

ANNUAL REPORT

Project Title: “Adaptation to Climate Change through Sustainable Integrated Watershed Governance on the Indigenous People of the *Ammatoa Kajang* Customary Area in Bulukumba Regency, South Sulawesi Province, Indonesia



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Project Information

Total Fund	:	Rp. 13.461.499.800
Fund Absorption Rate	:	Rp. 4.399.498.900 (32,7%) of the total fund
Implementing Partner(s)	:	Payo-payo-OASE
Beneficiaries	:	This project precisely benefits 6,449 people, consisting of is 2,329 women and 4,120 men incl. 3,667 Kajang indigenous people.
Geographical Focus	:	14 villages and 4 sub-districts, Bulukumba Regency, South Sulawesi Province, Indonesia.

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A. Executive Summary

The project entitled “**Adapting to Climate Change through Sustainable Integrated Watershed Governance in Indigenous People of *Ammatoa Kajang* Customary Area in Bulukumba Regency, South Sulawesi Province, Indonesia**” will last for 2 years. This report discusses the first year of project implementation, which took place from April 1, 2021 to March 31, 2022.

This project consists of 4 components as follows:

Component 1: Developing model of sustainable integrated watershed management inside the Indigenous People of *Ammatoa Kajang* customary area (Apparang, Baontoa and Raowa Watershed). Over the course of one year, it has succeeded in establishing the Bulukumba Regency Watershed Management Coordination Forum.

As for the management of the forum, 50 parties are involved (provincial government agencies, technical implementation unit of related ministries, regional governments, academics, private sectors, community, and non-governmental organizations). Its structure comprises the Board of Guarantee, Board of Experts, Technical Coordinator, Field Coordinator and Executive Board, which specifically contains 46 people with a presentation of 74% male and 26% female.

Moreover, data and information required in the preparation process of the watershed management plan and the Climate Change Adaptation Regional Action Plan have been available. The primary and secondary data obtained through FGDs, village land use Participatory Mapping and data from previous research. Currently, the watershed management plan’s preparation in the Apparang, Raowa and Baonto watersheds are in progress.

Component 2: Promoting and practicing sustainable livelihood adaptive to climate change at the three watershed landscapes in the Indigenous People of *Ammatoa Kajang* customary area. The activities carried out have succeeded in establishing agroforestry nurseries in 11 project target villages. The seedlings totaled 110,000 trees, with 10,000 trees per village. Types of plants are adjusted to the needs of the community in each village. These seeds will be planted in the agroforestry demonstration plot at the target villages, while the rest will be distributed to the community. Planting will be conducted in the end of April to May 2022.

Importantly, this component has also succeeded in providing knowledge to the community regarding the importance of diverse plants as a strategy to adapt to climate change impact. The knowledge and learning were delivered through 6 meetings per village (10 meetings per village) at the Agroforestry Field School activities in 11 villages. Climate Resilient Women’s Groups have been formed in 14 project target villages (one group in each village); Focus Group Discussion (FGD) performed by the groups are to discuss the connection between women and climate change. Similarly, yard gardening activities have been conducted in 14 villages with three meetings in each village; and practicing gardening activities in all climate resilient women’s groups.

Component 3: Lobbying and Policy Advocacy for climate adaptive sustainable integrated watershed management and Climate Adaptation Action plan to the Regency Government of Bulukumba and South Sulawesi Provincial Government. For this component the activities carried

out has been the revision of the Village Medium-Term Development Plan in two villages, namely *Pantama* and *Dwi Tiro* villages, that has been successfully implemented. Apart from that, the Village Medium-Term Development Plan in three villages namely *Bonto Baji*, *Lolisang*, and *Tugondeng* villages are currently being revised. As for other villages, it is postponed until the village head election. The preparation of the Village Medium-Term Development Plan will be conducted after the village head election takes place from May to June 2022.

The Bulukumba Regency Environment and Forestry Service, the Village Empowerment Service, and the Facilitators from the Village Development and Empowerment Programs of Bulukumba Regency have also supported the process of revision of the Village Medium-Term Development Plan. Further, there has also been a public consultation on the development planning of the pro-climate change adaptation village planning (as a part of the Village Medium-Term Development Plan) in *Dwi Tiro* village.

Component 4: Raising awareness, knowledge management and disseminating information on the importance of watershed and climate change impact to the Indigenous People of *Ammatoa Kajang* customary area. Activities of this component have not been implemented. The target is to carry out the activity in the period of May to June 2022 including journal writing, seminars and other campaigns to socialize the importance of watershed management and climate change impacts.

B. Technical Progress Report (Qualitative & Quantitative)

The project of “Adapting to Climate Change through Sustainable Integrated Watershed Governance in Indigenous People of *Ammatoa Kajang* Customary Area in Bulukumba Regency, South Sulawesi Province, Indonesia” comprises 4 components, 4 outcomes and 8 outputs.

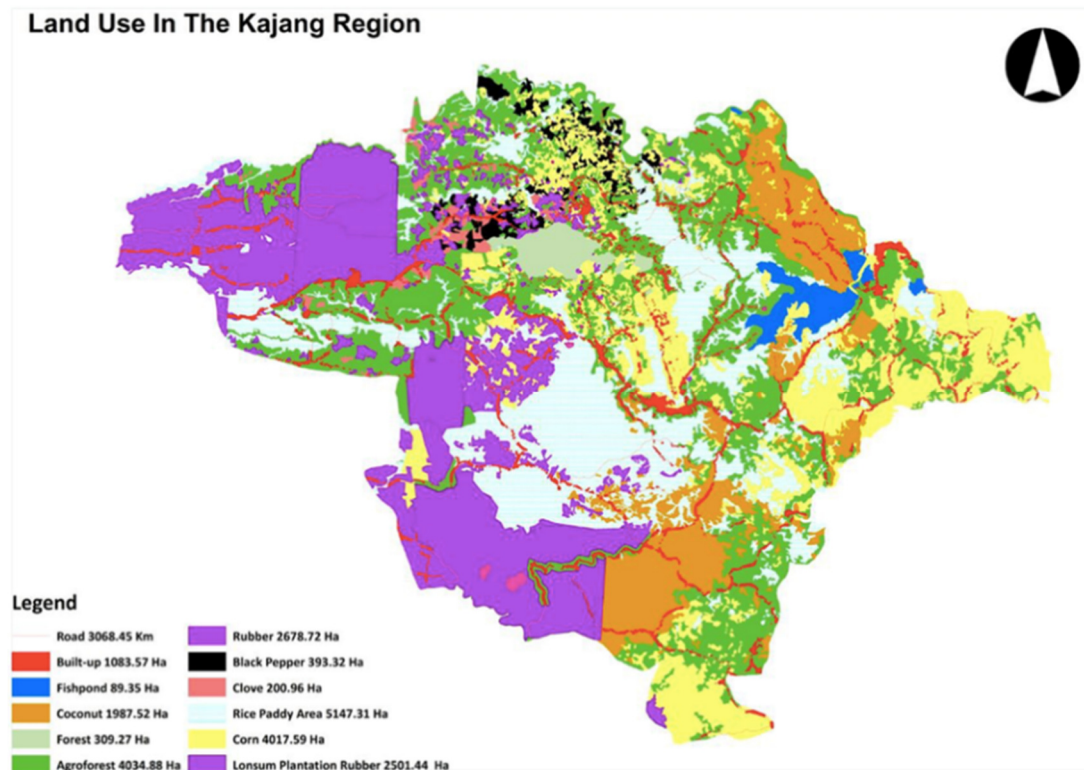
Component 1: Developing model of sustainable integrated watershed management inside the Indigenous People of *Ammatoa Kajang* customary area (Apparang, Baontoa and Raowa Watershed); **Component 2:** Promoting and practicing sustainable livelihood adaptive to climate change at the three watershed landscapes in the Indigenous People of *Ammatoa Kajang* customary area; **Component 3:** Lobbying and Policy Advocacy for climate adaptive sustainable integrated watershed management and Climate Adaptation Action Plan to regency government of Bulukumba and South Sulawesi Provincial Government. It is an effort to internalize policies at village, regional, and provincial government levels as well as strengthen components 1 and 2. Lastly, **Component 4:** Raising awareness, knowledge management and disseminating information on the importance of watershed and climate change impact to the Indigenous People of *Ammatoa Kajang* customary area.

In General, in the first year, the project has worked on three components, in particular the components 1, 2 and 3. In this report, each begins with a general explanation on the purpose of each component with the aim that readers are able to understand the context of all discussions.

Background and Context

Indonesia, as the largest archipelagic country in the world, is one of the most vulnerable countries affected by climate change. According to data compiled in the Indonesian Disaster Information

Data (DIBI) - National Disaster Bureau (BNPB), it can be seen that out of 1,800 disaster events in the period 2005 to 2015 more than 78% (11,648) of disaster events related to hydrometeorology and 22% (3,810) were geological disasters. The hydro meteorological disaster events consist of floods, extreme waves, land and forest fires, droughts, and extreme weather. While for the geological disaster that often occur are earthquakes, tsunamis, volcanic eruptions, and landslides. The overall number has increased steadily. Even for the geological related disaster, the people of Indonesia are still vulnerable due to less capacity and resilience toward the disaster risks.



The phenomenon of extreme climate events in its frequency and intensity cannot be separated from climate change, which contributes to increasing the complexity of hydrometeorology. Furthermore, with a high frequency of occurrence, this disaster group also has a huge impact on the economic and environmental aspects. This condition decreases the productivity of agricultural land, which is the economic foundation of the agricultural community in Indonesia.

Based on the data from 2016 Indonesia Disaster Risk publication, the risk exposure of South Sulawesi province is classified as vulnerable to the impacts of climate change and disaster risk. Results of disaster risk assessment compiled by BNPB in 2015, showed that the number of people exposed to disaster risk spread in South Sulawesi reached to approximately 8.5 million people, which caused an economic loss of 15.5 billion.

Related to climate change, a trend of a significant decrease in rainfall in almost all parts of Indonesia in June, July and August, and increased opportunities for daily extreme rainfall in all

parts of Indonesia in the period 1998-2008 (Bappenas, 2013). This event increases the potential of erosion, reduces wetlands along the coast, increases the rate of seawater intrusion and decreases food production. Indonesia is ranked as the ninth of the 10 most vulnerable countries towards food security due to the impact of climate change, especially in the fisheries sector (Huelsenk, Oceana, 2012 in DNPI, 2013).

Various research results indicate that the occurrence of climate change will cause the beginning of the rainy season to experience a setback, while the end of the rainy season will be faster. This means the length of the rainy season will be shorter. On the other hand, rainy season rainfall will tend to increase while dry season rainfall tends to decrease. The change in rainfall distribution causes various potential natural disasters triggered by higher rainfall, such as floods, landslides, river overflows, and spread of disease vectors. Whereas in a reduced rainfall condition potential disaster can occur such as drought, crop failure, lack of clean water, and various social problems that may arise.

Description of Activities Undertaken:

1. **Component 1:** Developing model of sustainable integrated watershed management inside the Indigenous People of *Ammatoa Kajang* customary area (Apparang, Baontoa and Raowa Watershed).

This first component of this program is aiming at the improvement of the management and governance of three watersheds within the customary territory of the *Ammatoa Kajang* Indigenous Peoples; as a result, it will contribute to increasing the resilience of the people living around the watershed. The project will facilitate the initiative to build a sustainable integrated watershed management model for climate change adaptation through the involvement of all stakeholders relevant to the watershed governance in the region. This component will lead to the establishment of multi-stakeholder integrated watershed governance and the preparation of a sustainable integrated watershed management document. The document will be an action plan that binds all stakeholders.

Following the establishment of a multi-stakeholder forum for watershed management, the program will facilitate the preparation of integrated sustainable watershed management documents and climate change adaptation action plans at the regency level.

1.1. Outcome 1: Management and governance of three watersheds inside the Indigenous People of Ammatoa customary area improved.

Output 1.1.1.: Multi-stakeholders watershed management forum established at three watersheds inside the Indigenous People of Ammatoa Kajang customary area.

The expected target of this output is the formation of an integrated watershed management forum and a climate change adaptation forum, totaling three forums (1 forum for each watershed). At least 50 parties (institutions, government agencies, village governments and civil society organizations) form parties are expected to be involved in the forum.

Over a year, the project has succeeded in establishing the Bulukumba Regency Watershed Management Coordination Forum (Regency level). During the series of discussions with the stakeholders, it has been agreed that the watershed forum should be formed at the regional level (not for each watershed). This is considered to increase effectiveness in coordinating and communicating with stakeholders at the regency and provincial levels. In addition, if a watershed forum is established based on a watershed area, many similar forums in Bulukumba Regency will too be formed. Therefore, it is concluded that there has to be one watershed forum only at the regency level.

The establishment of the Bulukumba Regency Watershed Forum has exceeded the planned project target, which initially only to form three watershed forums covering Apparang, Raowa and Baonto watersheds. The regional level watershed forum covers a wider area. As shared by data in 2014 specifically in Bulukumba Regency, there are 33 watersheds, including small and large watersheds

The stakeholders joining the Bulukumba Watershed Management Coordination Forum are government representatives, academics, privates, NGOs, and community members. There are 46 members of the forum's governing board (34 males and 12 females). The establishment is in accordance with Governor Regulation No. 31 of 2020 on the Implementation of Provincial Regulation of the Province of South Sulawesi No. 10 of 2015 on Watershed Management.

