To achieve its climate change adaptation targets, the Government of Indonesia aims to increase its climate change adaptation capacity, reduce climate change vulnerability and risks, utilize opportunities presented by climate change and reduce potential loss from climate change impacts, achievable through planning, implementation, monitoring and evaluation of climate change adaptation actions. The regulation also stipulates the implementation of climate change adaptation measures covering multiple priority sectors, such as food, water, energy, health and ecosystem.

This project aims to support the achievement of this commitment by supporting regional climate adaptation planning and implementation, through climate change vulnerability and capacity assessment, and regional action plan and strategy development in Sigi District. The climate vulnerability assessment and climate modeling proposed in this project will provide data and information on current and future vulnerable areas that can be used as baseline information for determining climate adaptation targets and strategies, while the capacity building element of this project aims to ensure the sustainability of the project by ensuring proper implementation carried out by local stakeholders that includes monitoring and evaluation, within and beyond the project period. The implementation element of this project will support existing on the ground projects that target priority sectors, namely food, water and energy in pilot areas.

e. Strategic Plan of the Directorate General of Climate Change of the Ministry of Environment and Forestry (Renstra PPI)

As outlined in the Strategic Plan of the Directorate General of Climate Change of the Ministry of Environment and Forestry for the period of 2020-2024, the Ministry is committed to increasing nation-wide climate resilience through good governance on climate mitigation and adaptation, aiming to increase the total climate adaptive area. This targeted increase is achievable through accurate data, information and assessment on regional climate vulnerability and risk and formulation of regional level strategies.

The proposed project will support the Directorate General's efforts through the assessment of local, data-driven climate vulnerability and capacity, which can be used for developing district level strategies and action plans to increase its food, water and energy security in the face of climate change. Proposed implementation elements of this project aim to serve

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as a model of how adaptation strategies are implemented at the village level, where food, water and energy security is secured, while aiming to increase economic, social, ecosystem and livelihood resilience in focus villages. Such exemplary models will serve as "success stories" that showcase successful village-level transition into becoming climate-adaptive and can be replicated throughout and beyond Sigi District.

2. Sub-National and Regional Development Strategies

74. Sigi District's current Medium-Term Development Planning Document (Rencana Pembangunan Jangka Menengah Daerah/RPJMD) covers the district's strategic issues and strategies for 2021-2026. It stated the district's vision to increase its competitive advantages by strengthening its agribusiness sector. One of the missions to achieve this is by pursuing disaster mitigation-based sustainable development, achieved through a decrease in the disaster risk index and an increase in disaster resilience. The proposed project aims to support this mission by providing Sigi District with the data needed to strengthen disaster resilience, including baseline assessment of vulnerable areas and stakeholder capacity to develop strategies and action plans to reduce disaster risks and increase the communities' resilience.

75. Besides Sigi District's RPJMD 2021-2026, the project is precisely aligned with Sigi Hijau Vision. As a policy breakthrough initiated by Sigi District, it showcases the Sigi's government commitment to pursue jurisdictional sustainability, achievable through several strategies that include climate change mitigation and adaptation. This proposed project supports exactly this: helping Sigi District develop its regional action plans for climate change adaptation enhanced with capacity and vulnerability assessment and future climate projection modelling to create more comprehensive, adaptive measures. It also offers practical intervention to increase renewable energy and reduce deforestation and land degradation. The proposed project, which includes a pilot implementation in two selected villages, aims to improve the local community's economic, social, and ecosystem resilience and supports sustainable, forest-friendly and climate-adaptive agriculture to ensure food and livelihood security.

Sigi District's current Medium-Term Development Planning Document (Rencana Pembangunan Jangka Menengah Daerah or RPJMD), which covers the District's strategic issues and development strategies for the period of 2021-2026, states the vision of the District to increase its competitive advantages by strengthening its agribusiness sector. One of the missions to achieve this is by pursuing disaster mitigation-based sustainable development, achieved through a decrease in the disaster risk index and an increase in disaster resilience. The proposed project aims to support this mission by providing Sigi District with the data it needs to strengthen its disaster resilience, including baseline assessment on vulnerable areas and stakeholder capacity and supporting it in the development of strategies and action plans that both reduce the risk of disasters and increase the communities' resilience.

Beside Sigi District's RPJMD 2021-2026, the project is precisely aligned with Sigi Hijau Vision. As a policy breakthrough initiated by Sigi District, it showcases the Sigi's government commitment to pursue jurisdictional sustainability, achievable through a number of strategies that include climate change mitigation and adaptation. This proposed project supports exactly this: helping Sigi District develop its own regional action plans for climate change adaptation enhanced with capacity and climate vulnerability assessment and future climate projection modeling for developing more comprehensive, adaptive measures. It also offers practical intervention to increase renewable energy use and a reduction in deforestation and land degradation. The proposed project, which includes a pilot implementation in two selected villages, will target the water-energy-food nexus that aims to increase economic, social, and ecosystem resilience in the local community, as well as supports sustainable, forest-friendly and climate-adaptive agriculture for ensuring food and livelihood security.

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a. **Regional Medium-Term Development Plan (Rencana Pembangunan Jangka Menengah Daerah or RPJMD) 2021-2026**

The development of this project concept took into consideration the national and subnational development planning and strategies. Sigi District's current Medium Term Development Planning Document (*Rencana Pembangunan Jangka Menengah Daerah* or RPJMD), which covers the District's strategic issues and development strategies for the period of 2021-2026, states the vision of the District to increase its competitive advantages by strengthening its agribusiness sector.

One of the missions to achieve this is by pursuing disaster mitigation-based sustainable development, achieved through a decrease in the disaster risk index and an increase in disaster resilience. The proposed project aims to support this mission by providing Sigi District with the data it needs to strengthen its disaster resilience, including baseline assessment on vulnerable areas and stakeholder capacity and supporting it in the development of strategies and action plans that both reduce the risk of disasters and increase the communities' resilience.

b. **Green Sigi (Sigi Hijau) Vision**

Sigi Hijau is a policy breakthrough initiated by Sigi District, and a manifestation of Sigi District's commitment to becoming a sustainable District. Through Sigi Hijau, the government of Sigi District has stated its commitment to pursue jurisdictional sustainability, achievable through a number of strategies that include climate change mitigation and adaptation. To achieve this, the government of Sigi has committed to formulating Regional Action Plans for Climate Change Mitigation and Adaptation, as the extension of the national and provincial action plans to the district level. This proposed project supports exactly this: helping Sigi District develop its own regional action plans for climate change adaptation enhanced with capacity and climate vulnerability assessment and future climate projection modeling for developing more comprehensive, adaptive measures. The incorporation of Sigi Hijau into the district's development planning showcases the district's commitment further, and this will ensure effective implementation and access to funding.

In addition to the regional action plans, the government of Sigi has also committed to reducing climate change risks and impacts through an increase in renewable energy use and a reduction in deforestation and land degradation. The proposed project, which includes a pilot implementation in two selected villages, will target the water-energy-food nexus that aims to increase economic, social, and ecosystem resilience in the local community, as well as supports sustainable, forest friendly and climate adaptive agriculture for ensuring food and livelihood security.

E. **E. Compliance with National Technical Standard**

76. This program is following Presidential Regulation (PERPRES) Number 22 of 2017 concerning RUEN (National Energy General Plan), which later became guidelines for RUED (Regional General Energy Plan) at the provincial level through the Central Government Provincial Regulations Sulawesi Number 10 of 2019. The potential for developing renewable energy in Sigi District is also following the direction of Central Sulawesi Governor Regulation Number 25 of 2019 concerning the General Plan of Regional Electricity for 2019-2038, where the priority of rural electricity comes from mini hydro or solar energy.
77. Consortium Kolaborasi will run the development of the PLTMH -less than 1 MW- (mini hydro) plan through participatory cooperation to improve the community's economy in this program by fulfilling various legal aspects required. It is necessary to fulfil the Statement of Ability to Manage and Monitor the Environment (SPPL) following Minister of Environment and Forestry Regulation number 4 of 2021

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to ensure that energy use does not conflict with ecological functions. Then, if planning to develop energy installations in forest areas, a borrow-to-use permit is required through the Ministry of Environment and Forestry.

78. In addition, the Directorate General of New, Renewable Energy and Energy Conservation (EBTKE) has compiled Guidelines for Environmental Management in the mini hydropower sector. This guide contains explanations and general instructions for implementing mini hydropower environmental management. The developer must carry out this document at the technical planning, pre-construction, construction, operation, maintenance, and post-operation stages.

79. The production and processing of agricultural products must adhere to national standards to increase food security by enhancing the lives of farmers in the community. The Sigi District is home to some of the province's agricultural products, including rice, corn, coffee, and cocoa. The Indonesian National Standard (Standar Nasional Indonesia/SNI) already regulates a standard for these four goods. There are currently guidelines for using different types of seeds, fertilizers, pesticides, and herbicides, along with procedures in the processing process to generate products that are ready to be sold. It is envisaged that by adhering to this SNI, Sigi District's agricultural productivity—which currently remains below the national average—can be enhanced.

This program is following Presidential Regulation (PERPRES) Number 22 of 2017 concerning RUEN (National Energy General Plan), which later became guidelines for RUED (Regional General Energy Plan) at the provincial level through the Central Government Provincial Regulations Sulawesi Number 10 of 2019. The potential for developing renewable energy in Sigi District is also following the direction of Central Sulawesi Governor Regulation Number 25 of 2019 concerning the General Plan of Regional Electricity for 2019-2038, where the priority of rural electricity comes from mini hydro or solar energy.

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F. Identification of Overlapping Projects

80. Currently, no existing efforts overlap with Kolaborasi projects. However, some efforts would be very good to complement or synergize with Kolaborasi. Sigi District Government is working with 1) Church World Services (CWS) and Yayasan Inovasi Ketahanan Komunitas (INANTA), and 2) Mercy Corps and Yayasan Penabulu. The first project aims to build community resiliency with a focus on livelihood

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and agriculture in four villages. The second seeks to manage risks through economic empowerment at the village level in 10 villages. Both projects have similar approaches to Kolaborasi: to improve the community's capacity to manage risk through economic empowerment and focus on the village level. Our project will complement and strengthen those projects by bringing a more comprehensive approach by: 1) providing a stronger foundation for the local government to develop climate adaptation programs, and 2) building a solid showcase for influencing the top-down approach from national to local levels through two critical angles: (i) Water-Food-Energy Nexus approach and (ii) Multi-layered jurisdictional approach (Village – District – Provincial – National). ~~there is no~~ There is no existing effort to support Sigi District specifically on collective actions for climate adaptation planning for climate adaptation resiliency and its implementation scenario. However, there are several climate mitigation initiatives and projects focusing on development sustainable business model and supply chain development within jurisdiction to ~~There are on going efforts however to develop a sustainable business model and supply chain within the jurisdiction to boost regional competitiveness while allowing the district to also protect their important ecosystem. These following Jurisdictional Approach and climate mitigation programs can be synchronized with the proposed project to achieve robust climate resilience:~~

80.

81. Other initiatives and projects with jurisdictional approaches to sustainable business models and supply-chain development are also available to be synchronized with Kolaborasi. They are GIZ SASCI+ project, particularly in the biosphere reserve context for Lore Lindu National Park, mainly focuses on enhancing sustainability and value-added components in the agricultural supply chain in Indonesia. The GIZ Forclime Project, in collaboration with the Ministry of Agriculture and the local agriculture technology research agency (Balai Pengkajian Teknologi Pertanian/BPTP), focuses on coffee and cocoa certification and commodities research and development, Sigi District government is pursuing agrarian reform and the issuance of customary forest and community forests surrounding Lore Lindu Biosphere Reserve to reduce deforestation and land degradation. The to-be-established multistakeholder forum will act as a coordinating and collaboration body at the district level to ensure all the initiatives and interventions are synergized and complementary to each other.