In line with that, there are 50 parties who are also members of the watershed forum: South Sulawesi Governor, Head of Bulukumba Regency Bulukumba, Vice head of Bulukumba Regency, Bulukumba Regency Secretary, Members of Bulukumba Regency Parliament, academics, South Sulawesi Watershed Forum, South Sulawesi Regional Development Research and Planning Agency, South Sulawesi Forestry Service, Management of Watersheds and Protected Forest Office, Central Office of the Pompengan-Jeneberang Watershed Management, Regional Development Planning Agency of Bulukumba Regency, Environment and Forestry Service of Bulukumba Regency, Public Works and Spatial Planning Service of Bulukumba Regency, Water Resources Management Service of Bulukumba Regency, Governance beureu of Bulukumba Regency, Community and Village/village Empowerment Service, Animal Husbandry and Health Service of Bulukumba Regency, Food Security Service of Bulukumba Regency, Food Crops, Horticulture & Plantation Service of Bulukumba Regency, Regency Disaster Management Agency of Bulukumba, Legal Service of Bulukumba Regency, Social Service of Bulukumba Regency, Forest Management Units for Jeneberang II, Watershed Laboratory of Universitas Hasanuddin Makassar, Regency Water Company of Bulukumba Regency, Sub-district Head, villages Government, Bulukumba River Care Community, *Kareso* Institute (a local NGO), *Radar Selatan* (mass media), Representatives of the Kajang Indigenous People, Observers of the Kajang Customary Law Community, and Community Leaders.

The organization structure of the Integrated Watershed Management Coordination Forum for Bulukumba Regency is adjusted to the needs of Bulukumba Regency. It involves among others: Board of Guarantee/Trustee, Board of Experts, Technical Coordinator, Field Coordinator, Chairman/Chairwoman, Deputy Chairman/Chairwoman, Secretary, Deputy Secretary, Treasurer, and Departments.

On the initial project design, the Regent of Bulukumba would legitimize the forum. However, as the discussion with the parties has progressed, a Governor Regulation from 2020 was identified, in which the Regent no longer has the authority to ratify the Regional Watershed Forum referring to the South Sulawesi Governor Regulation No. 31 of 2020. Based on the Article 28 (1) of the said regulation, the Watershed Forum should be stipulated by a Governor's Decree. While paragraph (3) describes that, the Coordination Forum has the following levels: a. Provincial level; b. Watershed/Sub-watershed level; and c. Regency/Municipality level. Therefore, the Governor of South Sulawesi will legalize the official Watershed Forum.

Due to the above change of the legalizing authority of the forum, from initially the Regent of Bulukumba to the Governor of South Sulawesi, the issuance of the Forum Decree has been delayed by this time. Currently, the draft of the Governor's Decree on the Establishment of an Integrated Watershed Management Coordination Forum for Bulukumba Regency has been submitted to the South Sulawesi Provincial Legal Division in November 2021. Hence, only in March 2022, that a review result from the Legal Division regarding the draft of the decree was received. The draft of the decree was submitted through the Forestry Service of South Sulawesi Province as the leading sector of the Watershed Forum in accordance with Governor Regulation Number 31 of 2020.

The above result could be achieved through a series of activities, including a multi-stakeholder workshop for the establishment of a coordination forum for watershed management and the preparation of a work plan, which was conducted through 10 meetings in the second quarter.

The following is the process of a multi-stakeholder workshop meeting for the establishment of a Watershed Management Coordination Forum and the preparation of a work plan:

- **The first meeting** discussed the legal basis that will serve as a reference for the establishment and legalization of the Bulukumba Regency Integrated Watershed Management Coordination Forum. In this meeting, it has been agreed that the legal basis for the establishment and legalization of the Forum refers to the South Sulawesi Governor's Regulation No. 31 of 2020 concerning the Implementation Regulations of the 2015 South Sulawesi Provincial Regulations concerning the Management of Watersheds.
- **The second meeting** discussed the model of the organization structure of Bulukumba Regency Integrated Watershed Management Coordination Forum. In this meeting, a draft model of the structure was created, starting with the Board of Guarantee/Trustee, Technical Coordinator, Field Coordinator, Chairman, Deputy Chairman, Secretary, Deputy Secretary, and other relevant departments.
- **The third meeting** discussed the membership of the Watershed Forum. This meeting proposed participants by name, who might join the Forum, from the government parties, the community, NGOs, academics, and private sector respectively.
- **The fourth meeting** discussed the decree draft of the Watershed Forum. The preparation of this draft was carried out in accordance with the South Sulawesi Governor Regulation No. 31 of 2020 on the Implementation Regulations of the 2015 South Sulawesi Provincial Regulations on Watersheds Management.

- **The fifth Meeting** re-evaluated the structural model of the Watershed Forum. In this meeting, several related matters have been added to the structural model of the Watershed Forum, including Board of Experts, Watershed Planning, Community Empowerment and Multi-Agency Cooperation.
- **The sixth meeting** discussed the job description of the Watershed Forum. In this meeting, the duties of each part of the organization were described, from the chairperson to the departments.
- **The seventh meeting** re-discussed the members of the Watershed Forum. The meeting re-discussed whether the membership of the forum had fulfilled the element of representation in accordance with Governor Regulation No. 31 of 2020 on the Implementation Regulation of the Regional Regulation of the Province of South Sulawesi No. 10 of 2015 on Watershed Management (elements of government, entrepreneurs, academics, NGOs, and the community). It also reconsidered the members who had been proposed previously.
- **The eighth meeting** discussed the considerations in the decree draft of Watershed Forum regarding the regulations. This meeting discussed the consideration of the preceding consideration in which the Bulukumba Regency Watershed Management Coordination Forum was formed.
- **The ninth meeting** discussed the dictums on the decree. It encompassed the functions, duties, authorities, as much as the period of the Bulukumba Regency Watershed Management Coordination Forum. It also discussed the finalization of the Governor's Decree Draft on the Establishment of the Bulukumba Regency Watershed Management Coordination Forum, which will be submitted to the South Sulawesi Provincial Law Bureau.

A large number of parties attended a multi-stakeholder workshop for the establishment of the Watershed Management Coordination Forum and the preparation of the forum's work plan. Amongst the attendants are representatives of the Environment and Forestry Service of Bulukumba Regency, the Regional Development Planning Agency of Bulukumba Regency, Water Resources Management Service of Bulukumba Regency, Agricultural Service of Bulukumba Regency, Animal Husbandry Service of Bulukumba Regency, Food Security Service of Bulukumba Regency, the Community and Village/village Empowerment of Bulukumba Regency, Legal Service of Bulukumba Regency, Governance Bureau of Bulukumba Regency, Regional Secretary of Bulukumba Regency, Water Company of Bulukumba Regency, Village Government of the project targeted villages, Sub-District Head of the project area, Management of Watersheds and Protected Forest Office, Watershed Forum of South Sulawesi Province, Forest Management Units for Jeneberang II, Local NGOs, Observers of the *Ammatoa Kajang* Customary Law Community, the *Ammatoa Kajang* Customary Law Community, Bulukumba River Care Community, Observers of Watersheds, *Payo-Payo/OASE*. In total, 275 participants have attended the series of meetings. In total 186 male and 89 female 89 participated in the workshop.

Role sharing: Legal Service of Bulukumba Regency has the task to review the legal basis for the establishment of the Regional Watershed Forum and to draft the required decree. The Regional Development Planning Agency of Bulukumba Regency is appointed to ensure the involvement of the regency government offices. Then Regency Secretary of Bulukumba to coordinate the regency offices. The Environment and Forestry Service of Bulukumba Regency

has the task to contact academics who will be invited to become members of the Watershed Forum. Payo-payo/OASE is responsible for organizing and facilitating meetings.

The last discussion has been regarding the Legalization of the Watershed Forum. It involved the Head of Forest Management Units for Jeneberang II, Regency Development Planning Agency of Bulukumba Regency, Legal Service of Bulukumba Regency, South Sulawesi Forestry Service, South Sulawesi Provincial Legal Service. The discussion relates to the submission of a draft decree to the Governor of South Sulawesi regarding the establishment of the Watershed Management Coordination Forum in Bulukumba Regency. In the meeting, South Sulawesi Forestry Service will be the government agency that proposes the Decree of the Watershed Management Coordination Forum of Bulukumba Regency in compliance with the South Sulawesi Governor Regulation No. 31 of 2020.

BOX 1: Lesson learned from the Process of Establishing a Watershed Management Coordination Forum of Bulukumba Regency

Integrated Watershed Management is contained in the Government Regulation Number 37 of 2012. The spirit of the regulation is in accordance with Article 3 of Law Number 41 of 1999 on Forestry. This regulation indicates among others the decrease in the carrying capacity of watersheds that is characterized by the occurrence of floods, landslides, erosion, sedimentation and drought, to such an extent that it can cause disruption of the economy and community life.

This Government Regulation is intended to coordinate, integrate, synchronize, and synergize watershed management in order to increase the carrying capacity of the watershed. It entails planning, implementing and monitoring and evaluating. In addition, this regulates community participation and empowerment which can be performed either individually or through watershed management coordination forums. Watershed management coordination forum supports the integrated implementation of watershed management (article 57, Government Regulation No. 37 of 2012).

Regarding the Watershed Coordination Forum, the government issued Minister of Forestry Regulation Number 61 on the Watershed Coordination Forum which regulates the establishment of the forum and its duties and functions. Furthermore, the South Sulawesi Provincial Government followed up by issuing a Regional Regulation Number 10 of 2015 on Watershed Management in South Sulawesi which characterizes the concept of integration of stakeholders, both government and non-governmental parties, as an effort to improve the governance of watersheds

In 2020, Governor Regulation Number 31 of 2020 was issued to regulate the implementation of Regional Regulation Number 10 of 2015 concerning watershed management. In this regulation, it is emphasized that the planning and establishment of a watershed coordination forum is based on the determination of the Governor of South Sulawesi.

Complying to the above regulation , a Watershed Coordination forum was formed through facilitation of *Payopayo/OASE* Consortium supported by KEMITRAAN in a project entitled "Adaptation to Climate Change through Sustainable Integrated Watershed Management on the Indigenous People of the *Ammatoa Kajang* Customary Area, Bulukumba Regency, South Sulawesi, Indonesia".

Pre-Formation of the Watershed Forum

Improving watershed governance requires an integrated approach amongst sectors, multi-disciplinary and inter-regional. Watershed is a complex problematic area which makes it necessary to involve multiple parties who share common interest in the watershed area. The various interests of utilizing natural resources in the watershed requires a set of rules and an institution in the form of a forum so the watershed can be sustainable.

The reference of the pre-establishment of the Watershed Forum has been described in the Government Regulation Number 37 of 2012. The Minister of Forestry Regulation Number 61 of 2013 describes the process of identifying parties as representatives of elements from the government, community, private sector, and NGOs. To identify the parties involved, a series of meetings have been conducted with several parties who then proposed relevant names and institutions to be involved in the forum.

Formation of Watershed Forum

Initially, the establishment of the Bulukumba District Watershed Forum referred to Government Regulation No. 37 of 2012 and the Minister of Forestry Regulation Number 61 of 2013. These regulate the authority of the government to establish a watershed forum within the regency/municipality administrative area. However, the series of meetings for the establishment of a watershed forum revealed that the establishment of a Watershed Forum in the South Sulawesi region can only be determined by the Governor of South Sulawesi (article 28 of the Governor Regulation No. 31/ 2020). This matter was explained by the Head of the Bulukumba Legal Division.

Regardless of the change in the regulation, the Watershed Forum of Bulukumba Regency remains to be formed following the agreed organization structure from the previous pre-formation meetings. However, the process of legalizing the watershed forum, which was previously planned and carried out in the Legal Service of Bulukumba Regency Government, was transferred to the South Sulawesi Provincial Legal Service in order to comply with the Governor Regulation Number 31 of 2020.

Responding to the above dynamics, the coordination has been extended to the provincial government level of South Sulawesi. Initial coordination has been with the South Sulawesi Provincial Development Research and Planning Agency, and the Forestry Office (Balitbangda Provinsi) to explain the issue of the establishment of the Bulukumba Regency Watershed Forum. The Balitbangda Provinsi understood that the regency/municipality government can establish a watershed forum within its own administrative area. This is based on Government Regulation Number 37 of 2012 and the Minister of Forestry Regulation Number 61 of 2013. Nevertheless, it was explained that the Governor Regulation Number 31 of 2020 in article 28 has explained textually that it should be at provincial level. In response to this, the Balitbangda Provinsi requested a meeting of the parties involving the South Sulawesi Provincial Government (South Sulawesi Regional Development Research and Planning Agency, Forestry Service and Legal Service) and the Bulukumba Regency Government to share mutual perspectives on the issue.