~~GIZ SASCI+ project is currently ongoing in Sigi District and Central Sulawesi, particularly in the biosphere reserve context for Lore Lindu, with the main focus on enhancing sustainability and value-added components in the agricultural supply chain in Indonesia. The project is currently administered by LTKL to strengthen the operational capacity of Sigi government to attract, link, and manage incentives towards their sustainable commodities transformation, mainly focusing on cacao, coffee, rubber, palm oil, non timber forest products, fisheries and spices, through investment desk, business development, and resource mobilization to tangible incentives.~~

~~The GIZ Forclime Project, which ended last year in collaboration with the Ministry of Agriculture and the local agriculture technology research agency (Balai Pengkajian Teknologi Pertanian/BPTP), focuses on coffee and cocoa certification and commodities research and development. In parallel, the Forestry Office is also pursuing the issuance of social forestry to enforce community based forest management with selected non timber forest commodities.~~

~~Sigi District government is pursuing agrarian reform and the issuance of customary forest and community forests surrounding Lore Lindu Biosphere Reserve to reduce deforestation and land degradation.~~

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~~GIZ SASCI+ project are currently on going in Sigi District and Central Sulawesi, particularly in the biosphere reserve context for Lore Lindu with the main focus to enhance sustainability and value-added components into agricultural supply chain in Indonesia. Partially, the project is currently administered by LTKL on strengthening operational capacity Sigi government of to attract, link and manage incentives towards their sustainable commodities transformation — particularly focusing on~~

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~~Cacao, Coffee, Rubber, Palm Oil, Non Timber Forest Products (NTEP), Fisheries and Spices through investment desk, business development and resource mobilization to tangible incentives.~~

~~Result of the GIZ Forclime project which ended last year in collaboration with Ministry of Agriculture (Kementan) and the local agriculture technology research agency (Balai Pengkajian Teknologi Pertanian/BPTP) focusing on coffee and cocoa certification and commodities R&D. In parallel, the Forestry Office is also pursuing the issuance of social forestry to enforce community based forest management with selected non timber forest commodities.~~

~~Sigi District government is pursuing agrarian reform and the issuance of customary forest and community forest surrounding Lore Lindu Biosphere Reserve as one of the means for reducing deforestation and land degradation.~~

~~The to be established multistakeholder forum will act as coordinating and collaboration body at district level to ensure all the initiatives and interventions are synergized and complementary to each other.~~

~~For example, GIZ through different programs are supporting them in developing wider marketing, nationally or internationally for local commodities including coffee and cacao in collaboration with Ministry of Agriculture (Kementan) and the local agriculture technology research agency (Balai Pengkajian Teknologi Pertanian/BPTP).~~

G. Learning and Knowledge Management

82. The project aims to produce several critical products targeted to capture process, results and lessons learned from the project – namely (i) a summary of the process translated into a decision-tree infographic, (ii) work-sheet(s) as guidance for process replication and (iii) case-study examples for each segment of the process. These products serve as practical learning tools for adults in government settings based on the consortium's previous experience.

83. Following previous successful learning methods, the consortium will disseminate such tools through (i) workshops with opportunities for district participants to participate online and (ii) targeted coaching clinics for interested districts to participate offline under their resources. Aside from working with the provincial government of Central Sulawesi to target other districts in the province for replication, the district of Sigi is also a founding member of LTKL since 2017. This membership provides a more significant opportunity for replication and learning across the eight other district members of LTKL and other active members of APKASI throughout Indonesia.

84. We aim to work closely with key national ministries/government institutions during the implementation process, including the National Disaster Agency, National Planning Agency – LCDI Secretariat and Ministry of Environment and Forestry. Hence, the plan is to integrate results better, learn from the projects as policy recommendations from subnational experience, and achieve greater replication potential across the country.

~~From a communication perspective, we plan to collaborate with the Communication and Information Agency and the Public Relations Agency of Sigi District to establish a micro-site connected to the district's official website documenting the process, results and lessons learned. The micro-site can be an information portal for Sigi District on climate adaptation issues and will be mirrored on social media platforms of the district government and consortium members.~~

~~The project aims to produce several key products targeted to capture process, results and lessons learned from the project – namely (i) summary of process translated into decision tree infographic, (ii) work sheet(s) as guidance for process replication and (iii) case study examples for each segment of the process. These products serve as effective learning tools for adults in government settings based on the consortium's previous experience.~~

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H. Consultative Process

87. The district government is also a part of the consortium and has received feedback from the Regional Development Planning Agency (BAPPEDA), Regional Disaster Agency (BPBD), Regional Environmental Agency (DLH) and Village Planning and Empowerment Agency (PemDes), based on the consultative process summarized in the table below. Further endorsement has also been given by the Head of Sigi District and formalized in the endorsement letter attached to this concept note.

As a preparation stage to this proposal, we have begun the consultation with key stakeholders and vulnerable groups from a multifaceted angle. In the context of environmental studies, science technology, especially for climate and disaster studies or other environmental study, we consulted academic institutions focusing on disaster resiliency and forest protection including Tadulaka University, UIN Datokarama Palu and UIN Palu at Central Sulawesi level.

As the district government is also a partner for our consortium, we have also gotten direct feedback from the Regional Development Planning Agency (BAPPEDA), Regional Disaster Agency (BPBD), Regional Environmental Agency (DLH) and Village Planning and Empowerment Agency (PemDes), with the results of the consultative process summarized in the table below. Further endorsement has also been given by the Head of Sigi District and formalized in the endorsement letter that is attached to this concept note.

Date	Consulted Stakeholders	Consultation Techniques	Consultation Findings	Incorporation of Findings into Project Design
11 April 2022	<p>1. Mohammad Irwan S.Sos.MSi, Head of Sigi District</p> <p>2. Dr.Samuel Yansen Pongi,M.Si, Deputy Head of Sigi District</p> <p>3. Muh.Basir, Secretary of Sigi District</p> <p>4. All Head of Sigi District Working Unit (OPD)</p> <p>5.</p>	<p>FGD and Working Sessions (32 Male, 18 Female)</p>	<p>- Successfully obtained Head of District's further commitment to pursue Sigi Hijau into achievable programs and initiatives.</p> <p>- Discussed green development work plan which can be integrated in joint collaboration and program synergv across OPD and development partners in Sigi.</p> <p>- Agreed on manifesting the work plan and collaboration through the establishment of Multistakeholder Forum.</p>	<p>Agreement and Commitments achieved became the Enabling Conditions for the Project.</p>

			among these vulnerable villages	
6 July 2022	Johansyah Halman, ST, Secretary of Sigi District's Disaster Management Agency (Implementing Department)	Semi-structured interview	- Sigi District is prone to natural and man-made climate disasters - Bolapapu Village in Kulawi Sub-district is prone to flash floods	Selection of Bolapapu Village as one of the areas for pilot implementation

88. Consultation processes were also carried out with key stakeholders at the civil society organizations, including Nemubuku, Forum Sudut Pandang, Ibu Foundation, Marcy Corps, Sikola Mombine Foundation and development partners, including GIZ SASCI+. There is also a strong opportunity to work with youth groups that have been developing initiatives on disaster resilience, including Earth Hour Palu, Macaca Rangers, Historia Sulteng, Sikola Pomore, Jaga Palu Official, Satu Buku Anak Palu, Ini Sigi, Like Sigi, Tadulako Desainer, Taman Baca Todea, Nobalu, Banua Risigi, and KPL Jameana.

89. Before the commencement of the project, we will conduct a preliminary assessment to refine our approaches and interventions further to fit in with the current local contexts. We acknowledge that climate change impacts may be experienced differently by different gender, age and other social groups. Therefore the preliminary assessment will look into climate change impacts on these different groups as well as sensitivities that exist among these groups to tailor our interventions to maximize effectiveness and accurately address the diverse needs of these groups. This will involve a series of consultations through various means deemed appropriate and effective in the local context with representatives from these groups. The participation of the diverse groups will be maintained and ensured throughout the rest of the project, including project design, development and implementation.

Consultation processes were also carried out with key stakeholders at the civil society organizations in the process including Nemubuku, Forum Sudut Pandang, Ibu Foundation, Marcy Corps, Sikola Mombine Foundation and development partners including GIZ SASCI+. There is also a strong opportunity to work with youth groups that have been developing initiatives on disaster resilience including Earth Hour Palu, Macaca Rangers, Historia Sulteng, Sikola Pomore, Jaga Palu Official, Satu Buku Anak Palu, Ini Sigi, Like Sigi, Tadulako Desainer, Taman Baca Todea, Nobalu, Banua Risigi and KPL Jameana.

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I. Justification for Funding Requested

90. The funding of this project will fill the gap in developing climate adaptation programs in Sigi District. The Regional Action Plan for Climate Change Adaptation (RAD API) does not yet exist for the Sigi District.

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Therefore, a vulnerability assessment of climate change and an evaluation of the capacity of community groups and the local government is required to help the local government of Sigi District deal with climate change. Following that, the RAD API document will be developed while local stakeholders' capacities are also built. To support the village-level climate adaptation action plan, a pilot implementation of the water-energy-food nexus approach will also be carried out.

91. Component 1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with the water-food-energy nexus approach

92. With funding for component 1, the resilience of Sigi District could be strengthened by understanding the district's vulnerability and the increased capacity of the local stakeholders. A vulnerability assessment of climate change will be carried out using an indicator-based methodology that includes relevant indicators to the local context. Climate modelling will be added to the climate change sensitivity assessment to assure the district's long-term ability to adapt. Capacity assessment and development will also be carried out to improve the capacity of the local stakeholders.

93. Component 2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on-the-ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district

94. People who reside in remote, underdeveloped communities with little in the way of public infrastructure are a particularly vulnerable demographic to climate change. The Kulawi Subdistrict's Bolapapu Village and the Pipikoro Subdistrict's Lonebasa Village are two sites that meet these criteria. Due to extreme weather, floods have become more intense in Bolapapu Village in recent years, leading to several losses, including crop failure. However, since PLN has not provided electricity to Lonebasa Village, which can only be reached on two-wheeled vehicles, the availability of sustainable electricity sources is crucial to sustaining the people's way of life. The local communities currently have access to micro-hydro power plants as an electricity source to boost livelihoods.

95. Bolapapu Village has a population of 2,464 people, comprising 1,232 males and 1,232 females or a gender ratio of 100. In contrast, Lonebasa Village has a population of 966 people that includes 499 males and 467 females or a gender ratio of 118. Both targeted villages are homes for indigenous communities, namely To Kulawi community (Bolapapu-Marena) and Kaili -Topo Uma community (Lonebasa). These indigenous communities practice traditional agroforestry and community forest management. According to Social and Welfare Office Data 2022, 49.5% of the Bolapapu residents and 70.8% Lonebasa residents are in the extremely poor and vulnerable category. While the consortium acknowledges the possible differences of how climate change impacts the different gender groups and their different capacities to adapt, further analyses are needed. They will be done in the preliminary assessment to understand the local situation fully.

96. With funding for Component 2, the water-energy-food (WEF) approach intervention will be implemented in the two villages as a pilot. The WEF's initiatives are particularly pertinent to tackling widespread issues, taking advantage of the connectivity of the three sectors to address the problems at a much larger scale. One example of the WEF-based projects, which can be implemented in Bolapapu and Lonebasa villages, is supporting sustainable and climate-adaptive agriculture in the villages by promoting forest conservation that can improve irrigation for agriculture and water quality and harnessing renewable energy potential from micro-hydro to increase productivity, which will be generated through effective preservation of healthy water catchments in that area. In the village of Bolapapu, effective water management may also help lower the risk of flooding while supporting irrigation for agriculture activities.

The funding of this project will fill the gap in developing climate adaptation programs in Sigi District. The Regional Action Plan for Climate Change Adaptation (RAD API) does not yet exist for the Sigi District. Therefore, a vulnerability assessment to climate change as well as an assessment of the capacity of community groups and also the local government are required to help the local government of Sigi District deal with climate change. Following that, the RAD API document will be developed while

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local stakeholders' capacities are also being built up. In order to support the village-level climate adaptation action plan, a pilot implementation of the water-energy-food-nexus concept will also be carried out.