The workshop of perspective alignment on the issue was then held in Bulukumba Regency involving the Provincial Government and the Bulukumba Regency Government. It was a difficult discussion, whereas the provincial government in fact holds the perspective that the watershed forum can be legitimized by the regency/mayor as long as the watershed area is within the administrative regency/municipality. However, Bulukumba Regency Government refers to the results of previous research concerning the Regional Regulation Number 10 of 2015 and the article 28 of the Governor Regulation Number 31 of 2020 explaining that regency cannot authorize

watershed forums. From this workshop, the participants agreed that the watershed forum of Bulukumba Regency would be legitimized by the Governor of South Sulawesi through an official governor's decree.

Watershed Forum Legalization

Procedurally, the Environment and Forestry Service of Bulukumba Regency with notification to the Bulukumba Regional Development Research and Planning Agency coordinates with the Legal Division of Bulukumba Regency to obtain a request letter for the establishment of a watershed forum. The letter was addressed to the South Sulawesi Provincial Forestry Office that then forwarded the letter to the South Sulawesi Legal Service in terms of obtaining the decision letter from the Governor. Currently the draft decree/decision letter of the Bulukumba Watershed Forum is in the process of legal review at the Provincial Government's Legal Division.

Lesson learned

The lesson learned from the process is that it is crucial to maintain adequate and proper coordination and communication with the relevant stakeholders to move forward with the initiative to establish the Watershed Forum, since it is a cross-sectoral and multi-stakeholder entity. An appropriate communication will engage an understanding of the parties and will build mutual understanding on the purpose of the establishment of the Watershed Forum.

Communication was built in a series of FGD activities and workshops where the parties involved learn to start contributing ideas, understandings and share their respective experiences. For example the issue of the change in the regulation; it provided an insight to the stakeholders especially at the provincial level that they should now be aware of the occurrence of the same case or issue in other regency in South Sulawesi. This experience gives new understanding to the provincial level for being always involved in the watershed forum at regency level; it can be meant that there will always be coordination between provincial level and regency level.

Output 1.1.2: Watersheds governance planning and action documents formulated and agreed among stakeholders.

The target output is an integrated watershed management document for each watershed area including the respective action plans. The process of preparing the Watershed Management Plan and Regional Action Plan for Climate Change Adaptation can only be initiated in March 2022 due to the project's budget revision process. The project execution team requested the budget revision as there have been several changes in the activities execution plan (for example the technical execution of the meetings and workshops). However, several processes have been conducted in advance such as data collection, perspective alignment, as well as a number of stakeholders joint studies regarding the preparation of the documents.

- 1) Workshop on the Preparation of Integrated Watershed Management Plan Document Framework and Climate Adaptation Action Plan Formulation

Workshops have been conducted on the preparation of the formulation of integrated watershed management plan and a climate adaptation action plan. Participants who

attended this activity include the South Sulawesi Regional Development, Research and Planning Agency, South Sulawesi Provincial Legal Service, Chairman of the South Sulawesi Watershed Forum, and the South Sulawesi Provincial Forestry Service represented by Forest Management Units for Jeneberang II and the Governing Board of the Watershed Forum of Bulukumba Regency.

The workshop on developing the document focused on discussing guidelines for the preparation of a Watershed Management Plan. The guidelines refer to the Regulation of the Minister of Forestry Regulation Number 39/Ministry of Forestry-II/2009 concerning the guidelines for the preparation of Integrated Watershed Management Plans. The basic principle is that it is participatory, from the problem analysis to the program formulation. Likewise for the following activities, such as the implementation, monitoring, and the evaluation.

The forums have gained the picture on how to formulate the Watershed Management Plan. The watershed management plan document contains some key topics such as data and information (baseline & characteristics), analysis of problems, aims and objectives, strategy for achieving objectives, programs and activities, implementation plans, stakeholder analysis, and monitoring and evaluation. The watershed management plan is accommodated in the following three editions of document bundles:

- Bundle I: contains plans and information related to methodology, planning process, biophysics conditions and characteristics of watersheds, problem identification, plans, implementation strategies, monitoring and evaluation as well as institutional and executive summary;
- Bundle II: contains supporting data and information on the biophysics and socio-economic aspects of the planned area.
- Bundle III: contains general and thematic maps with a scale of 1: 50,000 to 1: 250,000 (among others: Maps of Hydrogeology, Climate, Geology and Soil, Land Use, and Topography).

The composition of the Watershed Management Plan documents complies with the South Sulawesi Governor Regulation No. 31 of 2020. The process of preparing the document is coordinated among the Watershed Forum, Regional Development Planning Agency of Bulukumba Regency and Environment and Forestry Office of Bulukumba Regency. In addition, in the governing board of the Watershed Forum, each of the Bulukumba Regency and South Sulawesi Province relevant offices have each their representative. This is to encourage the support and commitment of them.

Referring to the South Sulawesi Governor Regulation Number 31 of 2020, the process of preparing the Watershed Management Plan can involve the government or technical implementation unit of related ministries to watershed management, local governments, privately owned enterprises, State-owned enterprises, regional-owned enterprises, NGOs, and the community. Furthermore, the regulation also said that the Watershed Management Plan which has been made is to be authorized by the Governor.

Therefore, in this workshop an agreement was reached that the preparation of the Watershed Management Plan would involve the Office for Watersheds and Protection Forest

of Jeneberang and Saddang, South Sulawesi Provincial Forestry Service, South Sulawesi Regional Development Research and Planning Agency, Bulukumba Regional Development Research and Planning Agency, Environment and Forestry Office of Bulukumba Regency, NGOs, the South Sulawesi Provincial Watershed Forum, and the Bulukumba Regency Watershed Forum. They all support the process of preparing the Watershed Management Plan. The documents are prepared by the Forum.

2) Series of Workshops on Formulating Integrated Watershed Management Plan and Climate Change Adaptation Action Plan

After the workshop on the preparation of the document framework was carried out, a series of workshops on formulating the document of an integrated Watershed Management Plan and an action plan for climate change adaptation were then conducted. This activity is planned to be held for 20 meetings (10 meetings for the Watershed Management Plan preparation process and 10 meetings for the Regional Action Plan for climate change adaptation). The initial meeting of the workshop focused on discussing the preparation of the Watershed Management Plan.

During the initial workshop, a document on formulation process plan was discussed. The workshop agreed to create working groups for formulating the document. The working groups are the members of the forum. Three groups have been formed, the Raowa Watershed Group, the Apparang Watershed Group and the Baonto Watershed Group. Thus, each watershed has its management-planning document compiled by each working group.

Table 01. Working Group for the Watershed Management Plan Preparation

Working Group for the Preparation the Bulukumba Watershed Management Plan		
APPARANG WATERSHED	RAOWA WATERSHED	BAONTO WATERSHED
Ir. Misbawati A. Wawo, MM	Ir. Misbawati A. Wawo, MM	Ir. Misbawati A. Wawo, MM
Ir. Mustafa, S Hut, MP, IPM	Ir. Mustafa, S Hut, MP, IPM	Ir. Mustafa, S Hut, MP, IPM
Dr. Asnarti Said Culla SH, MH, Ph.D	Dr. Asnarti Said Culla SH, MH, Ph.D	Dr. Asnarti Said Culla SH, MH, Ph.D
Syamsul Bahri SP.MP	Syamsul Bahri SP.MP	Syamsul Bahri SP.MP
Andi Ayu Cahyani SH. MH	Andi Ayu Cahyani SH. MH	Andi Ayu Cahyani SH. MH
Basmawati Haris	Basmawati Haris	Basmawati Haris
Ir. Muh. Ansar.SP.M.Si	Ir. Muh. Ansar.SP.M.Si	Ir. Muh. Ansar.SP.M.Si
Ikhsan Andi Amier SH	Ikhsan Andi Amier SH	Ikhsan Andi Amier SH
Mukrimin, S.Hut.,MP.,Phd	Mukrimin, S.Hut.,MP.,Phd	Mukrimin, S.Hut.,MP.,Phd
Bappelitbangda Sulawesi Selatan	Bappelitbangda Sulawesi Selatan	Bappelitbangda Sulawesi Selatan
Armin Salassa	Armin Salassa	Armin Salassa
Ir. Putri A. Rumpang M.Sc	Ir. Putri A. Rumpang M.Sc	Ir. Putri A. Rumpang M.Sc

Andi Ayatullah Ahmad, S.Sos, Mi.Kom	Andi Ayatullah Ahmad, S.Sos, Mi.Kom	Andi Ayatullah Ahmad, S.Sos, Mi.Kom
Ir. Suriya Darma S.Pt., M.Si., IPM	Muhammad Ardi Nur, S. Kel, M.Si	Zdulfikar Abbas, S.Sos
Rahmat, S.ST.MAP	Andi Muhammad Iqbal, SP	Arnisa Mustafa, ST. MSP
Dian Safitri, SP	Dr. Herdie Idriawien Gusti, S.Si, MT	Reza Adrian Syarifuddin, S.Hut
Ahriani Hakim, ST.MT	Nasruddin Paguling, ST	Iwan Setiawan Suyuti SP.MP
Ahriani Hakim, ST.MT	Asriadi Arsyad, SP. MP	Nova Anrina, S Tr.Sos
A. Fajar Setiawan, SE	Nur Muatsir S.Hut.M.Si	Sriwati Suyuti, SE
Sekolah Rakyat Petani Payopayo	Abd. Haris S. AP	Andi Waris, ST
Rudi Tahas	Organisasi Aksi Sosial dan Ekologi (OASE)	Jumarlin Muslim, S. Hut
Fitrah Radiakasim, S.KM, M.Kes	Ramlah, S.IP	Kareso Institute
Komunitas Peduli Sungai	Syamsuddin , S.AP	Andi Irfan Andianto, SH
Direktur PDAM Kabupaten Bulukumba	Baso Marewa, S.Sos	Ahmad Rizaldy Ihsan, SE, M.Si
Andi Afriadi M, SH. MH	Nurul Mujahidah, S.Km	<i>Kareso Institute</i>

After discussing the division of working groups in each watershed, the workshop continued with the identification of the required data to formulate the Watershed Management Plan document (see Appendix 1).

3) Ethnography, institutional analysis, policy analysis, sustainable livelihood analysis and secondary data study on watershed area

The ethnographic assessment was conducted in 14 villages. This activity used interview, observation and FGD methods. During the process, various information was collected regarding the condition of institutions at the village level, community livelihoods, and policies that have been implemented in the village relevance to the watersheds and climate change issues. This ethnographic assessment has obtained information about commodities cultivated by the community such as rice, corn, coconut, cocoa, cloves, bananas, pepper and rubber crops. Meanwhile, there is also information about flooding in *Possi Tanah* Village, which occurs almost every year. Moreover, drought occurred in almost all villages and the most severe occurred in 2015. Generally, people cannot predict weather anomalies. Participants in the ethnography FGD were 280 people with 103 female participants and 177 male participants (all villages).

BOX 1: Ethnography Results

Community Livelihood

One of the stories from the study was related to land use. The community settlements in the 14 project villages began to be organized in 1965 through a government program in which houses were moved to the side of the road. The relocation of these settlements has resulted in the clearing of forested land into residential land, thus affecting the reduction of the *Ammatoa Kajang* customary forest area. Land clearing took place massively around the 1990s, since the entry of the government program to provide corn crops which were freely distributed. Villagers began to clear sloping land, steep, to the edge of the river.

In the middle and downstream areas there was a flash flood in 2006 which caused rice fields, plantation, settlements to be submerged, and livestock and houses were washed away. After the flood, villagers rebuild rice fields, the plantation were replanted and reconstruct the residential areas. In the post-flood in *Jawi-Jawi* and *Jojolo* Villages, there has been a change in the function of rice fields to clove plantations; it is due to the damaged irrigation of the rice fields which has not been repaired until now. In addition to the floods, the project villages were also hit by droughts in 2015 (May-December), 2018 (June-November) and 2019 (June-December). The drought caused a water crisis and crop failure.

For livelihoods, the main occupations are farmers (including landless farmer and farm labourers). In addition, the community works as traders, industrial workers, civil servants, police, teachers, voluntary civil servant, construction workers, migrant workers, fishermen.

The main income of the community is the agricultural sector. In the 14 project villages, several commodities are cultivated, such as coconut, cocoa, rubber crop, clove, rice, banana, coffee and pepper. And there are also the *Palawija* crops (corn, beans, tubers, etc.) as well as horticultural crops (fruits, vegetables, ornamental plants, medicinal plants, etc.).

Coconut is a featured commodity for the people of *Tugondeng*, *Possi Tanah*, *Pantama*, *Lolisang*, *Dwi Tiro* and parts of *Batu Nilamung* villages. Meanwhile, Cocoa is also the most widely cultivated plant in almost all project villages, except for *Kambuno* and *Jawi-Jawi* villages.

Coconut is a less vulnerable plant toward the rainy and dry seasons. Meanwhile, less risk toward dry season are mango, jackfruit, durian, rubber and bananas. While the plantation crops that are vulnerable in dealing with the dry season are cloves. Cocoa, corn, *palawija* and horticulture plants are vulnerable toward rainy season.

In the several village farmers do not plant the short-term crops that depend on the rain in the dry season such as rice, corn, and *palawija* as they cannot get water from irrigation.

Besides vulnerable to the rainy and dry seasons, farmers are also faced with several types of plant diseases, crop failure, and pests. Cocoa, for example, is attacked by cocoa pod borer every season, which makes the cocoa beans become black and moldy and sticks to the skin.

Similarly, rice and corn plants are very vulnerable to diseases and pests, especially stem borers and wild boars. Not to mention the reduction of subsidy of fertilizer which affects the input costs. In addition, coconut has beetles borer pests (*Gantimarang*), causing the decrease of the production of coconut sap during the dry season (the raw material for making coconut brown sugar).

Institutional analysis

In the project villages, there are several local institutions, both formal and non-formal. Formal institution includes the village government, village youth organization, family welfare movement, village-owned enterprise, village community empowerment institution, farmer group (*Gapoktan*), mosque youth association. Meanwhile, non-formal institutions are *Kajang* customary institutions. From the results of ethnography, except for the village government program, there are no programs of the institutions related to the issue of climate change adaptation. Institutional activities, especially formal institutions, are more focused on infrastructure and human resource developments or community empowerment.

Policy Analysis

Policies that support climate change adaptation and watershed management are found in several villages such as *Dwi Tiro*, *Jojjolo*, *Kambuno*, *Bonto Baji* villages. In *Dwi Tiro* village, for example, several activities have been included in the village Medium-Term Development Plan, such as construction of gabions on the river side, sea wall, seed procurement of red ginger, *galangal* root (common herb used in traditional medicine), preparation of village regulation concerning water resources system, and waste management program. Likewise, *Jojjolo* village already has a policy regarding the biogas production from cattle manure, organic farming, and integrated farming with animal husbandry. While in *Bonto Baji* village, there is a policy regarding the village regulation on spring protection.

4) Land Use Assessment (FGD on The Villages' Land Use History and Watershed Area)

The activities have been held in 14 villages. The FGDs was attended by women's groups, farmers' groups, village community empowerment institutions, youth social organizations, village government, *Kajang* indigenous people, *Kajang* traditional stakeholders, *Baka* rattan craftsmen, fishermen's groups, family welfare movement, village-owned enterprise, religious leaders and community elders who are considered to understand the history of the villages. There were 280 participants in 14 villages with 20 people in each village. The participants consisted of 174 men, 106 women (180 of them are the *Kajang* Indigenous people). The themes of the FGDs were village history, land use, disasters and the history of commodities in the 14 villages.

BOX 2: FGD Results of the Villages Histories

Land use FGD (The History of Village Land Use and Watersheds)

Land Use History

- In the past, rice fields have been one of the livelihoods of the community in the project's villages. In the area of the *Kajang* customary people, rice fields are the main source of livelihood, as well as having cultural values that bind them. To bind family relatives, rice fields are currently used as rotating land (a rotating system in the utilization of rice fields among the families).
- In some villages, rain-feed rice fields have existed since 1950. Before being converted into rice fields do to national policy on staple food, these lands were planted with white corn for household consumption.
- Currently, some rice fields have changed their function to be planted with crops such as coconut and rubber because of the cultivation difficulties and lack of irrigation.

- Ponds have also existed since 1950 along with rice fields.
- Corn fields existed before the era of Indonesian independence of 1945, but some have been converted into coconut plantations and mixed gardens due to the attack of wild boar pests.
- The coconuts that were planted by the community were only non-hybrid. In 1970, hybrid coconut was introduced through a government program. The hybrid coconut produces fruit faster than the non-hybrid ones.
- 1962 – 1963 was the period of the residential area arrangement. The condition of the settlements which were initially scattered in several locations was then united and organized along the road.
- In 1970-1980, the settlement control program was re-introduced. Settlements were arranged and put together near the road.
- The reason for the community to do intercropping/mixed gardening is because the land is limited, but they want to cultivate various plants.
- The forest area in *Jawi-Jawi* Village was recognized by the state in the 1970s. In the past, the area was a forest with dense vegetation. However, many of these areas have been converted into villagers’ plantations, which is likely to cause conflict (with the state).
- The concession rights for companies also exist within the *Jawi-Jawi* village area, such as *PT London Sumatra’s* concession since 1818. Previously, this area was planted with cotton plants, but now it is planted with rubber.
- There are also rubber plantations owned by the villagers of *Jawi-Jawi*. Community rubber plantations have been established since the 1980s.
- The land use model in the project villages is mixed plantations containing various types of crops such as pepper, coconut, durian, rambutan, mangosteen and types of wood.

5) Payments for Ecosystem Services Assessment

FGD on payment for ecosystem services assessment of 14 villages was attended by each representative from women’s groups, farmers’ groups, village community empowerment institutions, youth social organizations, village government, *Kajang* indigenous people, *Kajang* customary stakeholders, *Baka* rattan craftsmen, fishermen’s groups, family welfare movement, village-owned enterprise and religious leaders. In total, there were 280 participants (159 men, 121 women and 180 *Kajang* indigenous people). The topics held during the discussion in this activity focused on the potential for payments for ecosystem services, typology of payments for ecosystem services, the function of ecosystem services, and the impact of payments for ecosystem services.

BOX 3: FGD Results on Payments for Ecosystem Services

FGD on Payments For Ecosystem Services Assessment	
The Community’s views on payments for ecosystem services	Payments for ecosystem services scheme can be applied if it does not conflict with the customary law of <i>Kajang</i> . Likewise, landscape-based development planning covering interrelated upstream, middle and downstream can be applied as long as it does not conflict with customary law rules. The application of payments for ecosystem services has to go hand in hand with increasing public awareness about the protection of watershed areas.

	<p>The community is eager to inform the people who inhabit the upstream, middle, and downstream area to willingly compensate the upstream inhabitants for their hard work in protecting forests and land. The assessment is that all communities benefit from protecting the watershed area.</p> <p>The protection to be carried out by upstream communities is in the form of maintenance of existing trees, continuous tree planting and protection of water sources as part of soil and water conservation. To implement this, local regulations, village regulations, and reforestation programs need to apply to maintain land coverage.</p> <p>In the practice of keeping the fertility of agricultural land, the community suggests reducing the use of chemical fertilizers and increasing the application of organic fertilizers. Of all the available resources, the potential that can be developed is animal husbandry to provide manure.</p>
<p>The potential for payments for ecosystem services</p>	<p>Services provided by the ecosystem in <i>Kajang</i> area include the services in the fields of agriculture and plantations, animal husbandry, clean water, rice fields and culture. Agriculture and plantation are the main sources of economy, food and culture. Communities are fully dependent on their economic values, especially on rubber, corn and rice. The provision of services for traditional ritual activities is <i>loka katiung</i> (bananas), betel leaf, areca nut, <i>sekka, lame bau</i>, coconut, <i>lontara</i> and leaves, and palm sugar to make brown sugar.</p> <p>Rice is a source of staple foods, economy and culture. In the dry season, there is a traditional ritual that requires the <i>Timoro</i> rice plant. Livestock is also a source of economy and culture. The majority of the community owns cattle (cows and buffalos) and roosters. Buffaloes are used in traditional rituals of funeral and wedding events.</p> <p>Habitat protection is carried out from generations. The types of protected animals are certain types of snakes, bees, and deer. Traditionally protected tree species are mango, <i>Bitti</i> tree, red and white teak tree, <i>Tokka</i> tree, <i>Kolasa</i> tree, and mahogany tree.</p>

6) Conservation and Biodiversity Studies in the Watersheds

The FGD of Conservation and Biodiversity Studies in the Watersheds of 14 villages was attended by each representative from women's groups, farmers' groups, village community empowerment institutions, youth social organizations, village government, *Kajang* indigenous people, *Kajang* traditional stakeholders, *Baka* rattan craftsmen, fishermen's groups, family welfare movement, village-owned enterprise, and religious leaders. There were 280 participants (174 men, 106 women, 180 *Kajang* indigenous people). The focus of the FGD activity was the trend of changes in the villages, the effects of change, the villages' current condition related to conservation, practices of conservation carried out by the community, and several kinds of biodiversity exist in each village.

BOX 4: FGD Results on Conservation and Biodiversity Studies

FGD on Conservation and Biodiversity Studies	
Trend Change in the Customary Forest/State Forest	<ul style="list-style-type: none"> • The conversion of the customary forest area in <i>Bonto Baji</i> village took place in 1985. The community cleared the <i>Balabasa</i> customary forest and the <i>Pokkolo</i> forest. The community converted the land for plantations and other commercial cultivations. After clearing the land, they grew long-term crops such as cloves and claimed it as individual property. • The same thing happened in <i>Pattiroang</i> village where the customary forest was converted to agricultural land. This change began in the 1990s by the then influential community leaders such as village heads. In the 2000s, forest fires destroyed about 2 hectares of the customary forest. Because of the incident, the National Forest and Land Rehabilitation program was then carried out by the Management of Watersheds and Protection Forest Office in 2004-2005. The program took over around 100 hectares of the area. This sparked a problem that only 2 hectares were available for rehabilitation, while the program could only run if the rehabilitation area was at least 100 hectares. Ultimately, the customary forest known as <i>Pangngalleang Kajua</i> became the target of the program. In the end, the community freely cultivates crops on that land. At the moment, the customary forest which covers 100 hectares has become individually claimed land instead of remaining the customary forest. Currently, only around 313 hectares of the <i>Kajang</i> customary forest remains. • The state forest area in <i>Jawi-Jawi</i> village also experienced the same issue. The forest area covering an area of approximately 200 hectares was converted into clove plantation in the 1990s. This change occurred due to the regional government land reform in the 1990s, distributing land as individual property. Nowadays, the forest area in <i>Jawi-Jawi</i> village has also a settlement area.
Latest Condition	<p>Conservation practices through customary law are still being applied, although much has changed. The status of remaining customary forest within the <i>Kajang</i> customary area is still recognized by the community.</p> <p>Agricultural land and plantations grow. Meanwhile, rice fields were gradually decreasing, substituted with rubber and corn, which were considered economically lucrative.</p> <p>There is also sedimentation of the river as a result caused by forest clearing in the upstream. During the rainy season, soil erosion occurs leading to sedimentation. Clean water provision is increasingly difficult because a number of springs keep disappearing while the population progressively grows.</p>
Community and Government Conservation program	<p>There are conservation practices that are still being implemented, such as protecting customary forest areas, rivers, and springs by the <i>Kajang</i> customary community. Customary forests are source of livelihood and serve as water reservoirs. This is in accordance with the customary law of <i>Kajang</i> that has been passed down through generations.</p> <p>There is also terracing practice applied to the corn fields. There is a check dam on the border of <i>Bonto Baji</i> village and <i>Tambangan</i> village which was built by the local government of Bulukumba Regency in 1983 to regulate water and to control sediment. Government <i>Embung</i> is a government program of small dam created in 2019 in <i>Bonto Baji</i> village providing water for the community's agriculture.</p>

	The practice of planting teak trees is still applied by the community in mixed gardens. Other plants that are valuable and support conservation practices are also selected by the community such as palm sugar (for making brown sugar and used in traditional rituals). They also plant trees to pass down to their children, even though at present this is rarely practiced by the community. On every birth, the <i>Kajang</i> indigenous community has to plant at least two trees.
Biodiversity	Bees are protected by <i>Kajang</i> customary law, as they believe that the colonies of the bee in the <i>Kajang</i> customary forest possess mystical power and play important role in pollination process. In addition, shrimp and fish (<i>juku sangka'</i>) in the river are also protected and cannot be caught except for traditional rituals. Meanwhile, several plants used in traditional ceremonies are not protected because they are considered as wild plants and can grow anywhere, such as betel leaf (<i>leko'</i>), areca nut (<i>rappo</i>), Nila (<i>tarung</i>) and <i>Loka Katiung</i> (a type of banana). Meanwhile, there is <i>Bulo</i> (bamboo) which is also protected due to its degraded habitat, and it becomes a mandatory plant at every traditional event of the community.

7) Resilience and Vulnerability Assessments on Disaster And Climate Change Impact

The FGD on resilience and vulnerability assessments on disasters and climate change impact in 14 villages was participated by each representative of women's groups, farmers' groups, village community empowerment institutions, youth social organizations, village government, *Kajang* indigenous people, *Kajang* traditional stakeholders, *Baka* rattan craftsmen, fishermen's groups, family welfare movement, village-owned enterprise, and religious leaders. There were 280 participants (151 men, 129 women and 180 *Kajang* indigenous people). The discussion has been the topics of the involvement of male and female in the community activities, seasonal calendars and people's livelihoods, history of changes in people's livelihoods, changes in climate conditions and its impact in 14 villages, climate change trend, disaster/climate change events, impacts of climate change, the community's adaptation capacity, and the community's vulnerability assessment.