Component 1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy-nexus approach

With funding for component 1, the resilience of Sigi District could be strengthened by understanding the district's vulnerability and increased capacity of the local stakeholders. Using an indicator-based methodology that includes relevant indicators to the local context, a vulnerability assessment to climate change will be carried out. Climate modeling will be added to the climate change sensitivity assessment to assure the district's long-term ability to adapt. Capacity assessment and development will also be carried out to improve the capacity of the local stakeholders.

Component 2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district

People who reside in remote, underdeveloped communities with little in the way of public infrastructure are a particularly vulnerable demographic to climate change. The Kulawi Subdistrict's Bolapapu Village and the Pipikoro Subdistrict's Lonebasa Village are two examples of sites that meet these criteria. Due to extreme weather, floods have become more intense in Bolapapu Village in recent years, which has led to a number of losses, including crop failure. However, since PLN has not provided electricity to Lonebasa Village, which can only be reached on two-wheeled vehicles, the availability of sustainable electricity sources is crucial to sustaining the people's way of life. The local communities currently have access to micro-hydro power plants (PLTMH) as a source of electricity that could be potentially used to boost livelihoods.

Bolapapu Village has a population of 2,464 people, comprising 1,232 males and 1,232 females or gender ratio of 100, whereas Lonebasa Village has a population of 966864 people that comprises 49968 males and 467396 females or gender ratio of 118. Both targeted villages are homes for indigenous communities namely To Kulawi community (Bolapapu Marena) and Kaili Topo Uma community (Lonebasa). These indigenous communities practice traditional agroforestry and community forest management. According to Social and Welfare Office Data 2022, 49.5% of the Bolapapu residents and 70.8% Lonebasa residents are in the extremely poor and vulnerable category. While the consortium acknowledges the possible differences of how climate change impacts the different gender groups and their different capacities to adapt, further analyses are needed and will be done in the preliminary assessment to fully understand the local situation.

With funding for Component 2, the Water-Energy-Food (WEF) approach intervention will be implemented in the two villages as a pilot. The WEF's initiatives are particularly pertinent to tackling widespread issues, taking advantage of the connectivity of the three sectors to address issues at a much larger scale. One example of the WEF-based projects, which can be implemented in Bolapapu and Lonebasa villages, is supporting sustainable, climate-adaptive agriculture in the villages by promoting forest conservation that can improve irrigation for agriculture and water quality and harnessing renewable energy potential from micro-hydro (PLTMH) that can be used for food processing, which will be generated through effective preservation of healthy water catchments in that area. In the village of Bolapapu, effective water management may also help lower the risk of flooding, while supporting irrigation for agriculture activities.

J. Sustainability

97. One of the critical aspects leading to successful implementation of regional and/or national action plans

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in any theme is a shared understanding of common goals and value-proposition for stakeholders to work collectively in achieving such common goals. In itself, research indicates that the climate crisis is acknowledged as a complex problem which requires a cross-cutting integrated systems approach to address. However, most climate adaptation strategies and plans are still formulated and implemented through sectoral lenses and implemented in silos.

98. This project aims to enhance sustainability of its outcomes by offering a cross-sectoral approach in designing strategy and plan to enhance climate resiliency in Sigi District. This is done specifically by highlighting impacts of the climate crisis on critical aspects for the district including water, energy and agriculture sector – consistent with the Water-Energy-Food (WEF) approach, in which agriculture and land are proxies of food. The WEF nexus provides a holistic, socio-ecological systems perspective which recognize value of all sectors in equal terms²⁶.

99. *“...Climate determines water availability, potential agricultural production and energy availability, particularly in areas dependent on hydropower. Climate variability and change is the main cause of the fluctuations in water availability as well as access to energy and food resources, triggering trade-offs across the whole WEF nexus....”*

100. By targeting WEF, it is expected that ‘co-ownership’ and willingness of stakeholders to work collaboratively in addressing the issues can be enhanced. The final result is a cross-sectoral sustainable climate adaptation strategy and plan. The consortium has put high importance in the district and village planning process in Sigi District to ensure sustainability of project outcomes beyond the project. By investing in a co-creation process with capacity development approach in conducting assessment, drafting, integrating and implementing agreed strategy under RAD-API, it also enhances potential sustainability of this project outcome. For that, Sigi District Government has expressed their commitment to adjust the budget allocation in accordance with the adaptation plan resulting from the project. Currently there are four sources of district budget that could be aligned with the adaptation plan which are Regional Planning Office, Environment Office and Disaster Mitigation Agency as well as Dana Desa program and budget. In terms of amount, for instance, Sigi District had committed 1% of 60 billion IDR Village Fund allocation to Sigi Hijau implementation in village level. The percentage is to be increased by the upcoming years.

K. Environmental and Social Impact and Risk

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

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	Further compliance assessment is not required	<p>The project is consistent with relevant policies and regulations of the government of Indonesia and further support the government's program, which would include:</p> <ul style="list-style-type: none"> Minister of Environment and Forestry Regulation no. 33/2016 on guidelines for the preparation of climate change adaptation actions Law 32/2009 on Environmental Protection and

²⁶Climate Change Adaptation through the Water-Energy-Food Nexus in Southern Africa, [Sylvester Mpandeli](#),^{1,2} [Dhesigen Naidoo](#),¹ [Tafadzwanashe Mabhaudhi](#),³ [Charles Nhemachena](#),⁴ [Luxon Nhamo](#),⁴ [Stanley Liphadzi](#),¹ [Sithabile Hlahla](#),³ and [Albert T. Modi](#)³

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		<p>Management</p> <ul style="list-style-type: none"> - Minister of Energy and Mineral Resources Regulation no. 39/2017 on the implementation of physical activities using new and renewable energy and energy conservation.
<i>Access and Equity</i>	<i>Compliance assessment during the implementation may be required</i>	The project is targeted to provide equitable distribution of access to the community, which provide the local community with a number of benefits, including including raising awareness to climate change vulnerabilities and raising local resilience. Potential gender-based and vulnerable groups involvement in the project may require further assessment.
<i>Marginalized and Vulnerable Groups</i>	<i>Compliance assessment during the implementation may be required</i>	Considering the social benefit of the project, assessment is strongly needed. A comprehensive assessment would ensure that the project involves marginalized and vulnerable groups, which potentially lead to a greater impact.
<i>Human Rights</i>	<i>Further compliance assessment is not required</i>	Indonesia is highly regards the significance of upholding human rights principles. The fundamental rights of the participants will be upheld throughout this project.
<i>Gender Equality and Women's Empowerment</i>	<i>Compliance assessment during the implementation may be required</i>	Considering the social benefit of the project, assessment is strongly needed. The project seeks to advance gender equity and women's empowerment.
<i>Core Labour Rights</i>	<i>Further compliance assessment is not required</i>	Primary employee policy in this project is consistent with the adaptation principle policy
<i>Indigenous Peoples</i>	<i>Compliance assessment during the implementation may be required</i>	Issues and requirements specific to the indigenous groups present in the target communities will be captured during the assessment. In the event that any conflict could arise, the project shall adjust to mitigate and eliminate conflicts
<i>Involuntary Resettlement</i>	<i>Further compliance assessment is not required</i>	The project will strengthen local society adaptation
<i>Protection of Natural Habitats</i>	<i>Further compliance assessment is not required</i>	The project focuses on sustainable development with water-energy-food approach. However, the project shall adjust to mitigate and manage any activities, which would affect the natural habitats
<i>Conservation of Biological Diversity</i>	<i>Further compliance assessment is not required</i>	The project focuses on sustainable development with water-energy-food approach. However, the project shall adjust to mitigate and manage any activities, which would affect the biological diversity
<i>Climate Change</i>	<i>Further compliance assessment is not required</i>	The project is consistent with relevant climate assessment available on Central Sulawesi and further support the existing related program
<i>Pollution Prevention and Resource Efficiency</i>	<i>Further compliance assessment is not required</i>	Primary policy in this project is consistent with the adaptation principle policy
<i>Public Health</i>	<i>Compliance assessment during the implementation may be required</i>	Since the project requires active participation of the society, further compliance assessment during the implementation may be required
<i>Physical and Cultural Heritage</i>	<i>Further compliance assessment is not required</i>	The project location is situated in the villages. If there is any cultural and physical heritage, further compliance assessment during the implementation may be required
<i>Lands and Soil Conservation</i>	<i>Further compliance assessment is not required</i>	Potential location for the project shall be evaluated prior to the project implementation

101. Based on the risk assessment above, the consortium acknowledges the potential risks of the

proposed project. It considers minor, small scale (limited impacts and not widely spread), reversible, and easily mitigated risks. Therefore, the project can be categorized as "Category B" about Adaptation Fund's Risk Categorization. The Environmental and Social Management Plan Document describes the potential direct, indirect, transboundary and cumulative risks and impacts and their respective mitigation measures in more detail.

Based on the risk assessment above, the consortium acknowledges the potential risks of the proposed project. It considers minor, small scale (limited impacts and not widely spread), reversible, and easily mitigated risks. Therefore, the project can be categorized as "Category B" about Adaptation Fund's Risk Categorization. The Environmental and Social Management Plan document describes the potential direct, indirect, transboundary and cumulative risks and impacts and their respective mitigation measures in more detail. Based on the risk assessment above, the consortium acknowledges the potential risks of the proposed project, and considers such risks as minor, small scale (limited impacts and not widely spread), reversible and easily mitigated. Therefore, the project can be categorized as "Category B", in reference to Adaptation Fund's Risk Categorization. The Environmental and Social Management Plan document describes the potential direct, indirect, transboundary and cumulative risks and impacts, as well as their respective mitigation measures, in more detail.

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PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for Project Implementation

102. Konsorsium Lingkungan Adaptif, Berketahanan, Inovatif, dan Partisipatif (Kolaborasi) consists of 4 (four) organizations: (1) Yayasan Koaksi Indonesia, as the Lead Organisation; (2) Lingkar Temu Kabupaten Lestari (LTKL); (3) Earth Innovation Institute (EII); and (4) Alliance for Water Stewardship Indonesia (AWS Indonesia).

103. Yayasan Koaksi Indonesia or Coaction Indonesia is a non-profit organization that acts as a network and knowledge hub. Coaction's target is to realize sustainable development throughout the archipelago by accelerating the energy transition from fossil-based energy to renewable energy through three approaches: advocacy work, public campaigns, and strategic partnerships. Coaction collaborates with policymakers, the private sector, academia, community organizations, and youth activists in providing answers to the challenges of the energy transition through policy breakthroughs, funding, technology, and human resources. Established on March 16, 2017, some of Coaction's flagships include: 1) Influence Indonesia's biofuel policy; 2) Encourage safeguards for strategic renewable energy technologies developed in Indonesia, 3) Open access to renewable energy to areas that are considered underdeveloped, frontier, and outermost regions; 4) Increase conversation and discourse on Green Jobs as a critical intervention for renewable energy to reach youth in the energy transition wave, 5) Amplify just climate action voices from local to national, 6) Develop learning exchange platforms for civil society organizations on climate and energy issues, 7) Deliver systemic change from strategic partnerships with several coalitions, alliances, and associations, such as Bersih Indonesia (with 30 civil society organizations), Voices for A Just Climate Actions (with 18 civil society organizations), and is a partner of the Sustainable District Platform (LTKL).

104. Lingkar Temu Kabupaten Lestari (Sustainable District Association in English) is an association of district governments formed and managed by the district government in order to realize sustainable land-use at subnational level that protects the environment and improves community welfare through partnership and collaborations. LTKL was established in July 2017 as a caucus for sustainable development under the Association of Indonesian Regency Government (APKASI). Currently, LTKL has 9 active member districts, including Sigi District, in 6 provinces in Indonesia and works side by side with 21 multi-stakeholder partner networks. LTKL General Assembly in 2019 decided that sustainable commodities, including sustainable products utilizing natural resources, were a priority for LTKL members to achieve national targets to obtain quality investment, create jobs and prevent disaster risks. As a forum, LTKL functions as an aid for district members in developing implementation strategies, connecting with the right partners to increase capacity and acquire incentives for sustainable development efforts, and sharing the opportunities and challenges for sustainable development to the public.

105. EII is a non-profit, applied research and policy institute with a mission to promote climate-friendly rural development through innovative, jurisdictional approaches to sustainable agriculture, forestry and food systems in tropical regions around the world. EII provides direct technical, strategic and convening support to governments, companies, indigenous peoples' organizations and farmers in support of jurisdictional REDD+ and low-emission, low-deforestation rural development. EII has established itself as an international organization working across several geographies to support tropical nations and states that are striving to lower their greenhouse gas emissions from land use as they conserve biodiversity and water resources, secure food and agricultural production systems, and strengthen traditional and indigenous claims on natural resources. EII helps lay the groundwork for a transition to sustainable, productive rural development by building multi-stakeholder consensus in support of this agenda, identifying opportunities within government programs and policies to foster good land management through proper planning and land classification, a plantation licensing process, environmental monitoring, and law enforcement.

106. AWS Indonesia is a foundation established to grow and strengthen the leadership of stakeholders

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in Indonesia in caring for and managing water resources convincingly and reliably that preserve the implementation of the social, cultural, and economic values of water. Yayasan AWS Indonesia wants to inspire users and managers of water to actively participate in maintaining and taking care of water resources on the land of Indonesia. The foundation was established for humanitarian purposes, specifically in growing and strengthening the leadership of stakeholders in Indonesia in caring for and managing water resources convincingly and reliably that preserve the implementation of water values not only in the economic aspect but also in socio-cultural and environmental. AWS water stewardship approach is embodied in the International Water Stewardship Standard (AWS Standard). The AWS Standard is an ISEAL standard and a globally applicable framework that drives, recognizes, and rewards good water management practices. Since 2019, AWS Indonesia has been an active promoter of good water stewardship and become a partner of Alliance for Water Stewardship. AWS Indonesia also works together with Water Stewardship Asia Pacific to promote water stewardship.

107. In conducting the proposed project, the consortium will work closely with a variety of local stakeholders. These include relevant governmental institutions, such as the Development Planning and Research Agency (*Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Daerah* or BP3D), Environmental Agency (*Dinas Lingkungan Hidup*) and the Disaster Management Agency (*Badan Penanggulangan Bencana Daerah* or BPBD); all of which had been consulted during the process of concept note development and had expressed the utmost support for this project. The consortium will also work closely with the district-level working group for climate change adaptation, involving it from the commencement of the project and ensuring adequate capacity for project implementation within and beyond the project period.

108. The communication strategies for project coordination, reporting, monitoring and evaluation will include regular coordination meetings, with daily communication done through project management platforms, emails and online messaging platforms.

B. Financial Risk and Project Management Risk

Describe the measures for financial and project / programme risk management.

Categories	Potential Risk	Level	Mitigation Strategy
Institutional	Different knowledge in the team and changes in personnel	Moderate	<ol style="list-style-type: none"> 1. Internalization of organizational culture through SOPs 2. Institutional documentation is stored in project reports and accessible storage, such as Google Drive as cloud-based storage and sharing management
	The targeted program's outcome and output are not met by the end of the grant cycle	Significant	<ol style="list-style-type: none"> 1. A monitoring and evaluation mechanism is established and utilized regularly by the team 2. Monthly meetings and reports are conducted to identify bottlenecks and solutions in the program implementation
	Multiple compressed schedules due to some overlapped activities	Moderate	Each activity is organized and handled by different key PICs so the preparation of overlapped activities can still be carried out simultaneously
	Changes in organizational planning or strategy due to the long ongoing COVID-19 pandemic	Moderate	<ol style="list-style-type: none"> 1. Communicate actively with partners during the Covid-19 pandemic situation to find a broader perspective in making the best decisions in activities 2. Health is our priority. The working mode is determined dynamically according to the current situation and conditions associated with the provisions of restrictions from the government, both national and local, when working in the field, following the requirements of the health protocol 3. Each activity has a contingency plan to accommodate the worst-case scenario if one or more team members are infected with the Covid-19 virus 4. All our teams are required to have national health insurance (BPJS/JKN-KIS) 5. Hold regular check-in to listen to staff needs for motivation and mental health awareness
Financial	Changes in currency exchange rate lead to changes in the proposed budget items and the impact on the budget proposed for activities in the work plan	Significant	Using the currency exchange rate according to: <ol style="list-style-type: none"> 1. The trend before proposal submission 2. The exchange rate according to the time of disbursement 3. Readjustment of budget after the disbursement
	Delays in disbursement will hinder the process of implementation and its impact on the outputs' achievement	Significant	Funding and financing countermeasures
	Disbursement schemes that require initial	Significant	This disbursement scheme needs to be known in advance so that countermeasures

	financing		can be made, especially among the consortium members. The issue of transparency is critical in financing.
Social	The involvement of communities in several activities does not refer to gender equality and inclusive manners	Significant	Needed to ensure the involvement of representatives from the vulnerable groups in every activity possible, mainly on-the-ground activities
	Obtained organizational and legal access to communities to manage programs sustainably	Significant	Community facilitation to obtain organizational and legal access that is suitable and agreed by the community, either through the existence of village-level enterprise or cooperation
	No channels play the role of a multistakeholder forum to accelerate climate change adaptation efforts	Significant	Join the regional and local Disaster Risk Reduction Forum of Central Sulawesi as the caucus for climate change adaptation accelerator
Environmental	<p>Availability of actual or potential threat of adverse effects on living organisms and environment by effluents, emissions, wastes, resource depletion, etc., arising out of project activities. The threat would result in financial loss that occurs due to:</p> <ol style="list-style-type: none"> 1.) Liability for personal injury and property damage; 2.) Liability for the remediation of environmental impacts; 3.) First party loss arising from an environmental impact. (e.g. owned property damage and restoration, business interruption, etc.) 4.) Civil fines and penalties as well as compensation for impaired natural resources. 	Significant	Environmental risk identification, assessment, and evaluation. These efforts involve determining the magnitude of identified risks (the combination of likelihood and consequence) and making decisions about whether they are acceptable or whether they warrant treatment.
Political	Change in leadership due to the election results in 2024	Significant	Updating the latest relevant leadership and renew the endorsement from the government based on the existing letter given for the project

C. Environmental and Social Risk Management

As the project is more toward strategic planning and programming, the possibility of negative environmental and social impacts and risks are very minimal.

Environmental and social principles	Impact and Risks	Mitigation Strategy
<i>Compliance with the Law</i>	-	-
<i>Access and Equity</i>	-	-
<i>Marginalized and Vulnerable Groups</i>	-	-
<i>Human Rights</i>	-	-
<i>Gender Equality and Women's Empowerment</i>	-	-
<i>Core Labour Rights</i>	-	-
<i>Indigenous Peoples</i>	-	-
<i>Involuntary Resettlement</i>	-	-
<i>Protection of Natural Habitats</i>	-	-
<i>Conservation of Biological Diversity</i>	-	-
<i>Climate Change</i>	-	-
<i>Pollution Prevention and Resource Efficiency</i>	-	-
<i>Public Health</i>	-	-
<i>Physical and Cultural Heritage</i>	-	-
<i>Lands and Soil Conservation</i>	-	-

109. Collaboration with different stakeholders across different stakeholder groups in the district will also enable the identification of risks across different sectors, along with preventive measures to be taken as early as possible to ensure that the potential environmental and social risks are minimized. Safeguarding policy from each organization and for the project must be made clear to avoid any breach of the safeguard policy.

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110. Risks related to Covid infection can be kept minimal by having limited in-person activities. Upon conditions in which in-person activities need to be conducted, adherence to precautions and health protocols will be enforced.

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D. Monitoring and Evaluation

Monitoring and Evaluation of Climate Change Adaptation (M&E) consist of these components (1) Strategy and objectives; (2) Achievement Indicators; (3) Implementation of Activities; (4) Financial Use, which refer to:

1. Compliance (compliance); whether the project implementation follows existing standards and procedures
2. Examination (auditing); whether the resources and services intended for certain parties (target audience/beneficiaries) are accountable
3. Reports (accounting); generating information or proof of evidence to measure the social changes based on the financial traceability
4. Explanation (narrative); generating storytelling to justify that the project implementation is consistent with the planning and below or beyond the target.

M&E is carried out throughout the planning, implementation, and reporting stages based on the availability of 1) Activity Report or Back-to-officer Report (field visit), 2) Quarterly/Progress Reports, 3) Annual Reports, and 4) Final Report.

1. Activity Report

The reporting process will take place after every activity is carried out. These reports identify

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who attends the activity and points of discussion/actions. The pieces should also include documentation and financial statements.

2. Quarterly Reports

The consortium members will report every three months to summarize achieved activities and output levels that contribute to the expected results.

3. Annual Reports

Annual reports consist of progress and achievements within a year of implementation and whether the project has succeeded in harvesting the planned outcome.

4. Final Report

The Project Final Report is intended to summarize the project's outcomes and is the final document of the Kolaborasi Project. Relevant stakeholders can use the report to document project successes, lessons learned, and performance to signal future project delivery improvement.

E. Result Framework

(See Annex 3 for detailed project result framework, including milestones, targets and indicators)

F. Alignment with Adaptation Fund Result Framework

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Project Objective(s) ²⁷	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach	The capacity of approximately 50 people from relevant stakeholder groups (government, organizations, local communities, universities) for conducting climate change adaptation planning and implementation activities assessed and improved	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Four types of targeted stakeholder groups <u>including indigenous community and women group</u> with increased capacity to minimize exposure to climate variability risks	171,775
	Two knowledge products on District-wide climate change vulnerability and adaptive capacity, and recommended adaptation options encourage district-wide climate change adaptation planning and implementation	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into regional development strategy	25,662
	One Regional Action Plans on Climate Change Adaptation (<i>Rencana Aksi Daerah Adaptasi Perubahan Iklim</i> or RAD-API) developed with collaboration with district government and multistakeholder working group	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into regional development strategy	143,021
	Regional Action Plans on Climate Change Adaptation (<i>Rencana Aksi Daerah Adaptasi Perubahan Iklim</i> or RAD-API) mainstreamed into 3 district-level work and/or development planning documents	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into regional development strategy	90,411

²⁷The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology, but the overall principle should still apply.