BOX 5: FGD on Resilience and Vulnerability Assessments on Disaster and Climate Change Impact

FGD on Resilience and Vulnerability Assesments on Disaster and Climate Change Impact	
The Community's Daily Activities (Male/Female)	In general, the daily activities of both men and women are the same, except for the domestic matters such as cooking, washing, cleaning the house and taking care of children. Both men and women are involved in taking care of livestock, working in the garden, planting rice, and harvesting. However, women spend more time on domestic matters.
Seasonal Calendar	In the past 12 months, the dry season only occurred in August-November. Meanwhile, the rainy season occurred within the period of December 2020 to September 2021. As reported by the participants, unlike previously, no season transition occurred. It rains almost the whole year through.
Changes in Community Livelihood	The main livelihood in the 70s was only through corn cultivation and rice farming. However, after 1978, cash crops were introduced such as cloves, coffee and cashew nuts. Then around 1985, other plantation crops such as cocoa and pepper were also introduced. Previously rice was cultivated once a

	<p>year. Nevertheless, since around 1965, it started to be twice a year in some parts of the Kajang area. In 1980s until present, rice was planted 2 to 3 times a year. In 2010, numerous rice fields were converted into rubber plantations, since many of the land lacked of water during the dry season.</p>
<p>Changes in Climate Conditions and its Impacts</p>	<p>Since 10 to 20 years ago, the rainy season usually started in September with less rainfall. Currently, the rainy season is prolonged for eight months at high intensity. High rainfall leads to the outbreak of pests and the yield of horticultural crops becomes less. In 2021, the dry season has not occurred. Although dry season is recently not as long as it used to be, farmers are still worried about crop failure due to unpredictable weather conditions.</p> <p>Villagers observe the signs of the onset of the rainy season by spotting the number of <i>Cadio</i> birds (<i>Kajang</i> language) appearing, flowering sandalwood trees, the sound of thunder with repeated lightning and hot temperatures at night. The signs of the dry season are marked with the singing of <i>takalukulu</i> birds (<i>Kajang</i> language), cold air temperatures at night, and strong winds during the day. These signs are still believed and considered to be still accurate.</p> <p>In the last 5 years, there has been a change in hot temperature which has an impact on quickening plants to dry out. A very long rainfall also can lead to pepper plants to grow moldy, weeds to thrive, cocoa to rot and rubber prices to fluctuate. The wind speed is considered to be getting stronger, marked by many falling down rice and corn plants, and broken rubber and clove trees.</p>
<p>Climate Change Impacts</p>	<p>The impact of changes in rain patterns causes farmers' planting period to be uncertain. This year, heavy rainfall has had a good effect on rice farmers, but not for plantation crop farmers; durian and rambutan do not bear fruits because those plants require 1 to 2 months of dryness. In addition, rats, borers and caterpillars are a challenge for rice farmers. They become pests and damage rice crops in the rainy season.</p> <p>The high rainfall caused several rice fields to be flooded and damaged the irrigation. Rising air temperatures also have a serious impact on feed supplies for cattle, goats and horses, the grass dry out very quickly.</p>
<p>The Community's Adaptation Actions</p>	<p>The impact of climate change encourages the community to take action to reduce the risk on their crops. They control the irrigation to regulate the water in the upstream irrigation. The flow of water distributed to the rice fields is not excessive.</p>

8) Workshop on land use mapping result.

The workshop on the results of land use mapping (3 times) was attended by the Bulukumba BAPPEDA (Regency's Development Planning Agency), the Bulukumba Water Resources Management Office, the Bulukumba Governance Administration Office, the Bulukumba Environment and Forestry Service, the Bulukumba Community and Village Empowerment Service, the Bulukumba Livestock and Animal Health Service, as well as the Bulukumba Village and Community Empowerment Service. Also attending were Bulukumba Food Security, Bulukumba Food Crops, Horticulture & Plantation Service, Bulukumba Regional Disaster Management Agency, Bulukumba Social Service, Bulukumba Fisheries Service, Bulukumba Regency Cooperatives and UMKM (small enterprise) Service, Bulukumba Women's Empowerment and Child Protection Service, Head of KPH (Forest Management Unit) Jeneberang II, Head of Water Company of Bulukumba Regency, Watershed Coordination Forum of Bulukumba Regency, Head

of village of Kajang, Bulukumpa, Herlang, Bonto Tiro, Kambuno Village, Jawi-Jawi, Jojjolo, Tugondeng, Dwi Tiro, Malleleng, Pattiroang, Batu Nilamung, Lolisang, Bonto Baji, Tanah Towa, Pantama, Possi Tanah, participatory mapping team in 13 villages, Kajang indigenous people, community leaders in 14 villages and youth representatives. There were 100 participants in the activity (70 men and 30 women).

The workshop was carried out in 3 consecutive meetings. Each village presented the results of the mapping that had been carried out by the mapping team in each village. The presentation of the result was followed by responses from the participants, especially from the government offices, and then followed with group discussion to gather information about villages' problems and the impacts. Lastly, it was discussed on what should be done to deal with these problems.

Table 02. Problems and Impacts of the Apparang, Raowa and Baonto watersheds

ISSUES	IMPACT	SOLUTIONS	LOCATION
THERE HAS BEEN LAND USE CHANGE IN THE UPSTREAM	- In the middle stream and downstream water volume decreased - Floods, erosion	- Replanting (reforestation) at the upstream and mangrove rehabilitation at down stream - Nipa tree planting (according to location)	- Jawi-jawi and Dwi Tiro - Tugendong
LANDSLIDE	- Resettlement - the lands that have been slide cannot be utilized by residents anymore	- Education and regulations related to disaster	- Tanah Towa - Pattiroang
SAND MINING (COASTAL)	- Abrasion	- Regulations and education related to environmental impacts of the mining	- Basokeng (bonto tiro)
CLEAN WATER CRISIS LACK OF WATER	- the need for clean and drinking water is not fulfilled. - the community lacks clean water	- Biopores (infiltration wells) - Water reservoirs (dams and reservoirs) - Maintaining springs with by planting trees around the springs - springs need to be protected	- Balagana and Jannaya - Batunilamung - Tugendong - Jojjolo - Pattiroang
FLOOD	- rice fields are flooded - resulting in crop failure - Livestock carried away by flood currents	- Replanting around the river area	
CLIMATE CHANGE	- crop failure - lots of dead plantation plants - lots of plant pests	- Land use improvement - pest management	- Batunilamung - Tugendong - Jojjolo - Pattiroang

WASTE	<ul style="list-style-type: none"> - Blockage of drains - Flood - Become a source of disease - Water pollution (decreased water quality) - Animal habitat is disturbed and even reduced - Reduces aesthetic value - Damage the ecosystem 	<ul style="list-style-type: none"> - Increasing the knowledge of the community by the education office, DLHK and DPMPD - Making a waste bank for each village - Water conservation sources (biopore, infiltration wells, reservoirs etc) 	<ul style="list-style-type: none"> - All villages
CLIMATE CHANGE IS HAPPENING	<ul style="list-style-type: none"> - Cultivation patterns change - Global warming started to felt 	<ul style="list-style-type: none"> - Adaptation efforts, (such as getting the right information to determine the planting time 	
SEASON SHIFT	<ul style="list-style-type: none"> - Failed to understand the period of the floods and droughts - No fixed planting season - More and more pests 	<ul style="list-style-type: none"> - Adaptation by the community 	
SAND MINING	<ul style="list-style-type: none"> - Abrasion - Damage to infrastructure - Disturbed aquatic ecosystem - Coral reefs and fish production decreased 		<ul style="list-style-type: none"> - Kambuno - Jawi-jawi
SEA WATER INTRUSION	<ul style="list-style-type: none"> - Clean water crisis - Farming disturbed 	<ul style="list-style-type: none"> - Mangroves planting - Rice seeds that can adapt to sea water contamination 	<ul style="list-style-type: none"> - Dwi tiro - Pantama - Possi Tanah - Lembanna
ROB	<ul style="list-style-type: none"> - Damage infrastructure - Disrupt the ponds 	<ul style="list-style-type: none"> - Mangrove planting - Gabions on the river 	<ul style="list-style-type: none"> - Dwi tiro
River sedimentation	<ul style="list-style-type: none"> - Floods occur in the middle stream and downstream 	<ul style="list-style-type: none"> - Tree planting in the middle stream and the downstream - Embankments - Planting bamboo at the river bank 	<ul style="list-style-type: none"> - Pantama - Sapang
Damage of the mangrove &	<ul style="list-style-type: none"> - Decreased fish production 	<ul style="list-style-type: none"> - Coral reef restoration 	<ul style="list-style-type: none"> - Downstream of Apparang, Raowa

Coral reef ecosystem	Fishermen are getting more and more difficult to catch fish	- Planting mangroves and nipah	dan Baonto Watersheds
Crop Harvest Failure	- Community economy is declining	- Superior seed rice plant types - High adaptability plant types. - Development of organic farming - Integrated farming	- All project villages
Forest conversion	- Disturbed habitat	- Reforestation/plant revegetation.	- Jawi-Jawi Village
Erosion of river bank at the upstream to the downstream	- River sedimentation at upstream-middle-downstream	- Gabion construction - Bamboo planting	
“Traditional” animal husbandry system	- Livestock safety	- Intensive animal husbandry system - Construction of biogas installations - Integrated farming	- All project villages

2. Component 2: Promoting and practicing sustainable livelihood adaptive to climate change at the three watershed landscapes in the Indigenous People of *Ammatoa Kajang* customary area.

This is the effort to build strong community resilience to climate change. Activities conducted in this component focus on strengthening the livelihood of the community of the *Ammatoa Kajang* Indigenous People, developing sustainable climate-adaptive agriculture, plantations and livestock.

The development of sustainable climate-adaptive livelihoods is expected to increase community resilience, another part of this component is reducing the impact of climate change through adaptation actions that will be carried out through land management. The *Ammatoa Kajang* Customary Forest covering an area of 313.99 hectares serves as a water catchment for three watersheds, especially the Raowa watershed. This area is important to be included in climate change adaptation activities in the middle and upstream areas. The activities include the application of appropriate technology for land and water management as an answer to help preserve upstream areas in overcoming or minimize water problems, landslides and rainwater erosion.

Outcome 2.1: Resilience of people in Indigenous people of *Ammatoa Kajang* customary area enhanced and vulnerability to climate risk reduced.

*Output 2.1.1: Climate adaptive sustainable livelihood models practiced at 14 villages in 3 watershed landscapes in Indigenous People of *Ammatoa Kajang* customary area.*

The target to be achieved has been that the villagers in the Indigenous Peoples of the *Ammatoa Kajang* Customary Area practice adaptive sustainable livelihoods with a target of 1,775 households (4,600 men and 2,500 women). To achieve these outputs, at least 18 activities will be carried out, namely: Agroforestry field school; Establishment of agroforestry demonstration plot; Formation of the Climate Resilient women's group (14 villages); yard gardening field school; Training on the use of biomass stoves for women's groups in 14 villages; Procurement of biomass stoves for women's groups in 14 villages; Goat Farm Field School; Making goat shelter; Procurement of goats for community groups; training on making organic fertilizer from goat manure; SRI (system of rice intensification) field school; SRI practice/implementation; FGD with farmers for the preparation of the Seed Bank; Seed bank development; Banana cultivation field school; Banana cultivation; Integrated pest management series (6 times); and series of village discussions on watershed management and climate change.

1) Agroforestry Demonstration Plot

The establishment of agroforestry demonstration plots in 11 target villages is an effort to develop the concept of plant diversification towards the climate change impact. The various types of plants are expected to reduce crop failure as well as increase their income. In addition, it will also contribute to improving the ecosystem and can prevent both landslides and floods in downstream areas.

The development of agroforestry demonstration plots started with the construction of agroforestry nursery houses in 11 villages. The nursery locations are in the upstream and midstream villages of the Raowa watershed, Apparang watershed and Baonto watershed. This seed house is used to store seedlings and saplings for each village. Each village will be targeted for 10 thousand seeds with various types of tree, fruit, pepper and red ginger plants. These seeds are adjusted to the needs of the project villagers. These nurseries are maintained by community groups of five to ten people per village.

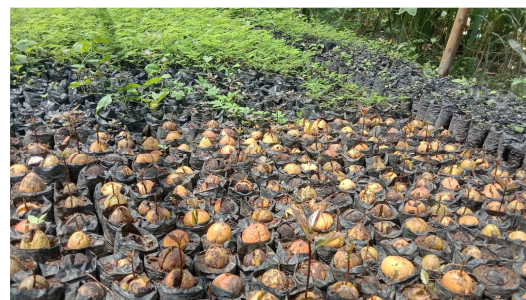
These groups will also guide other communities so that later they plant in demonstration plots and community lands in each village. The following table lists the types of seeds in the 11 target villages of the project.

Table 03. Size of the seed house and the types of plants in each village

No	Urban/Village Village	Seed House Size	Planned Seed Type
1	Kambuno	6 X 10 meter	White teak, avocado, red ginger
2	Jawi-Jawi	6 X 10 Meter	Suren, mahogany, nutmeg, red ginger
3	Jojjolo	6 X 10 meter	Nutmeg, mango, durian, avocado
4	Bonto Baji	6 X 10 meter	Mahogany, teak, durian, avocado
5	Pattiroang	6 X 20 Meter	Pepper, mango and various trees
6	Tanah Towa	6 X 20 meter	Mahogany, rambutan, durian, mango, rubber, clove
7	Malleleng	6 X 11 meter	Cocoa, hybrid coconut, pepper, sengon tree, nutmeg

8	Batu Nilamung	6 X 11 meter	Cocoa, hybrid coconut, pepper, sengon wood, nutmeg
9	Tugondeng	7 X 12 meter	Cocoa, sengon tree, mango and red ginger
10	Possi Tanah	7 X 16 Meter	Cocoa, hybrid coconut, mango, nutmeg
11.	Tambangan Village	20 -12 meter	Cocoa, Mango, mahogany, red ginger

Nurseries have been taking place since January 2022 in 11 villages. All the cultivated plants are based on the needs of the villagers. Each village is targeted to prepare 10,000 seedlings with each having a demonstration plot of an agroforestry. The area of land targeted for planting in each village is 40 hectares. Planting is planned to take place in April and May 2022.



Nursery taken on March 7, 2022

2) Agroforestry field school

In order to enrich the knowledge of the community in 11 villages on agroforestry, an Agroforestry Field School activity has also been carried out in 11 project target villages with a duration of 10 meetings per village. This field school is an effort to build community understanding of the importance of agroforestry as an alternative of livelihood diversification. Having a variety of crops will help reduce the risk of crop failure compared to just one type of crop against the impact of climate change.

Through the Agroforestry Field School, the community is given understanding that agroforestry provides two advantages, economic benefits and environmental benefits. The implementation of the Field School uses two concepts, divided in indoor and outdoor learning sessions. For indoor activities, theoretical materials are given such as material on

introduction to agroforestry, agroforestry systems as a conservation model, agro forestry as an agricultural system that is adaptive to climate change, land preparation systems, and seedling house construction. Meanwhile for outdoor activities, direct practice is carried out with materials, land preparation practices for plant media for nurseries, examples of making good seed houses, grafting practices, planting methods, plant maintenance methods, composting and fertilization practices, as well as recognizing plant pests and their management.



Figure 1: plant grafting practice participants



Figure 2: entry-taking practice

During the Agroforestry Field School process, the participants were excited to take part in the whole series of activities which took place 10 times per village. Based on observations, participants were very enthusiastic when participating in practical materials such as grafting practice, how to take entries, and planting practices.

The Head of Kambuno Village is interested in replicating Agroforestry activities into his village development planning. The Head of Kambuno Village wants to establish a Village Nursery (Kebun Bibit Desa) as a continuation of the nursery that has been created through the Adaptation Fund project.

Box 1: The story of the Head of Kambuno Village on the Agroforestry Field School

The Head of Kambuno Village is interested in the Agroforestry field school activities initiated by the Adaptation Fund Project Team. According to Syahrullah, the agricultural concept of combining trees and fruit crops is very much needed considering the Kambuno village area consists of a hill ridge with many slopes. "This can be a solution to prevent landslides," said Syahrullah, the Head of Kambuno Village.

Although the people in Kambuno Village have basically applied the concept of agriculture with a variety of plants in one garden, Syahrullah thinks that the knowledge of agroforestry will increase the quality of agricultural products. During the indoor class introducing the concept of Agroforestry, Syahrullah was very excited to follow the material presented by the expert. Likewise, when the first field school was held in the nursery area, he deliberately left the agenda as village head to participate in the field practice.

Syahrullah seemed very enthusiastic about practicing grafting and grafting techniques on nutmeg, durian, avocado and pepper trees. "For the past three years, fruit yields in Kambuno have declined considerably. Mangosteen and durian, as well as cloves seem to be too lazy to bear fruit, this may be due to climate change and the decline in the quality of the trees," he said during a discussion in the agroforestry field practice.

Syahrullah also added that it is important for the community to immediately clean up, re-planting quality seeds. "The vision of Kambuno village in the future is to become a village that produces high quality fruits, this is in line with the vision of the regency. Therefore, this field school activity is very closely related to our plans in the village government. The village government will in the future initiate activities like this and increase training on agroforestry to reach a wider community. We will allocate village funds for similar activities, as well as for the procurement of quality seeds," he said.

A few days previously, the Kambuno Village Government visited Campaga Farm in Tompobulu District, Bantaeng Regency. The village head and several of his staff visited to discuss with agroforestry practitioners in Bantaeng to build an understanding about future village programs. They also did not forget to buy some seeds, good quality fruit entries to bring home to Kambuno Village.

3) Establishment of Climate resilience women group (14 villages)

Climate Resilient women's groups have also been formed in 14 villages. The formation of this group is an effort to organize women who are vulnerable to climate change. Each village formed a women's group, each with 25-27 members. This activity also supports the acceleration of registration for the Climate Village Program (ProKlim) initiated by the Ministry of Environment and Forestry.

4) Series of FGD with climate resilience women group at 14 villages



After the formation of climate resilient women's groups in 14 villages, then a series of FGDs were conducted 3 times per group. This series of FGDs was one step to increase understanding among women's groups regarding the impacts of climate change, as they are one of the most vulnerable groups to the impacts of climate change.

Women are very dependent on clean water which is closely related to domestic affairs. Based on the results of this FGD, like elsewhere generally, it is identified that women in the *Kajang* Customary Law Community have daily routines related to clean water such as cleaning the house, washing clothes, and cooking. On another aspect, women are also tasked with ensuring the availability of basic kitchen needs. Therefore, women are the ones who feel the most of the climate change impact. The impact has started to feel by the community, especially people who live in Village areas. Starting from erratic rainfall, floods, landslides, drought, and other impacts. These conditions certainly result in food crisis, water resource crisis, droughts, and others.

In dealing with this situation, it is necessary to use natural resources adaptable to climate change. One of the example is the use of the yard to serve as a source of healthy food in anticipating the food crisis. In addition, farmers are also faced with increasingly expensive agricultural input costs, which of course increasingly drains farmers' pockets for food production. Another effort is the use of organic waste as a source of fertilizer to meet the needs of food production.

The Climate Resilient Women's Group is a forum for education to build knowledge, especially awareness, on climate change. This knowledge is necessary in order to encourage agriculture practices that apply organic farming methods. On the FGD, it is emphasized that they can integrate three things altogether: kitchen, livestock, and yard gardening. The FGD helped identify that the average expenditure to buy vegetables is Rp. 10,000 per day. This means that each person spends Rp. 300,000 per month to buy vegetables. By calculating the benefit of reducing the monthly expenditure for vegetables, the women's group members are encouraged to participate in the series of yard gardening activities.

5) Yard gardening field school

The next activity that has been carried out is the yard gardening field school. The field school is taking place in 14 project villages. The 3 meetings of field school were carried out to build knowledge for women's groups. Participants were provided with knowledge about various ways to use the home yard to plant vegetables as a strategy in building climate change adaptation efforts. Moreover, participants were also provided with materials on the concept of yard gardening, the benefits of yard gardening, the characteristics of organic vegetable plants, and organic farming in daily life, know-how on healthy soil, preparing land and making home gardens, preparing planting media, sowing seeds, planting, maintaining, and recognizing plant pests and diseases (for more details see appendix 5).

The material provided is very useful for the group. From the field school, each member of the women group practices their knowledge in their own yard. The model of the

garden for each group member's house is adjusted according to their needs. They make the garden in front of the house, on the side (left-right) or behind the house. Depends on the vacant space in their home yard.



6) Yard gardening implementation by climate resilience women group at 14 villages

After the field school was conducted, the women's group that had been formed received tools and materials (vegetable seeds based on request). The vegetable seeds consist of tomatoes, eggplant, long beans, cucumber, pumpkin, chili and pare. After the distribution of tools and materials, the participants started to work and make gardens around their house. The garden size varies according to the space available around their home.

The participants make bed as planting media. During the process of making gardens, group members complained about chickens that roamed around and disturbed the plants. Because of that, wirings were distributed for all group members to protect their gardens. After the beds were ready, the climate-resilient women's group planted the previously distributed seeds.

To make it look more beautiful they plant different seeds in each bed. In addition, they also make it neat. According to the participants, since the garden was established, in the morning they are not only busy taking care of the flowers, but also of the vegetable

plants. They also received polybags as planting medium, some arranged neatly around the yard and planted with tomatoes, eggplant and other plants.

The model of the garden yard also varies. Some use polybags and arrange them in layers, some use beds in the form of letters or numbers, and some use coconut belts. There are at least 350 households practicing gardening in the 14 project target villages, with 25 households per village.

The practice of gardening in the house yard is beneficial to the women's groups where they no longer need to buy vegetables. In addition, they are also able to share it with their neighbors. Some people in Lolisang Village have even sold *kale* and spinach at the Kalimporo market near Lolisang Village.



In addition to gardens in the home yards, several villages also set up collective gardens, which become the center gardens of climate-resilient women's groups. At the collective garden, they plant different types of seeds. For example, *pare*, chili, cucumber, eggplant, long beans, tomatoes, and pumpkin. This garden serves as seed garden to meet the needs for further seeds.

3. Component 3: Lobbying and Policy Advocacy for Climate Adaptive Sustainable Integrated Watershed Management and Climate Adaptation Action Plan to Regency Government of Bulukumba and South Sulawesi Provincial government

Component 3 is conducted at the regency level by providing advocacy to the initiation of District Regulations on Climate Change Adaptation. This is an effort to sustainability and builds the basis for the regency and village government to produce regulations. The initiated regulations in the form of Regency Regulation (Peraturan Bupati) and village regulations are a way to facilitate and ensure that the policies for climate change adaptation actions are integrated into the development policy and planning, both at the regency level and at the village level.

Furthermore, this program aims to encourage the formulation of an integrated multi-stakeholder policy in Bulukumba Regency integrating the Climate Change Adaptation Action Plan and the realization of a pro-climate sustainable integrated management of watershed.

Outcome 3.2. Pro-climate integrated watershed management and climate change action plan integrated into regency development plan.

Output 3.2: Pro-climate integrated sustainable watershed management programs budgeted in the annual regency budgeting and climate adaptive budgeting put into regency annual budgeting

Output 3.2 targets at least 10 government offices and agencies to budget 5% of their total annual budget. Advocacy to the 10 related regency offices at the regency level will be carried out after the preparation of the Watershed Management Plan and Regional Action Plans on Climate Change Adaptation.

To achieve the output 3.2 target, a revision of the Village Medium-Term Development Plan is underway to include watershed management and climate change adaptation actions to be budgeted at the village level. This is to build collaboration and integration of pro-climate development planning starting at the village level to the regency level. Through the Village Medium-Term Development Plan, the village government has a reference to implement pro-climate actions at the village level. Meanwhile, the regency offices will have the Watershed Management Plan and Regional Action Plans on Climate Change Adaptation documents as a reference for formulating the pro-climate programs.

Since November 2021, 6 villages have respectively formed the Village Medium-Term Development Plan revision teams with 11 members from each village. The villages that have formed the revision team are *Pantama, Bonto Baji, Dwi Tiro, Tugondeng, Lolisang and Possi Tanah* villages. The Village Medium-Term Development Plan revision team conducts discussion based on the results of data collected through FGDs, workshops, and previous mapping. The formation of the revision team was attended by the village government, women's groups, youth organizations, representatives of farmer groups, and representatives of the village community development and empowerment program. The team in 6 villages totaled 72 people with 47 men and 25 women (6 villages).

As of March 2022, two villages have completed the revision of the Village Medium-Term Development Plan, namely *Dwi Tiro* and *Pantama* village. Meanwhile, three villages are in the process of doing the revision: *Bonto Baji*, *Lolisang*, and *Tugondeng* villages. The revision of the Village Medium-Term Development Plan for the three villages is planned to be completed in April 2022. In the revision process, village facilitators from representatives of the village community development and empowerment program and the Bulukumba Environment and Forestry Service have been participating. The presence of village facilitators was to guide the team in adjusting the revision to comply with the technical guidelines set by the Ministry of Villages.