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	Series of learning and communication activities targeting 50 people at the district, province and national level conducted to encourage replication and upscaling	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Fifty (50) people (targeted population) aware of predicted adverse impacts of climate change, and of appropriate responses	69,917
2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district	The capacity of approximately 16 people from village institutions in pilot villages for conducting climate change adaptation planning and implementation activities assessed and improved	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Two village level institutions with increased capacity to minimize exposure to climate variability risks	261,102 (lump sum of project implementation costs in two pilot villages)
	Four knowledge products on village-wide climate vulnerability and adaptation options encourage village-wide climate change adaptation planning and implementation	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Fifty (50) people (targeted population) aware of predicted adverse impacts of climate change, and of appropriate responses	
	20% of families in pilot villages have their household income increased from climate-adaptive agriculture	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 20% of households and communities having more secure (increased) access to livelihood assets 6.2. 20% of targeted population with sustained climate-resilient livelihoods	
	20% of families' capacity in water management increased	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural assets for good water management maintained or improved under climate change and variability-induced stress	
	20% of families gain access to local sustainable energy sources	Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	

Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
1.1. Improvement of institutional capacity local stakeholders in district-level climate change adaptation collaborative planning and interventions	The capacity of approximately 50 people from relevant stakeholder groups (government, organizations, local communities) for conducting climate change adaptation planning and implementation activities assessed and improved	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1. Three types of climate change risk reduction actions or strategies (focusing on water-energy-food nexus) introduced at local level	171,775

1.2. Strengthened governance of cross-sectoral climate change adaptation policy with appropriate adaptation measures and systemic efforts	Two knowledge products on District-wide climate vulnerability and adaptive capacity, and recommended adaptation options encourage district-wide climate change adaptation planning and implementation	Output 1: Risk and vulnerability assessments conducted and updated at national level	1.1. One district-level vulnerability and capacity assessment project that conduct and update risk and vulnerability assessments	25,662	
	One District Action Plan for Climate Change Adaptation (RAD API) developed and incorporated with recommended adaptation options	Output 7: Improved integration of climate-resilience strategies into country development plans	7.1. One regional action plan introduced or adjusted to address climate change risks	143,021	
	Three district government's annual work and/or development plans incorporate the district's climate change adaptation strategies	Output 7: Improved integration of climate-resilience strategies into country development plans	7.2. Three targeted working and/or development strategies with incorporated climate change priorities enforced	90,411	
1.3. Establishment of knowledge sharing method for collaborative planning practice for climate change adaptation at district, provincial and national level	Series of learning and communication activities targeting 50 people at the district, province and national level, conducted to encourage replication and upscaling	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1. Fifty (50) people (targeted population) aware of predicted adverse impacts of climate change, and of appropriate responses	69,917	
2.1. Increased knowledge and capacity of the local community by adopting the District's Action Plan for Climate Change Adaptation	The capacity of approximately 16 people from village institutions in pilot villages for conducting climate change adaptation planning and implementation activities assessed and improved	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1. Three types of climate change risk reduction actions or strategies (focusing on water-energy-food nexus) introduced at local level	261,102 (lump sum of project implementation costs in two pilot villages)	
2.2. Increased economic, social, and ecosystem resilience in the local community through the water-energy-food nexus approach to become a successful model for replication in other areas of the Sigi District	Four knowledge products on village-wide climate vulnerability and adaptation options encourage village-wide climate change adaptation planning and implementation	Output 1: Risk and vulnerability assessments conducted and updated at national level	1.1. One village-level vulnerability and capacity assessment project that conduct and update risk and vulnerability assessments		
	20% of families in pilot villages have their household income increased from climate-adaptive agriculture	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.2. Climate-adaptive income sources from agriculture for households generated under climate change scenario		
	20% of families' capacity in water management increased	Output 5: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	5.1. Natural resource assets for ensuring sustainable water supply and management created, maintained or improved to withstand conditions resulting from climate variability and change		
	20% of families gain access to local sustainable energy sources	Output 4: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	4.1.1. Infrastructure to generate sustainable energy developed or modified to respond to new conditions resulting from climate variability		

G. Budget

(See Annex 3 for detailed project Budget)

H. Disbursement Schedule
(See Annex 4 for detailed project Disbursement Schedule)

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

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A. Record of endorsement on behalf of the government²⁸

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

Mohamad Irwan Lapatta, S.Sos,M.Si Head of Sigi District	Date: July 13, 2022
Dr. Samuel Yansen Pongi, SE.,M.Si Deputy Head of Sigi District	Date: July 7, 2022
Drs. Sutopo Sapto Condro, MT Head of Sigi District's Development Planning and Research Agency	Date: July 1, 2022
Afit Lamakarate, ST.,M.Si Head of Sigi District's Environmental Agency	Date: June 27, 2022
Johansyah Halman, ST Secretary of Sigi District's Disaster Management Agency (Implementing Department)	Date: July 6, 2022

²⁸ 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.

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

<p>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 (.....list here.....) and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.</p>

<p><i>Name & Signature</i></p> <p>Implementing Entity Coordinator</p>	
<p>Date: <i>(Month, Day, Year)</i></p>	<p>Tel. and email:</p>
<p>Project Contact Person:</p>	
<p>Tel. And Email:</p>	

Annex 1. Cost Effectiveness

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³⁰https://www.unclearn.org/wp-content/uploads/library/ifad_adaptation_farmers.pdf

³²<https://careclimatechange.org/wp-content/uploads/2014/08/CB>

Annex 2. Results Framework

Outcome/Output	Indicator	Baseline	Target	Source of Verification	Risk and Assumption
Component 1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach					
Outcome 1.1. Improvement of institutional capacity local stakeholders in district-level climate change adaptation collaborative planning and interventions	A jurisdiction becomes climate resilient, with strong institutional capacity prepared for planning and implementing climate change adaptation interventions	The institutional capacity of local stakeholders in Sigi District for planning and implementing climate change adaptation measures is unknown and capacity improvement has not been conducted	Sigi District becomes a climate resilient jurisdiction with strong institutional capacity prepared for planning and implementing climate change adaptation interventions	Assessment reports, activity reports, decision letters, documentation	-
Output 1.1.1. The establishment of a district-level working group for climate change adaptation	One district-level working group for climate change adaptation established for spearheading climate change adaptation efforts in the district	0	One district-level working group for climate change adaptation established and operating	Activity report, documentation, Team development decision letter (SK pembentukan tim)	-
Output 1.1.2. Carrying capacity assessment of local stakeholders for climate change adaptation planning and interventions	Institutional Capacity Assessment on climate adaptation planning and intervention with focus on water-energy-food nexus) used as the basis for capacity building	0	One assessment report on institutional capacity on climate adaptation planning and intervention	Assessment report, documentation	-
Output 1.1.3. Institutional capacity building roadmap at district and community level developed	Institutional capacity strengthening roadmap developed for district level and serves as a basis for institutional capacity building	0	One institutional capacity strengthening roadmap document	Copy of document	-
Output 1.1.4. Increased capacity of local stakeholders in implementing climate change adaptation interventions	The capacity of people from relevant stakeholder groups (government, organisations, local communities, universities) for conducting climate change adaptation planning and implementation activities assessed and improved	Unknown; to be assessed in the project	Capacity improvement of approximately 50 people from relevant stakeholder groups (government, organisations, local communities, universities) for conducting climate change adaptation planning and implementation activities improved	Activity report, documentation,	-

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Outcome 1.2. Strengthened governance of cross-sectoral climate change adaptation policy with appropriate adaptation measures and systemic efforts	A jurisdiction becomes climate resilient, with strong enabling condition in place for planning and implementing climate change adaptation interventions	The relevant climate adaptation interventions have not been identified, and the enabling condition for pursuing accurately identified climate adaptation interventions is inadequate	Sigi District becomes a climate resilient jurisdiction with strong enabling condition in place for planning and implementing climate change adaptation interventions	Assessment reports, activity reports, documentation	-
Output 1.2.1. Climate change vulnerability assessment using district level data and indicators and climate modeling based on water-energy-food (WEF) nexus approach	A district-wide climate change vulnerability assessment incorporating district-level data and indicators and climate modeling used to encourage district-wide climate change adaptation planning and implementation	0	One district-wide climate change vulnerability assessment report	Copy of assessment report	-
Output 1.2.2. Key recommendations based on district's climate change vulnerability assessment is mainstreamed and acknowledged in the district 2025-2030 Mid-Term Development Plan (RPJMD)	Policy briefs and recommendations on climate change adaptation priority actions developed	0	One policy brief document, detailing recommendations on climate change adaptation priority actions	Copy of document	-
Output 1.2.3. Co-Created District's Action Plan for Climate Change Adaptation (Rencana Aksi Daerah Adaptasi Perubahan Iklim Kabupaten Sigi - RAD-API)	One Regional Action Plans on Climate Change Adaptation (<i>Rencana Aksi Daerah Adaptasi Perubahan Iklim</i> or RAN-API) developed with collaboration with district government and multistakeholder working group	0	One Regional Action Plans on Climate Change Adaptation (<i>Rencana Aksi Daerah Adaptasi Perubahan Iklim</i> or RAN-API)	Copy of document	-
Output 1.2.4. Co-Created District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2021-2024 aligned with interventions under the RAD-API	Action plan activities related to climate change adaptation included in District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2021-2024	0	One District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2021-2024 aligned with interventions under the RAD-API	Activity report, documentation	-
Output 1.2.5. Co-Created District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2025-2030 aligned with interventions under the RAD-API	Action plan activities related to climate change adaptation included in District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2025-2030	0	One District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2025-2030 aligned with interventions under the RAD-API	Activity report, documentation	Political commitment and willingness for pursuing climate adaptive district remains strong

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Outcome 1.3. Establishment of knowledge sharing method for collaborative planning practice for climate change adaptation at district, provincial and national level	Knowledge-sharing methods developed and used across regions as a medium for exchanging learnings of successful measures	There is a lack of knowledge-sharing media for learning exchanges across regions, hindering replication and upscaling of successful efforts	Learnings from the planning and implementation processes of climate change adaptation measures in Sigi District are used for replication at the district, provincial and national levels	Activity reports, documentation	-
Output 1.3.1. Learning and Communication Tools targeted for replication co-created based on Monitoring, Evaluation & Learning (MEL) throughout the process	Learning and Communication Tools targeted for replication co-created based on Monitoring, Evaluation & Learning (MEL) throughout the process	0	One set of Learning and Communication Tools targeted for replication co-created based on Monitoring, Evaluation & Learning (MEL) throughout the process	Copy of document	-
Output 1.3.2. Series of learning and communication activities to encourage replication at the district, provincial and national levels	Learning and communication activities	0	Two National events with 3 regional events at provincial and district level	Activity report, documentation	-
Component 2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district					
Outcome 2.1. Increased knowledge and capacity of the local community by adopting the District's Action Plan for Climate Change Adaptation	Local communities are empowered to plan and implement effective climate change adaptation measures	Local communities possess inadequate knowledge and capacity for planning and implementing local climate change adaptation measures	Local communities in Bolapapu and Lonebasa villages understand and are empowered to plan and implement effective climate change adaptation measures at the village level	Assessment reports, activity reports, documentation	-
Output 2.1.1. Delivery of analysis and action plan from the district level down to the village-level	Activities based on the action plan included in village development plan	0	One document plan that include climate change adaptation action plan	Activity report, Documentation	Rejection from local communities. Such risk will be mitigated through co-creation of village-level climate change adaptation plans and interventions.

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Output 2.1.2. Carrying capacity assessment of local stakeholders for climate change adaptation planning and interventions	Institutional Capacity Assessment on climate adaptation planning and intervention with focus on water-energy-food nexus) used as the basis for capacity building	0	Two assessment reports on institutional capacity on climate adaptation planning and intervention for Bolapapu and Lonebasa villages	Assessment reports, documentation	-
Output 2.1.3. Increased capacity of village institution to prepare and implement derivative programs from District's Action Plan for Climate Change Adaptation at the village-level	The number of people increased capacity from village institutions in Bolapapu and Lonebasa Villages for conducting climate change adaptation planning and implementation activities assessed and improved	Unknown; to be assessed in the project	Capacity improvement of approximately 50 people from village institutions in Bolapapu and Lonebasa Villages for conducting climate change adaptation planning and implementation activities improved	Activity report, Documentation	-
Outcome 2.2. Increased economic, social, and ecosystem resilience in the local community through the water-energy-food nexus approach to become a successful model for replication in other areas of the Sigi District	The water-energy-food nexus approach is applied for increasing climate resilience at the village level	Strategies using the water-energy-food nexus approach is not applied for increasing climate resilience at the village level	Strategies using the water-energy-food nexus approach are applied for increasing climate resilience at the village level	Assessment reports, activity reports, documentation	-
Output 2.2.1. Climate change vulnerability assessment at the village-level based on water-energy-food nexus approach	Two village-level climate change vulnerability assessment reports for Bolapapu and Lonebasa villages incorporating village-level data and indicators and climate modeling used to encourage village-wide climate change adaptation planning and implementation	0	Two village-level climate change vulnerability assessment reports	Copies of assessment report	-
Output 2.2.2. Participatory identification of local livelihood productivity improvement as a basis for the village-level action plan for climate change adaptation	Current local livelihood productivity identified and analyzed to serve as the basis for improvement measures that are climate-adaptive	0	Two reports detailing identified livelihood productivity improvement measures and recommendations for Bolapapu and Lonebasa villages	Activity report, Documentation	-
Output 2.2.3. Co-creation of village-level climate change adaptation action plan based on the water-energy-food potentials	Recommendations for priority climate change adaptation action plans developed for pilot implementation in Bolapapu and Lonebasa villages	0	Two recommendation reports for climate change adaptation action plans for Bolapapu and Lonebasa villages	Copies of reports	-

Output 2.2.4. Increased community's capacity to access adaptive agricultural practices	The number of families in pilot villages have their household income increased from climate-adaptive agriculture	0	20% of households and communities having more secure (increased) access to adaptive agricultural practices 20% of targeted population with sustained agriculture-based climate-resilient livelihoods	Activity report, Documentation	Uncertainty in local communities' willingness to apply new practices.
Output 2.2.5. Increased community's capacity in water management for agricultural needs and as energy source	Number of families' capacity in water management increased	0	20% of families' capacity in water management increased		Uncertainty in local communities' willingness to apply new practices.
Output 2.2.6. Increased community's capacity to access inclusive and sustainable energy	Number of families gain access to local sustainable energy sources	Unknown; to be assessed in the project	20% of families gaining access to local sustainable energy sources		Uncertainty in local communities' willingness to apply new practices.
Output 2.2.7. Water-energy-food nexus to support business model of village-level climate adaptation action plan	Sustainable, climate-adaptive businesses implemented at Bolapapu and Lonebasa villages using the WEF approach	Unknown; to be assessed in the project	Establishment of climate-adaptive businesses in Bolapapu and Lonebasa villages		Reliance of business success on stakeholders' commitment.