Table 04. Types of Pro-Climate Activities of the Revised Village Medium-Term Development Plan in *Dwi Tiro* Village

Sub-Sector	Types of Pro-Climate Activities
Sub-Sector of Health	Procurement of seeds of red ginger, galangal (common herbs for traditional medicine)
	Herbal medicine plants farmer group support (Training and procurement of seeds)
Sub-Sector of Public Works and Spatial Planning	Adding the volume of the wave retaining embankment on the coast of <i>Basokeng</i> Hamlet
	Construction of gabions on the river
Sub-Sector of Residential Area	Planning a clean water self-sufficiency program by revitalizing existing springs
	Drafting village regulations to regulate Water Resource System
	Construction of infiltration wells
	Construction of springs using borehole techniques for agriculture and plantations
	Construction of Water Resource System in <i>Erekeke</i> Hamlet
	Solid waste bank procurement
	Procurement of waste transport vehicles
	Waste management training
	Procurement of trash bin
	Procurement of trash bins at <i>Basokeng</i> Traditional Market
Sub-Sector of Forestry and Environment	Reforestation/maintenance of mangrove trees & <i>nipah</i> on the banks of the river
	Provide assistance and training on poultry waste management
	Planting protected trees at <i>Karadepa</i> Field
	Restoring land use by reforestation
	Making village regulation on reforestation
	Dredging of watershed from <i>Sibara</i> to <i>Basokeng</i>
	Normalization of shallow areas
Sozialization on the impact of sand mining at the <i>Basokeng</i> coast	
Sub-Sector of Energy and Mineral Resources	Procurement of biogas installations for cattle and chicken waste

Sub-Sector of Agriculture and Animal Husbandry	Establishment of <i>Posyantek</i> (Livestock health center) in <i>Dwi Tiro</i> village.
	Hydroponic cultivation training and development
	Training on making fermented animal feed from dry leaves or banana stems
	Procurement of biomass stoves for women's groups
	Training on making organic fertilizer from goat manure
	Construction of irrigation canals to rice fields in <i>Basokeng</i> Hamlet
	Extension program on banana cultivation
	Extension program on caterpillar pests management in agriculture, especially for corn farmers
	Integrated pest management series
	Procurement of superior banana tree seeds
	Banana cultivation field school
	Banana cultivation
	Banana fruit processing training
	Procurement of seeds for the use of community yards throughout the <i>Dwit Tiro</i> village
	Implementation of a climate-resilient women's group yard garden
	Construction of greenhouses or seed houses in each hamlet
	Procurement of plant seeds with high prospects and economic value
	Procurement of superior rice/corn seeds that are resistant to the impacts of climate change
	Formation of Climate Resilient Women's group
	FGD series for climate resilient women
	Field School on Yard Gardening
Soil and water conservation training	
Goat Farm Field School	
Making goat stalls	
Procurement of goats for farmer/livestock groups	
Adaptation program by the community	
Sub Sector of Empowerment of Women, Child and Family Protection	Training on the use of biomass stoves for women's groups

The first public consultation regarding the revision of the RPJMDes for Climate Change Adaptation was conducted by Desa Dwi Tiro. This activity was attended by at least 50 people consisting of the village government, the BPD (village council), community members, and the government of the Bonto Tiro Sub-district. During the workshop process, the results of the revised RPJMDes were presented by the revision team. The revision team conveyed the points that were included as the issue of climate change adaptation. The pro-climate

RPJMDes is a step forward to develop plans that can contribute to the community in order to improve their resilience in adapting to climate change.

Bulukumba Regency Government has shown its commitment by encouraging the project's villages to become the Climate Program Villages (Proklim). The Department of Environment and Forestry has conducted FGDs in the project's villages in order to register for the Proklim villages program. The institutions that are planned to be proposed in the Proklim program are the Climate Resilient Women's Group and the Agroforestry Group which were formed through the Adaptation Fund Project. As of March 2022, five villages have been registered as ProKlim villages, namely the village of Pantama, Lolisang, Tambangan, Possi Tanah, Tugondeng. Meanwhile, Bonto Baji Village is in the registration process. Another village will become a Proklim village assisted by the Bulukumba Environment and Forestry Office and is planned to be registered in 2023.

The Regency targets all villages and sub-districts in Bulukumba to be part of the Climate Village Program. In 2022 the Environment and Forestry Service of Bulukumba Regency registered 15 Villages and Sub-Districts. For 2023, it is targeted that around 25 villages will be registered.

The good collaboration with the Bulukumba Regency Government through the Adaptation Fund project has a positive impact for the climate change adaptation actions. Bulukumba Regency wants to be a promoter in pushing climate change issues in the southern region of South Sulawesi Province which includes Bulukumba, Sinjai, Bantaeng and Jeneponto Regencies.

Box 2: Excerpts of Head of Bulukumba Regency's Speech

Distinguished guests.

It feels special that today, for the first time, our brothers and sisters, the indigenous people of *Ammatoa Kajang*, simultaneously carry out the *Andingingi* traditional ritual with the anniversary of Bulukumba Regency.

The *Andingingi* ritual is a *ruwat bumi ritual* (earth caring ritual) that is carried out every year with the aim that the earth or the land of Bulukumba is always blessed and given safety, and kept away from disasters and dangers.

We hope that these rituals and local wisdom from remote areas of Kajang Dalam will inspire us all about the importance of preserving nature and protecting the environment as exemplified by the *Ammatoa Kajang* Indigenous community.

Talking about nature conservation, we will talk about how to care for and protect the environment from human-made damage.

Floods and landslides are consequences that will come at any time, if we do not realize that the environment is getting damaged.

Therefore, on this anniversary of Bulukumba Regency, we want to tap on our conscience and awareness, how important it is for us to take anticipatory or preventive steps with the nature conservation movement through the Climate Village Program (Proklim) throughout the Bulukumba

Regency, from upstream to downstream. Starting from the mountains, riverbanks, and river mouths.

Proklim is not a new thing in Bulukumba Regency, it has even received a national award. However, we must not stop there.

This Proklim movement still has to be replicated and disseminated throughout the region in order to bequeath a sustainable environment for future generations.

Therefore, on this occasion, the Regional Government confirmed its commitment to be a pioneer of change from the Proklim Movement through various concrete activities that were cross-sectoral and cross-district.

Therefore, we invite neighboring regency, especially the South Sulawesi Provincial Government to jointly save upstream areas in the mountains through revitalizing protected forests, including encouraging reforestation in watersheds and constructing infiltration wells in various areas.

C. Monitoring Evaluation Progress

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
Outcome 1. Management and governance of three watersheds inside the Indigenous People of Ammatoa customary area improved.							
Output 1.1. Multi-stakeholders watersheds management forum established at three watersheds inside the Indigenous People of Ammatoa Kajang customary area.				Q3 (Oct-Dec) Establishment of integrated watershed management & climate change adaptation forum 3 forums (1 forum per watershed) # parties involved in the forum that was formed. At least 50 parties (government offices & institutions, Village government,	-	<ul style="list-style-type: none"> - The Bulukumba Regency Integrated Watershed Management Coordination Forum has been established. - 50 parties involved in The Bulukumba Regency Integrated Watershed Management Coordination Forum (Board of Guarantee/trustee, Board of Experts, Technical Coordinator, Field Coordinator and Governing Board). - The Governing Board consists of 46 people with a presentation 	<ul style="list-style-type: none"> - The Integrated Watershed Management Coordination Forum was established at the Bulukumba Regency level. It was based on a number of discussions and inputs by stakeholders with the aim that the forum was at the Bulukumba Regency level. It is to cover all watersheds in the Bulukumba Regency area. Recently, the Governor of South Sulawesi is in the process of preparing the legalization of the Watershed Forum. - 50 parties who are also members of the watershed forum: South Sulawesi Governor, Bulukumba Regent, Bulukumba Deputy Regent, Bulukumba Regional Secretary, Members of Bulukumba Regional People’s Representative Council, Academics, South Sulawesi Watershed Forum, South Sulawesi Regional Development Research and Planning Agency,

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
				and civil society organizations)		of 74% male and 26% female.	South Sulawesi Forestry Service, Management of Watersheds and Protected Forest Office, Central Office of the Pompengan-Jeneberang River Region, Regional Development Planning Agency of Bulukumba Regency, Environment and Forestry Service of Bulukumba Regency, Public Works and Spatial Planning Service of Bulukumba Regency, Water Resources Management Service of Bulukumba Regency, Regional Government of Bulukumba Regency, the Community and Village Empowerment Service, Animal Husbandry and Health Service of Bulukumba Regency, Food Security Service of Bulukumba Regency, Food Crops, Horticulture & Plantation Service of Bulukumba Regency, National Agency for Disaster Management of Bulukumba Regency, Legal Beureu of Bulukumba Regency, Social Service of Bulukumba Regency, Forest Management

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
							<p>Units of Jeneberang II, Watershed Laboratory of Universitas Hasanuddin Makassar, Water Company of Bulukumba Regency, Academics, Sub-district Head, Village Government, Bulukumba River Community Care, <i>Kareso</i> Institute (a local NGO), <i>Radar Selatan</i> (mass media), Representatives of the Kajang Indigenous People, Observers of the Kajang Customary Law Community, and Community Leaders.</p> <ul style="list-style-type: none"> - The target achievement as much as 30% women and vulnerable groups participation in the Watershed Management Forum is unattainable due to difficulties in identifying women who can join the forum. Therefore, referring to the last discussion for the forum, it was determined that there were 34 men and 12 women. However, the core administrators such as the chairman, deputy chairman II, deputy secretary and treasurer are all women representatives.

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
Output 1.2.: Watersheds governance planning and action documents formulated and agreed among stakeholders.				Q3 (Oct-Dec): - Formulation of watershed management planning. - Formulation of an integrated watershed management action plan. - 1 Integrated watershed management document for each watershed area. 1 set of action plans for each watershed.	Q4 (Jan-Mar): Q5 (Apr-Jun): - Formulation of watershed management planning. - Formulation of an integrated watershed management action plan. - 1 Integrated watershed management document for each watershed area. 1 set of action plans for each watershed.	Data and information that will be used for formulating the watershed management plan document and the regional action plan for climate change adaptation document have been collected.	<ul style="list-style-type: none"> - The process of preparing the watershed management plan document is already underway. The parties involved are both at the provincial and regency levels. At the provincial level, it involves South Sulawesi Regional Development Research and Planning Agency, South Sulawesi Forestry Service, Management of Watersheds and Protected Forest Jeneberang-Saddang Office, and South Sulawesi Watershed Forum. - The preparation of the watershed management plan document and the regional action plan for climate change adaptation planned to take place in May to September 2022.
				Outcome 2. Resilience of people in Indigenous people of <i>Ammatoa Kajang</i> customary area enhanced and vulnerability to climate risk reduced			

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
<p>Output 2.1: Climate adaptive sustainable livelihood models practiced at 14 villages in 3 watershed landscape in Indigenous People of <i>Ammatoa Kajang</i> customary area.</p>				<p>Q3 (des) 2021</p> <ul style="list-style-type: none"> - Farmers practice adaptive sustainable livelihoods in the Indigenous Peoples of the <i>Ammatoa Kajang</i> Customary Area. - 1.775 households (7.100 people) - Male: 4600 - Female: 2500 	<p>Q7 (Des) 2022;</p> <ul style="list-style-type: none"> - Farmers practice adaptive sustainable livelihoods in the Indigenous Peoples of the <i>Ammatoa Kajang</i> Customary Area. - 1.775 households (7.100 people) - Male: 4600 - Female: 2500 	<ul style="list-style-type: none"> - 220 households in 11 villages have knowledge concerning the importance of agroforestry agriculture in the midst of climate change, in which it is targeted that 700 households will practice agroforestry gardens in 11 project target villages. - 350 women in 14 project target villages are gaining knowledge and practicing sustainable food through their yard gardens. 	<ul style="list-style-type: none"> - 220 households gained knowledge about agroforestry farming systems through agroforestry field school in 11 project target villages. Each village will hold a field school as much as 10 times. - In 11 villages, there are already nurseries of various plants totaling 110,000 trees, with a percentage of 10,000 trees per village. The seeds will be distributed to approximately 700 households. In addition, there will also be demonstration plots for each village. Planting is targeted to take place in Q5 April-May 2022. - Climate-resilient women's groups have been formed in 14 villages totaling 350 people (each village consists of 25 members). At present, they are practicing vegetable gardens in their own yards.

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
Output 2.2. Environment conservation to support sustainable livelihood adaptive to climate change done on three watersheds in <i>Ammatoa Kajang</i> customary area.				# farmer group model practicing soil and water conservation practice, at 6 relevant and selected villages. (3 groups in the upstream area, while 3 groups in the middle area). 6 farmer groups practicing terracing technique at slope field in 6 villages.		0	0
Outcome 3. Pro-climate integrated watershed management and climate change action plan integrated into regency development plan.							
Output 3.1: Head of Regency regulation on watershed management and climate adaptation action is signed and released.				1 Bulukumba Regency government regulation on integrated watershed management		0	0

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
				and climate change adaptation action plans.			
Output 3.2. Pro-climate integrated sustainable watershed management programs budgeted in the annual regency budgeting and Climate adaptive budgeting put into regency annual budgeting				Q3 (Dec); At least 10 government offices and agencies allocate 5% of the total budget of each office and agency	Q4 (Jan-Mar); At least 10 government offices and agencies allocate 5 % of the total budget of each office and agency	# 2 villages have completed the revision of the Village Medium-Term Development Plan (<i>Dwi Tiro</i> and <i>Pantama</i> villages) # 3 villages are revising the Village Medium-Term Development Plan (<i>Bonto Baji</i> , <i>Lolisang</i> and <i>Tugondeng</i> villages)	<ul style="list-style-type: none"> - Villages that have not revised its Village Medium-Term Development Plan are <i>Batunilamung</i>, <i>Possi Tanah</i>, <i>Malleleng</i>, and <i>Tambangan</i>. The four villages are planned to take place in Q5 May-June 2022. - <i>Kambuno</i>, <i>Jojjolo</i>, <i>Tanah Towa</i> and <i>Pattiorang</i> villages, its preparation of the Village Medium-Term Development Plan is carried out after the village head election takes place in August to September 2022.
Outcome 4: The value of watershed and impacts of climate change are understood by local people.							
Output 4.1: Knowledge of local people on the importance of watershed and climate change impact increased				# of people who have basic knowledge on the value of watershed and climate change issue. There are 30.000 population within and		0	0

OUTCOME DAN OUTPUT	Year 1 (2021)			Target Indicator		Indicator of Achievement	Remaks and MoV
	Q3			2022	2023		
	1	2	3				
				around <i>Ammatoa Kajang</i> Customary Area.			
Output 4.2: Project information disseminated				# of the community recognize the project. There are 10.000 population within and around <i>Ammatoa Kajang</i> Customary Area.		0	0

D. Financial Report

Total budget absorption for the one-year program (April 2021 – March 2022) is IDR 4,399,498,900 (32.7%) of the total Budget of IDR 13,461,499,800 (see Attached Financial Report).

Budget Absorbption in Quarter IV

Program	Quarter IV		
	Budget	Absorption	(%)
Component I	2.490.610.000	1.638.668.500	66%
Component II	8.242.410.000	1.926.300.000	23%
Component III	1.001.385.000	121.530.000	12%
Component IV	686.450.000	213.420.000	31%
Execution Costs	1.040.644.800	499.580.400	48%
Total	13.461.499.800	4.399.498.900	33%

E. Milestones for the Next Quarter

(Identify the main milestones planned to be achieved in the next quarter)

Milestones	Target Date/Month
<i>Outcome 1: Management and governance of three watersheds inside the Indigenous People of Ammatooa customary area improved.</i>	
<i>Keluaran 1.2. Watersheds governance planning and action documents formulated and agreed among stakeholders.</i>	
1) Series of workshop on formulating integrated watershed management plan and climate change adaptation action plan	Q5; Apr-Juni 2022
2) Public consultation integrated watershed management and climate change adaptation action plan document	Q6; Juli 2022
3) Evaluation	Q6; Juli 2022
<i>Outcome 2: Resilience of people in Indigenous people of Ammatooa Kajang customary area enhanced and vulnerability to climate risk reduced.</i>	
<i>Keluaran 2.1: Climate adaptive sustainable livelihood models practiced at 14 villages in 3 watershed landscape in Indigenous People of Ammatooa Kajang customary area.</i>	
1) Biomass stove procurement for women group at 14 villages	Q6; Juli-Sep 2022
2) Training on using biomass stove for women group at 14 villages.	Q6; Juli-Sep 2022
3) Goat Livestock field school	Q6; Juli-Sep 2022
4) Goat procurement for farmer group.	Q6; Juli-Sep 2022
5) Goat stall/shelter making	Q6; Juli-Sep 2022
6) Training on making organic fertilizer from goat dung.	Q6; Sep-Q7 Okt 2022
7) Field School on System of Rice Intensification (SRI).	Q7;Okt-Des 2022

8) SRI Practicing/implementation.	Q7;Okt-Des 2022
9) FGD with farmers for Seed bank preparation.	Q7;Okt-Des 2022
10) Seed bank development.	Q7;Okt-Des 2022
11) Field school banana cultivation.	Q7;Okt-Des 2022
12) Banana cultivation.	Q7;Okt-Des 2022
13) Series of integrated pest management (6x).	Q7;Okt-Des 2022
Keluaran 2.2. Environment conservation to support sustainable livelihood adaptive to climate change done on three watersheds in Ammatoa Kajang customary area.	
1) Soil and water conservation training.	Q5; Mei-Juni 2022
2) Terasering demonstration plot for soil and water conservation	Q5; Mei-Juni 2022
3) Evaluation	Q7; Des -2022
Outcome 3: Pro-climate integrated watershed management and climate change action plan integrated into regency development plan.	
Keluaran 3.1: Head of Regency regulation on watershed management and climate adaptation action is signed and released.	
1) Series of discussion of multi stakeholders watershed management coordination forum to formulate and finalize regent regulation on integrated watershed management and climate adaptation action plan(10 times).	Q6;Juli-Sep 2022
2) Public consultation of regent regulation on integrated watershed management and climate adaptation action plan of Bulukumba regency.	Q6;Juli-Sep 2022
3) legalization of Regent regulation on Integrated watershed management and climate adaptation action plan.	Q7;Okt-Des 2022
Keluaran 3.2: Pro-climate integrated sustainable watershed management programs budgeted in the annual regency budgeting and Climate adaptive budgeting put into regency annual budgeting	
1. Formation of revision team / draft maker of Pro Climate Change Adaptation Village development planning (RPJMDes) at 8 villages.	Q5;Mei-Q7;Sep 2022
2. Series of discussions and finalization of revision / drafting of Pro Climate Change Adaptation Village development planning (RPJMDes) at 8 villages.	Q5;Mei-Q7;Sep 2022
3. Public consultation of Pro Climate Change Adaptation Village development planning (RPJMDes).	Q5;Mei-Q7;Sep 2022
4. Roadshow to internalize the integrated watershed management framework to the provincial government development plan (Governor, Bappeda, DLHK, BP-DAS LH).	Q7;Sep 2022
5. Evaluation	
Outcome 4: The value of watershed and impacts of climate change are understood by local people.	
Output 4.1: Knowledge of local people on the importance of watershed and climate change impact increased	
1. KAP Baseline and end line survey	Q7;Okt-Des 2022
2. Awareness rising campaign.	Q5; Mei-Juni 2022

3. Academic writing and project lesson learned book	Q7;Okt 2022-Q8;Mar 2023
Output 4.2: Project information disseminated	
1. Villagers discussion forum on watershed management and climate change	Q5; Juni 2022
2. Project dissemination seminar	Q8; Maret 2023

F. Risk Identification

No	Risks and Chances of Occurrence (low, medium, high)	Risk Impact on Achieving Goals (low, medium, high)	Risk Category (A, B, C)	Risk Mitigation Plan	Description
1	Difficult to synchronize with the Village Medium-Term Development Plan (RPJMDes)	Villages do not understand and neglected to integrate climate change adaptation programs and watershed management into their development plan	Medium	Facilitating villages to do RPJMDes revision to integrate the climate change adaptation and watershed management programs into the revised RPJMDes.	Revision of the RPJMDes can only be done when special events occur such as an emergency (disaster) and election of new head of village or regent. Currently, Bulukumba Regency is revising its Medium-Term Development Plan for the newly elected Regent. It is the opportunity for the project to advocate the climate change adaptation and watershed issue to be integrated into Regency's RPJMD and Village RPJMDes.
2	There are differences between Governor Regulation No. 31 2020 and Minister of Forestry Regulation No. 61 2013, and Government Regulation 37 2012 that are used as the legal base for the establishment of the Watershed Forum.	Delaying the establishment of the Watershed Forum.	Low	Review has been carried out and consultation with relevant parties has been done to determine which regulation must serve as the legal base for the establishment and legalization of the Watershed Forum.	Governor Regulation No. 31 of 2020 confirms that the regional-level watershed management coordination forum is legalized by a Governor's decision letter. Meanwhile, Minister of Forestry Regulation No. 61 of 2013 concerning the Watershed Management Coordination Forum, implies that the Regency has the authority to establish and legalize the Regional Watershed Management Coordination Forum. Ultimately the project refers to the Governor Regulation.
3	Most of the stakeholders have not been able to distinguish	Delaying the establishment of a Watershed because It has been difficult to build a common perception and	Low	Continuously carry out discussions with the parties with resource persons from the chairman of the South Sulawesi Watershed Forum as	Many of the stakeholders understand the watershed only as river area, (whereas watershed includes all the water catchment area from the back of the mountain to the bank of the river). In

No	Risks and Chances of Occurrence (low, medium, high)	Risk Impact on Achieving Goals (low, medium, high)	Risk Category (A, B, C)	Risk Mitigation Plan	Description
	between river and watershed.	understanding during the formulation of the Watershed Management Plan document.		well as academics from the forestry faculty of Universitas Hasanuddin Makassar to discuss the topics and to get common understanding on the issue.	the discussion process, participants still often have misperceptions about watersheds. Therefore they often provide suggestions and solutions that are based on the “river” perception of the watershed. The stakeholders assume that the responsibility for watershed (as a river) are only with the Water Resources Management Service and the Forestry and Environment Service.
4	Not all stakeholders understand the objectives of climate change adaptation and watershed management.	Delaying the project achievement	Low	Continuously carry out discussions with the parties with experts as resource persons to explain the objectives of climate change adaptation and watershed management.	The parties still find it difficult to distinguish between adaptation and mitigation. In addition, they have not been able to link climate change adaptation with watershed management.
5	The Kajang community are saturated with the project activities/meetings	Difficult to involve of the Kajang indigenous people in the project activities/meetings	Low	The meeting will be adjusted to the community’s free time and prior notification (at least 5 days prior to the meeting) by invitation.	The Kajang Indigenous people who are not aware of the meeting purpose and objectives will find it difficult to attend because they think it will waste their time. They spend more of their time on their plantation.
6	Acceptance of innovations for the Indigenous Peoples is difficult	The Kajang indigenous people refuse innovations if it does not suit their needs	Low	Innovations designed to suit the needs of the Indigenous people. The facilitator will approach the villagers and conduct an assessment of the innovations that are most likely to be accepted by the Kajang customary community.	The Kajang Indigenous people have a simple life principle (in the sense of not using technology and modern things). They refuse technology that is not in accordance with customary law and their life principle.

No	Risks and Chances of Occurrence (low, medium, high)	Risk Impact on Achieving Goals (low, medium, high)	Risk Category (A, B, C)	Risk Mitigation Plan	Description
7	Land that can be used and accessed for field schools, nurseries, seed storage/agricultural facilities is difficult to obtain	It hinders the execution of the project activities especially the activities that need land (field school, demonstration plot, nursery, etc)	Low	Village facilitators approach the community and village government to obtain nursery land, seed storage and agricultural facilities.	People have a tendency to distrust outsiders to use their land. This is because they think the activities that will use their land (such as demonstration plots) give no benefit.

G. Attachment

1. Financial Report (waiting for financial report)

2. Complaint Mechanism

All project target villages have been notified along with the complaint mechanisms installation in public places such as the Village Office and Mosques. During the first year of program implementation, there have been no complaints from the community or from the village government regarding the implementation.

3. ESMP (Environmental and Social Management Plan)

No	Activity Impacts and Risks			Impact and Risk Management Plan			Impact and Risk Monitoring Plan			Implementing Management and Monitoring	Budget (IDR)		
	Activity Component (Source of Impact)	Impact and Risk	Impact Significance	Management Plan	Location	Period	Monitoring Plan	Location	Period		Unit	Price per unit (IDR)	Total (Rp)
Pre-Construction/Planning Stage													
1	Participatory mapping of village areas and land use	There is difference of village boundaries that are mapped with neighboring villages	Fairly significant: the area of the mapped village decrease or increase	(1) The mapping team are the ones who know the village boundaries. (2) Inviting the neighboring villages during the mapping workshop.	In 14 project target villages	During the activity	Taking photo of village boundary and mutual agreement and Monitoring the complaints from the other villages	In 14 project target villages	During the activity	<u>Implementer of activities:</u> participatory mapping team for village areas and land use <u>Monitoring team:</u> Payo-payo-OASE	14 villages	15 mapping team per village X IDR 275.000 X 10 days	577.500.000
2	Agroforestry demonstration plot making	The number of seed types proposed by villagers that the project could not fulfill	Fairly significant: Villagers in 11 project villages still force that the seeds they request to be fulfilled	(1) There will be discussions with villagers about the project's ability in providing the types of seeds they request. (2) Communication approach to related	In 11 project target villages (the upstream and middle villages)	During the activity	Monitoring the complaints from villagers	In 11 project target villages (upstream and middle villages)	During the activity	<u>Implementers of activities:</u> the community and facilitators <u>Monitoring team:</u> Payo-payo-OASE	11 villages	20 people per village	55.000.000 per village x 11 villages 605.000.000

				parties such as Forest Management Unit and Management of Watersheds Office to do the related program to the project site to meet the villagers' requests.									
3	Social jealousy for some villagers who do not get the seeds	The residents who do not obtain seeds no longer want to participate in the meeting and learn about agroforestry	Fairly significant;	Discussions will be held with related villagers and village government regarding the project's funding capacity which cannot meet all residents' request of seeds.	In 11 project target villages (upstream and middle villages)	During the activity	Checking the incoming complaints	In 11 project target villages (upstream and middle villages)	During the activity	<u>Implementers of activities:</u> the community and facilitators <u>Monitoring team:</u> Payo-payo-OASE	11 villages	1 facilitator	
4	Revision of the Village Medium-Term Development Plan to align with issues of	The Village government does not want to revise the the Village Medium-Term	Fairly significant: The Village government perceived there is no basis for revising the	(1) Conducting discussions with the Regional Development Planning Agency of	In 14 project target villages	During the activity	Tracking the discussion progress with village government	In 14 project target villages	During the activity	<u>Implementer of activities:</u> team 11 formed by the community	13 villages	11 people per village and 1 facilitator	671.790.000

	climate change adaptation and watershed management	Development Plan	Village Medium-Term Development Plan	<p>Bulukumba Regency, and the Community and Village Empowerment Service regarding the revision of the Village Medium-Term Development Plan in the project's villages to synchronize with the Bulukumba Regional Medium-Term Development Plan. (2) Holding a meeting with the village head and village secretary initiated by the Community and Village Empowerment Service to convey the aims and</p>						and facilitators				
										<p><u>Monitoring team:</u> Payo-payo-OASE</p>				