Annex 3. Project Budget

Program Components	Expected Outputs	Activities	Lead Delivery Partner	Cost Components									Total
				Staff time	Consultant services	Travel & Per diem	Procurement of goods	Office running cost	Workshop & Meeting	Publication	Project Execution cost (9.5%)	Others	
Strengthening Sigi district resilience, particularly its water, food and energy security, towards climate change impacts through appropriate and localized climate change adaptation plan and intervention	District-level working group for climate change adaptation established	Establishment of District Working Group for Climate Change Adaptation	LTKL	14.150	6.750	3.100	0	0	20.434	0	4.221	0	51.059
	Assessment of local stakeholder capacity for carrying out climate change adaptation planning and interventions developed	Institutional Capacity Assessment on climate adaptation planning and intervention with focus on water-energy-food nexus)	AWS-EII-Koaksi	18.834	34.800	16.583	0	0	400	1.000	6.804	0	78.420
	Institutional capacity building roadmap at district and community level developed	Institutional Capacity Strengthening Roadmap development for district and community level	LTKL-AWS-EII-Koaksi	10.850	17.400	15.033	0	0	0	1.500	4.254	0	49.038
	Increased capacity of local stakeholders in implementing climate change adaptation interventions	Capacity building/Training series for District officials and wider stakeholders (NGOs, Private, Universities, etc)	AWS-EII-Koaksi	10.500	12.400	14.672	50	0	1.600	1.250	3.845	0	44.317
	Climate change vulnerability assessment developed, using district level data and indicators, and enhanced with climate modeling	Climate Risk Vulnerability Assessment	AWS-EII-Koaksi	23.935	44.400	14.672	500	0	0	1.000	8.028	0	92.535
	Recommendation on Climate change adaptation action plans fully developed, agreed upon by relevant stakeholders, and formalized into Regional Action Plan for Climate Change Adaptation	Policy brief and recommendation development on climate change adaptation priority actions	LTKL-AWS-EII-Koaksi	13.684	17.200	13.122	50	0	800	1.250	4.380	0	50.486

	Recommendations for Climate Change Adaptation plan and intervention are mainstreamed in the development of RPJMD drafting process.	Integration of project recommendation into RPJMD Formulation processes	LTKL-AWS-EII-Koaksi	17.300	2.400	22.422	0	0	800	1.000	4.173	0	48.095
		Priority recommendations integration process into District Government Work Plan (RKPD) and District Agencies Work Plan (Renja) based on RPJMD 2021-2026	LTKL-EII	6.900	2.400	10.022	0	0	0	0	1.836	0	21.158
		Priority recommendations integration process into District Government Work Plan (RKPD) and District Agencies Work Plan (Renja) based on RPJMD 2025-2030	LTKL-EII	6.900	2.400	10.022	0	0	0	0	1.836	0	21.158
	Communication and Learning Products to aim for province and country-wide replication	Monitoring, Evaluation & Learning (MEL) throughout the process to be summarized and developed into learning and communication tools	LTKL-Koaksi	12.000	9.000	10.850	0	0	4.293	0	3.434	0	39.577
		Development of learning and communication tools including but not limited to (i) decision-tree infographic, (ii) work sheet(s) and (iii) case-study examples.	LTKL-Koaksi	10.500	9.000	0	0	0	954	2.982	2.226	0	25.662
		Series of learning and communication activities to encourage replication at district, province and national level.	LTKL-Koaksi	18.000	9.000	13.800	0	0	23.051	0	6.066	0	69.917

<u>Improved climate change resilience of the local community, project implementation at 2 villages</u>	<u>Climate risk adaptation demonstrated in 2 pilot villages</u>	<u>1. Community awareness on the importance of Gender responsive and inclusive climate change adaptation on water-energy-food nexus raised</u> <u>2. Community capacity on identifying risk, appropriate solutions, planning, implementation and managing knowledge is increased</u> <u>3. Village adaptation action plan developed</u> <u>4. (optional) implementation of Village adaptation plan demonstrated (can be software or hardware activity identified in the village plan)</u>	<u>AWS-EIL-Koaksi</u>	<u>43.969</u>	<u>90.750</u>	<u>61.254</u>	<u>25.250</u>	<u>3.000</u>	<u>9.000</u>	<u>5.226</u>	<u>22.653</u>	<u>0</u>	<u>261.102</u>
Project Management	<u>Quarterly Narrative report developed</u>	<u>Quarterly Narrative report development</u>	<u>LTKL-AWS-EIL-Koaksi</u>	<u>14.844</u>	<u>960</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1.501</u>	<u>0</u>	<u>17.305</u>
	<u>Quarterly Financial Report Developed</u>	<u>Quarterly Financial report development</u>	<u>LTKL-AWS-EIL-Koaksi</u>	<u>7.244</u>	<u>960</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>779</u>	<u>0</u>	<u>8.983</u>
	<u>Project Audit report provided</u>	<u>Project audit conducted</u>	<u>Appointed KAP</u>	<u>25.000</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2.375</u>	<u>0</u>	<u>27.375</u>
	<u>Project Management Dashboard developed</u>	<u>Project Management Dashboard development and operationalization</u>	<u>LTKL-AWS-EIL-Koaksi</u>	<u>6.900</u>	<u>7.400</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1.359</u>	<u>0</u>	<u>14.429</u>
										<u>9.5%</u>	<u>80.944</u>		<u>839.672</u>
										<u>8.5%</u>			<u>78.252</u>
										Total			998.868

Annex 4. Disbursement Schedule with Time-bound Milestones

Project Objective/Components	Output	Time-bound Milestones Disbursement Schedule per Objective - Cost					
		Year 1		Year 2		Total	
		Mid-term 1	Mid-term 2	Mid-term 1	Mid-term 2		
1. Development of supporting climate change adaptation policy with appropriate adaptation measures and good governance to strengthen Sigi District resilience with water-food-energy nexus approach	1.1. Improvement of institutional capacity local stakeholders in district-level climate change adaptation collaborative planning and interventions 1.2. Strengthened governance of cross-sectoral climate change adaptation policy with appropriate adaptation measures and systemic efforts 1.3 Establishment of knowledge sharing method for collaborative planning practice for climate change adaptation at district, provincial and national level	161,374.5	161,374.5	107,583	107,583	537,915	
2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district	2.1 Increased knowledge and capacity of the local community by adopting the District's Action Plan for Climate Change Adaptation 2.2 Increased economic, social, and ecosystem resilience in the local community through the water-energy-food nexus approach to become a successful model for replication in other areas of the Sigi District	60,351.4	60,351.4	90,527.1	90,527.1	301,757	
Project Activities Cost (A)						839,672	
Project Execution Cost: 9.5% (B)						80,944	
Implementing Entity Fee: 8.5% (C)						78,252	
Total Project Cost (A+B+C)						998,868	

Annex 5. Environmental and Social Management Plan

Project/Programme Category: Small-sized Project/Programme

Country/ies: INDONESIA

Title of Project/Programme: Building Climate Resilient District in Indonesia: Case of Sigi District

Type of Implementing Entity: National Implementing Entity

Implementing Entity: Kemitraan (Partnership)

Executing Entity/ies: Konsorsium Lingkungan Adaptif, Berketahanan, Inovatif, dan Partisipatif (KOLABORASI): Koaksi Indonesia, Lingkar

Temu Kabupaten Lestari (LTKL), Earth Innovation Institute (EII), Alliance for Water Stewardship Indonesia in partnership with the District of Sigi, Central Sulawesi

Checklist of environmental and social principles	Details	Potential environmental and social risks and impacts	Mitigation measures	Timeline (in semester)
<u>Compliance with the Law</u>	Further compliance assessment may be required: The design and implementation of the project is consistent with relevant policies and regulations of the government of Indonesia and further support the government's program, which would include: - Minister of Environment and Forestry Regulation no. 33/2016 on guidelines for the preparation of climate change adaptation actions - Law 32/2009 on Environmental Protection and Management - Minister of Energy and Mineral Resources Regulation no. 39/2017 on the implementation of physical activities using new and renewable energy and energy conservation.	- Insufficient compliance to rules, regulations, and standards, specifically for village-level implementation under project component 2. This can have a negative effect once the project is completed.	Throughout the design and implementation phases, compliance with the rules, regulations and laws at the national, provincial and district levels will be maintained through, for example, development and submission of environmental documents. This will be strengthened with continuous consultation with relevant government officials. The village-level implementation under project component 2 will also adhere to existing village-level regulations and incorporate consultation with village-level officials of the selected areas.	Semester 1-3
<u>Access and Equity</u>	Compliance assessment during the implementation may be required: The project is targeted to provide equitable distribution of access to the community, which provides the local community with a number of benefits, including raising awareness to climate change vulnerabilities and raising local resilience with the water-energy-food approach. Potential gender-based and vulnerable groups involvement in the project may require further assessment.	- Unequal access to the project benefits and involvement in project activities, such as FGDs, workshops, public consultations, etc. This might reduce the impact of this project with the exclusion of some community groups. - Conflicts arising due to, for example,	The program will be designed to ensure equality throughout the project. The preliminary assessment will incorporate community group identification and mapping, and engagement with these community groups will be conducted. This will help identify and address the differing needs and challenges faced by different groups, ensuring equitable access to benefits. Involvement and participation of the community groups will be ensured prior to and throughout the project through ways deemed appropriate given the local situation.	Semester 2-3

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		<u>project location and selection of representatives from community groups</u>		
<u>Marginalized and Vulnerable Groups</u>	Compliance assessment during the implementation may be required: Considering the social benefit of the project, assessment is strongly needed to ensure that the project involves marginalized and vulnerable groups.	- Marginalized and vulnerable groups like indigenous groups, women, the elderly, people living with disabilities, and people living with HIV/AIDS are not properly engaged.	The Gender Responsive and Inclusive Climate Risk Profile will be developed to help all stakeholders, including marginalized and vulnerable groups, to be able to understand climate risks related to water-energy-food security and to have the capacity to reduce the risks. A comprehensive community group identification and mapping and a participatory approach would ensure that the project involves all community groups, including marginalized and vulnerable groups, which would potentially lead to a greater impact. <u>A participatory approach will be implemented in the project to ensure an active participation of all the community groups.</u>	Semester 1-2
<u>Human Rights</u>	Further compliance assessment is not required: Indonesia highly regards the significance of upholding human rights principles. The fundamental human rights of the participants will be upheld and not violated throughout this project.	=	=	=
<u>Gender Equality and Women's Empowerment</u>	Compliance assessment during the implementation may be required: Considering the social benefit of the project, assessment is strongly needed. The project seeks to advance gender equity and women's empowerment.	- Women are unfairly involved and underrepresented in project activities, and receive unfair benefits from the project	The Gender Responsive and Inclusive Climate Risk Profile will be developed to help all stakeholders, including gender groups, to be able to understand climate risk related to water-energy-food security and to have the capacity to reduce the risks. This profile will ensure that an effective gender mainstreaming approach is implemented throughout the project design, development and implementation, where the different needs of different gender groups are identified, sensitivities across the gender groups are considered and the interventions are tailored to meet the different needs. Approaches to engage with the different gender groups will be customized to increase gender equality, which may include separate engagement activities to accommodate each	Semester 1

			<u>group's preferred location and formats as well as availability.</u>	
			<u>The project will ensure a minimum of 30% participation of women prior to and throughout the project.</u>	
<u>Core Labour Rights</u>	Further compliance assessment is not required: Primary employee policy in this project is consistent with the adaptation principle policy.	=	=	=
<u>Indigenous Peoples</u>	Compliance assessment during the implementation may be required: Issues and requirements specific to the indigenous groups <u>present</u> in the target communities will be captured during the assessment. Upon any potential <u>in the event that any conflict arising could arise</u> , the project shall <u>adjust to</u> mitigate and eliminate conflicts.	- The project unintentionally violates the rights of Indigenous Peoples residing in project areas	<u>A community group identification and mapping in the preliminary assessment will be done to identify any indigenous groups in the project areas. Then Upon identification, the interventions will be designed in a way that will avoid any violation of the rights of Indigenous Peoples.</u>	Semester 1
<u>Involuntary Resettlement</u>	Further compliance assessment is not required: The project will strengthen local society adaptation.	=	=	=
<u>Protection of Natural Habitats</u>	Further compliance assessment is not required: The project focuses on sustainable development with the water-energy-food approach.	- The project implementation of <u>project component 2</u> in the two villages include <u>infrastructure changes that could disturb</u> <u>cause disruption to</u> natural habitats	<u>Assessments of specific environmental impacts will be conducted and consulted with relevant stakeholders and , which will become the basis for developing environmental documents, such as the UKL-UPL document. Environmental permits will be obtained prior to the construction.</u>	Semester 2
<u>Conservation of Biological Diversity</u>	Further compliance assessment is not required: The project focuses on sustainable development with the water-energy-food approach. However, the project shall adjust to mitigate and manage any activities, which would affect the biological diversity.	=	<u>The project will not threaten the biological diversity in the project areas. In the activities under component 2, the interventions will be done in the village that will not disturb biological diversity.</u>	=
<u>Climate Change</u>	Further compliance assessment is not required: The project will not significantly contribute to the increase in greenhouse gas emissions and is consistent with relevant climate assessment available on Central Sulawesi and further supports the existing related program.	=	=	=
<u>Pollution</u>	Further compliance assessment is not required:	- <u>P</u> <u>The</u>	<u>Assessments of specific environmental impacts will</u>	Semester 2

<u>Prevention and Resource Efficiency</u>	Primary policy in this project is consistent with the <u>adaptation principle policy</u> .	<u>implementation of project component 2</u> in the two villages include infrastructure changes that could cause water and air pollution that could spread beyond the project areas (e.g. other areas along the watershed)	be conducted and consulted with relevant stakeholders, which will become the basis for developing environmental documents, <u>such as the UKL-UPL document</u> . Environmental permits will be obtained prior to the construction.	
<u>Public Health</u>	<u>Compliance assessment during the implementation may be required:</u> The project does not foresee any significant health risks exposed to intended beneficiaries, nor will it affect the health of others. However, since the project requires active participation of stakeholders, and the COVID-19 pandemic is still ongoing at the time of the concept note writing, further compliance assessment during the implementation may be required	- The implementation of project activities jeopardizes the health of participating stakeholders	The project activities will be conducted in ways that ensure the health and safety of stakeholders are prioritized and health protocols will be enforced. At the time of the concept note writing, the world is still dealing with the COVID-19 pandemic. If the pandemic remains ongoing during the project implementation, or similar health issues arise, relevant health protocols will be enforced. <u>the implementation of the project will adhere to the requirements of relevant health protocols.</u>	Semester 1-3
<u>Physical and Cultural Heritage</u>	<u>Further compliance assessment is not required</u>	- The project damages physical and cultural resources and sites in the two target villages <u>that are the targets for project component 2.</u>	A preliminary assessment will be done to identify any physical and/or cultural resources and sites that exist in the two villages. Upon identification, the interventions will be designed in a way that will avoid any alteration, damage or removal of such resources and sites.	Semester 1
<u>Lands and Soil Conservation</u>	<u>Further compliance assessment is not required:</u> No risks are identified for activities under component 1, while the activities under component 2 might have an impact on soil conservation.	- The pilot implementation <u>(project component 2)</u> in the two villages will decrease soil quality of project sites	The identification of potential locations for project component 2 will include a soil survey and a land suitability analysis to <u>better</u> understand the soil condition and design appropriate interventions that consider land suitability and do not reduce soil quality.	Semester 1

Annex 6. Gender Assessment and Gender Transformative and Inclusive Project Action Plan

Gender assessment is crucial to be conducted early in the project design to ensure that an understanding of gender roles and power relation will inform how the project should be designed and formulated. This understanding will help to ensure how the project can: (i) address gender inequalities; (ii) address differential needs of women and men; (iii) ensure equal access to resources, services, and capacity development; (iv) ensure equal participation of women and men in management arrangement as beneficiaries, partners, and key stakeholders; and (v) ensure equal participation in decision-making processes.

Based on the gender assessment, a clear gender transformative and inclusive project action plan can be developed. This is to avoid separation of gender action plan and the project action plan itself. The understanding of gender roles and the power relation should inform how the project should be designed, formulated, implemented, and monitored.

Given the patriarchal cultural values that shape the social construction in Central Sulawesi³³, including Sigi district, gender assessment using intersectionality approach is expected to highlight all inequalities between women and men in many aspects, such as race, age, economic status, social status, and religion. Based on the identified inequalities, thorough, careful, and mindful activities in every step of the project implementation can be crafted in a gender responsive and inclusive manner that will address the inequalities at hands.

Gender assessment must be conducted at district and community level that is relevant to the project. In case of community level, the pilot villages are the target for gender assessment, at community level. Through the assessment, gender roles, power relations and inequalities must be identified and used as the baseline to be monitored and compared to the post project situation (endline) to .This way the project can clearly show how it has successfully help [or fail] to address the inequalities.

When conducting gender assessment, there are several principles should to be upheld. The first is to avoid stereotypes or assumptions, since not only they are. This is not just because stereotypes are politically incorrect or offensive, but also. The problem with stereotypes is not that they are untrue, but that they are incomplete. They make one story become the only story. When doing a gender assessment or analysis, wone should be prepared to be surprised or proven wrong. We should not rely on preconceived ideas.

The second is to be willing to see different forms of power, particularly of women. A gender assessment should be able to reveal the complexities of power dynamics in an environment and reveals the common flaws in simplistic and binary assumptions. The third is to approach gender analysis with an open mind. Open-mindedness is especially important for anyone seeking to understand gender in a foreign context. As an outsider, researchers should be aware of their own positionality and biases and the ways in which ideas about power, masculinities, and femininities are inherently part of the way they see the world and understand other environments.

Gender assessment shall be at least focused on several key steps. These key steps will help to ensure a comprehensive gender assessment³⁴. These steps are:

1. The first step is understanding the context. A gender analysis also depends on context. Although different countries, states, cities and villages have similarities and influence each other, it is important to avoid assuming that different contexts will have the same gender dynamics. Expectations about femininity and masculinity vary based on different environments, time periods, and social groups. This is why scholars often refer to "masculinities" in its plural form to capture an array of different forms of masculinity in a context. While it is useful to make comparisons across contexts, it is also essential to recognize where contexts diverge in gendered expectations. For example, hegemonic masculinity, as explained by David Durie-Smith, is the form of masculinity that is most privileged and enjoys the most benefits and power in society. Usually, hegemonic masculinity has some consistent traits, such as being able to provide for and protect one's family. However, what this provision looks like and what type of protection a man is expected to provide will vary across contexts. A gender analysis also examines patterns over time and recognizes that ideas about gender are changing and co-dependent. The context, even though in one district, might be different from one village to another village and between district level and village level.

2. The second step is Asking Questions. Gender analysis involves asking questions about the different experiences, expectation and relationships, of an environment for men, women, boys, girls, and sexual and

³³ Aisyah, N., (2021). Quality of Life and Women Empowerment in Central Sulawesi. *Journal of Asian Multicultural Research for Social Sciences Study*, 2(1), 36-44. <https://doi.org/10.47616/jamrsss.v2i1.91>

³⁴ <https://reliefweb.int/report/world/how-do-gender-analysis-practical-guidance-un-community>

gender minorities (SGMs). These questions focus on experiences, expectations, and relationships. Some examples of questions related to CVE policies are, how does this policy affect men differently than women? How does the policy affect boys and girls differently? As part of a gender analysis, one should think beyond intended effects of the policy and consider cascading effects that, for example, cross into the private sphere, have economic impacts, or affect the security of individuals differently.

3. The third step is **Understanding power dynamics**. Gender, according to Carol Cohn, is a way of "structuring power," and so it is important to understand who has access to different forms of power as a result of their gender identity. It is useful to take a broader view of power and to recognize power differentials not only between men and women, but also between women, between men, between boys, and between girls, not only in term of sex but in multi aspects (age, religion, economy status, social status, religion and race, etc.).

U This lead us to the fourth step, **understanding intersectionality identities**.

Gender analyses also recognize intersectional identities. Gender is one way to structure power, but One's access to power, in all of its forms, differs also based not only on one's gender, but also on one's religion, class, education, race, ethnicity, age, and many other factors. A gender analysis does not treat women as a monolithic group, but asks questions about different experiences of women, men, boys, girls, and SGMs. A person can experience several inequalities due to his or her position. For example, a woman, who is poor, with limited education, comes from low class and considered to be young is actually positioned in the intersectionality of inequalities. This situation is very important to be understood and not to based gender assessment on singular inequalities, such as inequalities between men and women in term of economic class. Many inequalities are at works for each individual. Intersectionality approach helps to provide comprehensive understanding in conducting the gender assessment.

4.

5. **Challenging existing knowledge and conventions**. A gender analysis requires gender researchers to look for new or innovative sources of information. One way to incorporate different data would be to speak to women in a society who might be ignored because they are not in positions of public power.

Gender assessment should be done as part of the full proposal development. As part of the concept note development, gender responsive and inclusion mainstreaming can be done by indicating how each output of the project is to be sensitised by gender and inclusion safeguard. The table below shows how gender and inclusion safeguards are mainstreamed for each output.

Specific Gender Dynamics of Disaster Risk and Resilience

In terms of climate risk, women and men differently adapt and are affected by climate change – especially in rural areas such as the targeted partner villages in Sigi District. Women are often disproportionately vulnerable to the effects of climate change and climate change can exacerbate gender disparities. On the other hand, many examples have showcased women's unique experiences and skills as powerful agents of change towards a more climate resilient community. Globally, gender – sensitive climate change adaptation and mitigation programs show positive, measurable results, including increasing women's participation in decision making. Specifically, the abovementioned gender analysis should be conducted aligned with the five dimensions of climate resilience to determine the roles of women and men in and outside of the project context, including the constraints they face and the available opportunities for more resilient communities. The five dimensions of climate resilience include (i) social dimension, (ii) ecological dimension, (iii) economic dimension, (iv) physical dimension, and (v) institutional dimension.

Project/Programme Components	Expected Concrete Outputs	Gender responsive and inclusion safeguards checklist	Climate Risk Gender Dimension
1. Development of supporting climate change adaptation policy with appropriate adaptation measures	1.1.1. The establishment of a district-level working group for climate change adaptation	<ul style="list-style-type: none"> Procedure and scope of audience, How and who to inform the working group about the establishment of working group? 	Institutional <ul style="list-style-type: none"> Women in Key - Decision- Making Positions

and good governance to strengthen Sigi District resilience with water-food-energy nexus approach.		<ul style="list-style-type: none"> How and who to decide the working group member selection procedure, of the member or the working group? Who is in and who is out? What are the proportion of women and men in the such working group? The state of gender knowledge of Do the members of working group members has gender knowledge 	<ul style="list-style-type: none"> Mapping gender & climate resilience issues in the ecosystem, including value-chain, producer groups and business owners Financing Resilience Business Ownership for critical sector (including agribusiness and energy)
1.1.2. Carrying capacity assessment of local stakeholders for climate change adaptation planning and interventions.		<ul style="list-style-type: none"> The assessor and his/her/their Who is doing the assessment? Does the assessor has gender expertise to conduct a gender responsive and inclusive capacity assessment? The inclusion of Are the women and vulnerable group as part of the local stakeholder to be assessed? 	
1.1.3. Institutional capacity building roadmap at district and community level developed		<ul style="list-style-type: none"> Does this roadmap developed in consultation with all stakeholder, especially inclusion of women and vulnerable group in the stakeholder consultation? 	
1.1.4. Increased capacity of local stakeholders in implementing climate change adaptation interventions		<ul style="list-style-type: none"> The inclusion of Are the women and vulnerable group as part of the local stakeholder to be strengthened? The inclusivity of Does the capacity building program designed for the vulnerable group (i.e., people with disabilities) 	
1.2.1. Climate change vulnerability assessment using district level data and indicators and climate modeling based on water-energy-food (WEF) nexus approach		<ul style="list-style-type: none"> Is segregated data available for this assessment? 	
1.2.2. Key Recommendations based on district's climate change vulnerability assessment is mainstreamed and acknowledged in the district 2025-2030 Mid-Term Development Plan (RPJMD)		<ul style="list-style-type: none"> Do Are these recommendations reflect already represent the differential needs of men and women and the vulnerable group? 	

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	1.2.3. Co-Created District's Action Plan for Climate Change Adaptation (Rencana Aksi Daerah Adaptasi Perubahan Iklim Kabupaten Sigi - RAD-API)	<ul style="list-style-type: none"> Does Will the Co-creation effort involve women and vulnerable group? How will it involve them? 	
	1.2.4. Co-Created District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2021-2024 aligned with interventions under the RAD-API	Does Will the Co-creation effort involve women and vulnerable group? How will it involve them?	
	1.2.5. Co-Created District Government Work Plan (RKPD) and District Agencies Work Plan (RKPD) based on RPJMD 2025-2030 aligned with interventions under the RAD-API	<ul style="list-style-type: none"> Does Will the Co-creation effort involve women and vulnerable group? How will it involve them? 	
	1.3.1. Learning and Communication Tools targeted for replication co-created based on Monitoring, Evaluation & Learning (MEL) throughout the process	<ul style="list-style-type: none"> Does Will the tools development process in developing the tools be involving the women and vulnerable group? Will these learning tools be accessible for women and vulnerable group? 	
	1.3.2. Series of learning and communication activities to encourage replication at district, province and national level	<ul style="list-style-type: none"> The inclusion of Are the women and vulnerable group as be part of the local stakeholder to be strengthened? 	
2. Showcasing an effective District's Action Plan for Climate Change Adaptation with on the ground implementation focusing on two vulnerable villages: Bolapapu Village in Kulawi sub-district and Lonebasa Village in Pipikoro sub-district	2.1.1. Delivery of analysis and action plan from the district level down to the village-level	<ul style="list-style-type: none"> Will the analysis delivery procedure, i.e. of analysis be specified for each organized for specific group in the village versus general assembly for all (women and vulnerable group) or will be organized for village community in general? 	Social <ul style="list-style-type: none"> Drivers of climate change vulnerability and how do gendered barriers exacerbate them The impact of How is climate change on impacting gender dynamic within households and communities WWhat are women's roles within producer groups, cooperatives and local councils GThe opportunities for Are there gender-differentiated climate -resilience building opportunities
	2.1.2. Carrying capacity assessment of local stakeholders for climate change adaptation planning and interventions	<ul style="list-style-type: none"> The inclusion of Are the women and vulnerable group included as part of the local stakeholder to be strengthened? The inclusivity of Does the capacity building program designed for the vulnerable group (i.e., people with disabilities) 	
	2.1.3. Increased capacity of village institution to prepare and implement derivative programs from District's Action Plan for Climate Change Adaptation at the village-	<ul style="list-style-type: none"> Are the women and vulnerable group included as part of the local stakeholder to be strengthened? Does the capacity building program designed for the 	Ecological <ul style="list-style-type: none"> The What are the most important climate -related

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level	vulnerable group (i.e., people with disabilities)	impacts and risks facing the region and/or ecological zone and the what changes can be observed by men and women
2.2.1. Climate change vulnerability assessment at the village-level based on water-energy-food nexus approach	<ul style="list-style-type: none"> Is segregated data available for this assessment 	<ul style="list-style-type: none"> The role of men and women into managing natural resources and their direct & indirect importance for their respective livelihoods
2.2.2. Participatory identification of local livelihood productivity improvement as a basis for the village-level action plan for climate change adaptation	<ul style="list-style-type: none"> The participatory identification procedure, i.e. specified for each group in the village versus general assembly for all—be conducted for different community group (women and vulnerable group) 	<ul style="list-style-type: none"> The opportunities for Are there Gender-differentiated climate-resilience building opportunities
2.2.3. Co-creation of village-level climate change adaptation action plan based on the water-energy-food potentials	<ul style="list-style-type: none"> Does Will the Co-creation effort involve women and vulnerable group? How will it involve them? 	<p>Economic</p> <ul style="list-style-type: none"> What are the most important sources of income at a household and respective community levels The impact of climate change on How can economic activities changed because of climate change Are household's financially preparedness against for climate shocks Existing and potential What are women's role and potential in climate adaptive and transformative activities What are the climate-related impacts and risks on for social and productive infrastructure The impact of How does women's access to for ownership of key assets (land, home, etc.) on impact community resilience
2.2.4. Increased community's capacity to access adaptive agricultural practice	<ul style="list-style-type: none"> The inclusion of Are the women and vulnerable group as part of the local stakeholder to be strengthened? The inclusivity of Does the capacity building program design to ed for the-vulnerable group (i.e., people with disabilities) 	
2.2.5. Increased community's capacity in water management for agricultural needs and as energy source		

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		<p>Does the capacity building program designed for the vulnerable group (i.e., people with disabilities)</p>	<p>Are the women and young girls able to use the facilities</p>
	<p>2.2.6. Increased community's capacity to access inclusive and sustainable energy</p>		

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		<p>Does the capacity building program designed for the vulnerable group (i.e., people with disabilities)</p>	
	<p>2.2.7. Water-energy-food nexus to support business model of village-level climate adaptation action plan</p>	<ul style="list-style-type: none">• The inclusion of Does the business model include women and vulnerable group as key partners and/or customers in the business model?	

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**MINISTRY OF ENVIRONMENT AND FORESTRY
DIRECTORATE GENERAL OF CLIMATE CHANGE**

Manggala Wanabakti Building Block VII 12th Floor, Jalan Gatot Subroto – Senayan, Jakarta 10270

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Website : <http://ditjenppi.menlhk.go.id>

email : tusetditppi@gmail.com;

Our Ref. : *S. 282 / PPI / API / PPI.0 / 8 / 2022*

Jakarta, 5 August 2022

Attachments :

Subject : **Letter of endorsement**

To:

**The Adaptation Fund Board
c/o Global Environment Facility
Mail stop: N 7-700
1818 H Street NW
Washington DC 20433, USA**

Dear Board Member,

Directorate General of Climate Change Ministry of Environment and Forestry as the National Designated Authority of Adaptation Fund in Indonesia through *Kemitraan* – Partnership for Governance Reform as the National Implementing Entity, have received and appraised 37 incoming concept notes.

After a thorough assessment process of the incoming concept notes, we come to the decision that the following 10 (ten) concept notes from 10 (ten) different organizations have met and are in accordance with the national priorities in the implementation of adaptation programs and activities to increase adaptive capacity and to reduce the impact and risks of climate change in vulnerable regions in Indonesia:

1. Yapeka; *Ecosystem-based Adaptation to Support Climate Resilience in Coastal and Small Islands of Rote Ndao and Sabu Raijua Districts in the Savu Sea*
2. TLKM; *Sustainable Landscape Governance; Towards Climate Resilience of Community in Tempe Lake Ecosystem*
3. KAPASITAS; *Adaptation to climate change through integrated forest management and sericulture business to achieve ecosystem resilience to food security for the Lake Tempe Catchment Area Community*
4. Garis Biru; *Strengthening the Adaptive Capacity of Coastal Village Communities in Supporting Food Security as a Response to Climate Change Through Stakeholder Elaboration Actions in West Sulawesi Province*
5. Sajogyo Institute; *Collaboration for the Conservation of Cimandiri Watershed Landscapes through the Potential of Silvopasture and Community Agroforestry*
6. KOAKSI; *Building Climate Resilient District in Indonesia: Case of Sigi District*
7. KEMITRAAN; *Village Based Coastal Adaptation and Resilience in Lombok Province of West Nusa Tenggara*
8. HUMA; *Change Climate and Adaptation in the Buffer Area of the New National Capital*
9. Mitra Aksi; *Increasing the resilience of smallholders from climate impacts through Smart Agriculture based on Livelihood Diversification in Indonesia*
10. KUAT (KARSA); *Strengthening Community Adaptation toward Climate Change through ProKlim in Ecoregion Neck of Sulawesi Island*

With this consideration, and in my capacity as the National Designated Authority of Adaptation Fund in Indonesia, I recommend the above proposals be granted support from the Adaptation Fund Board. All those programs will be executed by each of the submitting entities under the supervision of *Kemitraan* – Partnership for Governance Reform.

Sincerely Yours,



Laksmi Dhewanthi
Director General of Climate Change
Ministry of Environment and Forestry
as Indonesia Designated Authority of Adaptation Fund

Copy to:
Kemitraan (Partnership Governance Reform in Indonesia)



Project Formulation Grant (PFG)

Submission Date: **August 8, 2022**

Adaptation Fund Project ID:

Country/ies: **Indonesia**

Title of Project/Programme: **Building Climate Resilient District in Indonesia: Case of Sigi District.**

Type of IE (NIE/MIE): **NIE**

Implementing Entity: **Kemitraan – The Partnership for Governance Reform**

Executing Entity/ies: **Konsorsium Lingkungan Adaptif, Berketahanan, Inovatif, dan Partisipatif – CONSORTIUM ON ADAPTIVE, RESILIENT, INNOVATIVE AND PARTICIPATIVE ENVIRONMENT (KOLABORASI): Koaksi Indonesia, Lingkar Temu Kabupaten Lestari (LTKL), Earth Innovation Institute), Alliance for Water Stewardship Indonesia in partnership with the District of Sigi, Central Sulawesi**

A. Project Preparation Timeframe

Start date of PFG	1 September 2022
Completion date of PFG	30 November 2022

B. Proposed Project Preparation Activities (\$)


Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
Data collection for baseline and analysis for each component	Collected data required to set up the basis for argument formulation and programme justification in the proposal	\$ 13.793
Travel meetings required for data collection and consultation	Confirmation of assumptions and situation on the ground before programme document finalized	\$ 12.931
Expert hiring for proposal writing	Assist Kemitraan in writing and use of collected baseline data to justify programme and enhance the proposal	\$ 19.655
Focus Group Discussion with Multistakeholders	To receive feedback and input on the Goal, Objective, Outcome and Output of the proposal which to be submitted to AF, so as to ensure it is in line with the	\$ 3.621

	national programmes and strategies of climate change adaptation	
Total Project Formulation Grant		\$ 50.000

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Laode M. Syarif, KEMITRAAN		08 August 2022	Dewi Rizki	+6221-22780580	dewi.rizki@kemitraan.or.id